

# CHAPTER I. INTRODUCTION

## Chapter Overview

This introductory chapter gives the audience an insight of the study. The background of the study, the problem statement, the purposes of the research, the research questions, the hypotheses, and the significance of the study, the delimitations and limitations, and finally a definition of the terms are all addressed, in order to introduce a thorough and comprehensive focus by the researcher.

## Background of the Study

The internationalization of higher education is being adopted more and more by many nations. Their pursuit of the internationalization of higher education is for various reasons. Since World War II more nations view having students learn each others' cultures as a means of creating world peace. Others hold that to function well in a global environment everyone needs to collaborate as 'Golden Citizens' in a world where we all share similar problems. Moreover, with the move toward globalization, countries need to be more similar and competent, yet competitive on all levels. In particular, developed and developing nations need to attract foreign students to ensure credibility in their educational institutions that will lead to further acceptance and belief in the professionals these institutions may produce. Also the need for citizens with professional qualifications, international experience, language proficiency and cross-cultural understanding is acknowledged by authorities and employers as well as by students.

An estimated two million foreign students are studying worldwide. According to the UNESCO Institute for Statistics 2005 report by UNESCOPRESS, out of every ten tertiary students studying abroad, five are Asians, three are Europeans, one is African and one is from another continent. Half of all foreign study takes place in Europe, one-quarter in the United States and one quarter in other nations. Even though the attraction of foreign students has been happening for over a century, especially in the United States, there have been many problems with the adaptation and adjustment of foreign students in the host countries. For decades researchers – from the USA and other regions interested in the issues foreign students face in their countries - have been investigating the student

sojourners' lives, the problems that face them, and the effects those problems may have on their academic performance. One of the most famous studies concerning foreign students was conducted by Lysgarrd (1955), who formulated his U-curve hypothesis that suggests that at the beginning of their academic life, students find adaptation easy, then experience a period of stress in adjusting that leads to depression and then finally a period of adjustment again, a process which forms the U-curve.

This study by Lysgarrd identified the possibility of students experiencing different levels of stress and has stimulated other researchers to investigate the situation. Researchers such as Manese, Sedlacek, & Leong, (1988); Pedersen, (1991); Heikinheimo and Shute (1986); Wan, Chapman, and Biggs (1992); Suinn, Khoo, and Ahuana(1995) all have studied the topic of foreign students and the effects of studying abroad. Their researches suggest that the problem exists, it will continue to exist, if not addressed it can worsen, and once addressed it can be lessened. A number of factors have been identified in these studies which include: increased prevalence of loneliness, depression and other mental health problems, slower academic progress than host nationals, difficulties communicating, adjusting to major differences in the educational system; physical illness, and cultural disputes with host nationals, and in some cases discrimination. These factors can have a negative effect on international students' relationships with their teachers, peers, and advisors. This in turn diminishes the students' psychological stability, which is very necessary for a student to perform well academically.

Consequently, there is a need for more research on this topic especially for developing nations that have policies to attract foreign students and nations such as Taiwan that have now included international higher education in their development.

## **Statement of the Problem**

One of the most significant studies was done by Akpan-Iquot (1980), who suggests that students from different world regions have different perceptions of the adaptation problems. A number of research studies have been conducted that not only have drawn the same conclusion but have also noted that the problem still exists although there have been slight improvements. Despite this conclusion, Taiwan like many other nations still has internationalized its higher education and international students in Taiwan face the same types of problems that international students face elsewhere.

The student soon finds that living in a new culture presents many challenges. Often the challenges are interesting and fun at first, but over time having to adjust to so many new things can be exhausting. The newly arrived foreign student faces the challenges of adjusting and adapting to the host country's culture and its academic system. This can be exciting but transitions can be especially challenging and very difficult. The student may face problems such as: missing home; difficulties communicating in a foreign language in and out of class; adjusting to major differences in the educational system; difficult problems getting help for physical illness due to differences in the medical system; dealing with others' misperceptions about his or her culture or country. Dealing with these issues can result in the foreign students feeling sad, worried, lonely, confused, frustrated or angry, or overwhelmed, and facing a lack of confidence. These emotions may affect their academic performance.

Many countries try to lessen these problems but never totally eradicate them. The problem lies in the fact that the internationalization of education must be achieved not simply or solely by giving the student the opportunity to cross physical borders, but by providing the necessary tools – whatever those may be – to ensure that both students and teachers learn to work and study in an academic environment that is diverse from an international point of view. An easy but maybe costly solution would be for host countries, while attracting foreign students, to sensitize the potential students to their culture. This is hardly the approach taken at present; as a result there are many cultural complications to the foreign student in cultural settings totally oblivious to them.

Still yet, many higher education institutions in Taiwan are attracting more and more foreign students through exchange programs, government scholarships, private

scholarships, assistanceships, and many students come on their own will after being attracted to Taiwan's education offerings. These students come from all over the world with many expectations and diverse cultural backgrounds and are all non-speakers of mandarin or have little exposure to it. As a result, definitely issues will arise that may have the international students experience dissatisfaction - primarily with communication because of ignorance of Taiwan's language and also with their conditions because of Taiwan's culture, and this dissatisfaction can further affect their studies. To add to this there no empirical research has been done on this topic in Taiwan that can assist the parties directly involved.

As a result, this researcher pursued this area to provide meaningful information to foreign students, their home support, the host schools in Taiwan, and especially the Taiwanese government. After all, according to the Ministry of Education of Taiwan, the training of individuals in higher education is the key to Taiwan's survival and internationalization. Failure to cope with international competition and demand for academic innovation and consolidation will lead to loss of academic advantage to neighboring Asian nations, and the loss of the opportunity to pursue further excellence will result in Taiwan's lagging behind in this international competitive trend. This training can only be fully effective if Taiwan can identify and solve any problem that may hinder its progress.

## **Purposes of the Study**

There are underlying anxieties associated with sending students abroad. Issues from personal safety to finances are of concern to countries that export and import international students. Therefore, the costs involved in educating students abroad are high not only financially, especially because the travel involved generally makes international study not self-supporting but also academically; if the students do not adapt or are dissatisfied their academic performance is hindered. To assist Taiwan and all the parties involved especially the foreign students, the following purposes below were devised.

The purposes of this study are:

1. To examine the level of satisfaction of foreign students (sojourners) in Taiwan.
2. To investigate and analyze how the variables for factors (Power Distance, Individualism, Uncertainty Avoidance, and Masculinity as defined by the researcher) may have contributed to foreign students' academic performance while studying in Taiwan.
3. To study the effect the demographic data (age, gender, and nationality) has on students' academic performance.
4. To provide suggestions to the host institutions, students, and countries of origin on how to assist foreign students while studying in Taiwan.

## Questions and Hypotheses of the Study

1. Are foreign students satisfied with studying in Taiwan?

Hypothesis 1:

Ho: Foreign students are not satisfied studying in Taiwan.

Ha: Foreign students are satisfied studying in Taiwan.

2. What influences do the dimensions (Power Distance, Individualism, Uncertainty Avoidance, and Masculinity as defined by the researcher) have on foreign students' performance?

Hypothesis 2:  $y = \text{performance}$  and  $x = \text{power distance}$

Ho: There is no relationship between Power Distance and students' performance.

Ho:  $\beta_{yx} = 0$

Ha: There is a relationship between Power Distance and students' performance.

Ha:  $\beta_{yx} \neq 0$

Hypothesis 3:  $y = \text{performance}$  and  $x = \text{individualism}$

Ho: There is no relationship between Individualism and students' performance.

Ho:  $\beta_{yx} = 0$

Ha: There is a relationship between Individualism and students' performance.

Ha:  $\beta_{yx} \neq 0$

Hypothesis 4:  $y = \text{performance}$  and  $x = \text{uncertainty avoidance}$

Ho: There is no relationship between Uncertainty Avoidance and students' performance.

Ho:  $\beta_{yx} = 0$

Ha: There is a relationship between Uncertainty Avoidance and students' performance.

Ha:  $\beta_{yx} \neq 0$

Hypothesis 5:  $y = \text{performance}$  and  $x = \text{masculinity}$

Ho: There is no relationship between Masculinity and students' performance.

Ho:  $\beta_{yx} = 0$

Ha: There is a relationship between Masculinity and students' performance.

Ha:  $\beta_{yx} \neq 0$

3. Do the demographic factors (age, gender, nationality), students degree pursued (undergraduate, graduate) and students status (ICDF, Non-ICDF) affect students' performance?

Hypothesis 6:  $y = \text{performance}$  and  $x = \text{age}$

Ho: There is no relationship between age of students and students' performance.

Ho:  $\beta_{yx} = 0$

Ha: There is a relationship between age of students and students' performance.

Ha:  $\beta_{yx} \neq 0$

Hypothesis 7:  $y = \text{performance}$  and  $x = \text{gender}$

Ho: There is no relationship between gender of students and students' performance.

Ho:  $\beta_{yx} = 0$

Ha: There is a relationship between gender of students and students' performance.

Ha:  $\beta_{yx} \neq 0$

Hypothesis 8:  $y = \text{performance}$  and  $x = \text{nationality}$

Ho: There is no relationship between nationality of students and students' performance.

Ho:  $\beta_{yx} = 0$

Ha: There is a relationship between nationality of students and students' performance.

Ha:  $\beta_{yx} \neq 0$

Hypothesis 9:  $y = \text{performance}$  and  $x = \text{status}$

Ho: There is no relationship between status of students and students' performance.

Ho:  $\beta_{yx} = 0$

Ha: There is a relationship between status of students and students' performance.

Ha:  $\beta_{yx} \neq 0$

Hypothesis 10:  $y = \text{performance}$  and  $x = \text{degree}$

Ho: There is no relationship between degree of students and students' performance.

Ho:  $\beta_{yx} = 0$

Ha: There is a relationship between degree of students and students' performance.

Ha:  $\beta_{yx} \neq 0$

4. Does performance of ICDF and Non-ICDF scholarship students differ?

Hypothesis 11:  $\mu_{\text{ICDF}} = \text{ICDF scholarship students' performance}$  and  $\mu_{\text{Non-ICDF}} = \text{non-ICDF scholarship students' performance}$ .

Ho: There is no significant difference between ICDF and Non-ICDF students' performance.

Ho:  $\mu_{\text{ICDF}} = \mu_{\text{Non-ICDF}}$

Ha: There is a significant difference between ICDF and Non-ICDF students' performance.

Ha:  $\mu_{\text{ICDF}} \neq \mu_{\text{Non-ICDF}}$

5. Does performance of graduates and undergraduates students differ?

Hypothesis 12:  $\mu_{\text{Grad}} = \text{Graduate students' performance}$  and  $\mu_{\text{UnderGrad}} = \text{Under Graduate students' performance}$ .

Ho: There is no significant difference between Grad and UnderGrad students' performance.

Ho:  $\mu_{\text{Grad}} = \mu_{\text{UnderGrad}}$

Ha: There is a significant difference between Grad and UnderGrad students' performance.

Ha:  $\mu_{\text{Grad}} \neq \mu_{\text{UnderGrad}}$



## **Significance of the Study**

The internationalizing of higher education is not an easy project for any nation. It comes with problems, both financial and cultural, and some more major than others. But while most of the problems can be solved financially there are those like students' emotions and cultural encounters that have to be addressed more carefully and with much intervention. Universities have a great challenge as to how to accommodate culturally diverse student populations. A developed country like the US for decades has been battling with this problem and has yet to find amicable solutions for all the parties involved especially the students. Europe is attracting the most foreign students and likewise shares the same fate. Asia, particularly Japan and China, is attracting ever more foreign students, and while there is not much existing literature on their encounters, the few that exist highlight students' problems in adjusting to their host countries. Therefore the goal of this study is to identify and improve those areas of adjustment and adaptation that affect students' study habits and academic performance in Taiwan. Little is known about the adjustment problems or stresses that international students experience in Taiwan.

This quantitative study provides statistical data that is greatly significant to the foreign students and to the Taiwanese government and educational institutions. As a result, the findings of this study may: assist scholarship organizations with valuable literature on what measures could be taken when attracting foreign students; assist scholarship programs to locate the problems that already exist and develop solutions; identify for the higher education institutions the problems foreign students may face and enable them to implement the necessary mechanisms and interventions to make better the life of student sojourners; pinpoint to present and future foreign students in Taiwan what problems exist that they need to be cognizant of and what measures they can take to combat them; provide meaningful literature to the Taiwan government that will assist its future plans to internationalize higher education in Taiwan.

Also of significance is that this study is done at the early stage of Taiwan's attraction of foreign students and hopefully this study becomes a pioneer that will encourage more empirical studies on the topic.

## **Delimitations and Limitations**

### *Delimitations*

There are several delimitations placed on the study by the researcher. It is delimited to Taiwan and not generalized to other regions especially of Asian decent, especially China. Also the study is delimited to higher educational institutions in Taiwan and was not generalized to all international students which includes elementary and high school students. Another delimitation is the researcher's definitions of Hofstede's four dimensions theory relevant to the items on the questionnaire, and the effect of these dimensions on students' academic performance. Hofstede's dimensions were used instead of variables in the SACQ because the researcher is interested on the nature of students' cultural adaptation and adjustment as satisfaction items.

This research is delimited to the demographic data of age, gender and nationality and ICDF/Non-ICDF scholarship recipients. The researcher chooses not to use other demographic data because the interest is in age and gender determining factors, and specifically nationality to see if there are differences depending on students' country of origin. The researcher chooses ICDF scholarship recipients specifically because there is a set figure of ICDF students and those students can snowball other samples for the researcher to reach his population sample.

This research is also delimited to higher education foreign students who have spent one or more years studying in Taiwan. This is because the students needed to have spent some time in Taiwan of which a year or more is feasible and they have already had academic GPA's, and higher education students' adaptation is a world wide issue as opposed to other levels. Finally the research is delimited to international students who take classes in English. There are more international students who take courses in Chinese.

### *Limitations*

Another limitation is only instrument of a questionnaire developed by the researcher and piloted with only 10 students. For the purpose of a thesis and given the time frame and budget this questionnaire was used and only this sample for the pilot. The data to be obtained shows students' satisfaction on their performance. Finally, the data was not generalized with findings from other researchers for other nations but the results were compared to see if there are similarities. The data can be used as additional support to the issues foreign students may face.

After the sample population was obtained, the research became limited to a higher amount of the students coming from Latin America and the Caribbean. These students were more accessible being ICDF students and because they take classes in English. And, there is a disproportionate amount of students from other regions studying in Taiwan. The sampling also created a limitation of more male than female respondents. It appears that there are more male international students taking English courses than female.

Only 40% of the students responded in the comments section of the questionnaire which limited the researcher to report what was given and make generalizations from those comments. Likewise the use of multiple regression limited the results to be answered from one big table. The independent factors represented by Hofstede's dimensions were not looked at individually. The researcher was more interested to see how all the factors which consist of the 35 questions as separate variables, and the demographic variables impact students' GPA.

## Definition of Terms

**Academic Performance** is students' scholarly performance that refers to their academic average as required and/or stipulated by the institution.

**Acculturation** is changes that occur as a result of first-hand contact between individuals of differing cultural origins. First hand contact with a new culture leads people from different cultures to modify their behaviors, emotions, and cognition. It is also defined as a way in which members of a minority group adopt cultural patterns from the host society and extend the patterns into other parts of their lives.

**Adaptation** is moving from one culture to another culture, usually (but not always) learning the rules, norms, customs, and language of the new culture.

**Adjustment** When an individual leaves his or her own culture and goes into another, s/he naturally carries his/her own background of experience, sometimes called "cultural baggage." People's reactions to the new culture, and how well they adjust to living in it, are often a reflection of their own background and expectations.

**Culture** can be seen as the way of life of a group which includes all the learned and standardized forms of behavior that are used and recognized within that group. Culture consists of learned ways of acting, feeling and thinking, rather than biologically determined ways. Culture is acquired by people because it consists of learned patterns of behavior rather than the biologically determined ones that are sometimes called instinctive. The British anthropologist Sir Edward Burnett Tylor defined culture as "that complex whole which includes knowledge, belief, art, morals, law, custom and any other capabilities and habits acquired by man as a member of society." Tylor's definition includes three of the most important characteristics of culture: (1) Culture is acquired by people. (2) A person acquires culture as a member of society. (3) Culture is a complex whole. Culture is a complex whole that social scientists can break down into simple units called 'cultural traits.' A trait may be a custom, such as burial of the dead; a device, such as a plow; a gesture, such as a handshake; or an idea, such as democracy.

**Cultural Competence** is a term used to describe a set of behaviors, attitudes and policies within a system, agency or among professionals that enables them to work effectively in cross-cultural situations.

**Foreign Students** are students usually in early adulthood, who study in foreign schools. Although some travel abroad solely to improve their language, others travel to advance their specialized studies; still others study abroad because suitable tertiary education are in short supply or are unavailable altogether in their home countries. In addition, in many parts of the world, a foreign degree, especially if earned from certain countries, is considered much more prestigious than a local one. (Wikipedia)

**Globalization** is the flow of technology, economy, knowledge, people, values, ideas etc. cross borders. Globalization affects each country in a different way due to a nation's individual history, traditions, culture and priorities.

**Higher Education** is any of various types of education given in postsecondary institutions of learning and usually affording, at the end of a course of study, a named degree, diploma, or certificate of higher studies. Higher-educational institutions include not only universities and colleges but also various professional schools that provide preparation in such fields as law, theology, and the like.

**International Cooperation and Development Fund or ICDF** was formed in 1996 and is now the principal body overseeing Taiwan's cooperative overseas development programs. The Taiwan ICDF's purpose is to strengthen international cooperation and enhance foreign relations by promoting economic development, social progress and the welfare of the people in partner nations around the world. The Taiwan ICDF primarily assists its allies in Central and South America, the East Caribbean, Africa and the Asia Pacific region, but the organization has also worked in Europe and formulates pan-regional assistance programs where possible. The Taiwan ICDF enthusiastically cooperates with other international development agencies, as well as foreign governments, financial institutions, non-government organizations and diverse businesses. The Taiwan ICDF's core competencies include technical assistance, investment and lending

operations, education and training, and humanitarian assistance. Taiwan ICDF education and training programs, often developed in conjunction with government agencies, non-government organizations and educational institutions, have developed human resources in nations around the world. Higher education, which plays an important role in the economic development of every country, is one of the core priorities in the Taiwan ICDF undergraduate, graduate and Ph.D. graduate programs that have been developed at 13 renowned local universities.

**International Higher Education** implies the entire process of social life by means of which individuals and social groups learn to develop consciously within, and for the benefit of, the national and international communities, the whole of their personal capacities, attitudes, aptitudes and knowledge. That education should comprise civic training and learning activities for all students that will sharpen their knowledge of the major problems which they should help to solve, provide them with possibilities for direct and continuous action aimed at the solution of those problems, and improve their sense of international co-operation. (UNESCO)

**Internationalization of Higher Education** is undoubtedly the most pressing challenge to the education sectors of both developed and developing countries. The process of higher education internationalization is difficult because the higher education systems were originally created by national governments and most countries still operate regulatory or legal constraints on various educational issues. According to Wu (2002), the internationalization of high education essentially aims to respect the common laws of education while maintaining individual national cultures, because education is never simply to teach knowledge and develop skills, but to inherit culture and to forge personality as well.

**Student Satisfaction** is the state felt by a person who has experienced a performance (or outcome) that has fulfilled his or her expectations. Satisfaction is thus a function of relative levels of expectation and perceived performance.

## **CHAPTER II. LITERATURE REVIEW**

### **Chapter Overview**

This chapter provides a deep and rich review of relevant literature that assists the researcher to address the issue effect of the foreign students' satisfaction on their study motivation. At first it provides an insight about the internalization of higher education throughout the world. Then it explores Taiwan's move into internationalizing higher education. The chapter continues by focusing on Taiwan's internationalization of higher education and its correlation with their culture. The chapter then provides other researchers' findings about problems of adaptation and adjustment that foreign students face throughout the world. Then the chapter discusses Geert Hofstede's four dimensions and how they relate to education and culture. Finally the chapter addresses theories of acculturation and adaptation related to the researcher's direction.

### **Internationalization of Higher Education**

The internationalization of higher education is becoming a necessity throughout the world. The basic development of the country's knowledge system through intercultural interactions appears to be the driving force but in fact because of the move towards globalization, many countries, both developed and developing, are in reality being pressured to open their education systems to a growing number of students. In response many governments have launched higher education institution policies to accommodate the foreign students to their country. In a sense, knowledge becomes a commodity to be produced and consumed as countries both attract foreign higher education students and send their own nationals abroad in the interest of internationalizing their education.

There are various reasons why nations internationalize. Knight (1999) from his research draws four sets of rationales for internationalizing higher education, namely political, economic, academic, and social rationales. The political rational is that developing countries need to strengthen their national identities due to the strong influence of global economies, technologies, and communication caused by globalization. The economic rationale is that admitting international students and exporting educational

services and products bring in additional funds and obtain a workforce with international competencies. The academic rationale is seen when education sectors achieve international academic standards for teaching, research, and service. The social rationales are when internationalization is mostly focused on the preservation and promotion of national/ethnic culture.

Yet different countries have their own rationales for internationalizing higher education. As pointed out by Hser (2005) the most common reasons for the US to internationalize higher education are the interests of national security and world peace, and the needs to develop global citizenship and to facilitate global collaboration. Americans realized that just having basic knowledge of other countries' cultures was insufficient and there is need for a deeper understanding. Also, with the many changes globally such as the revolution in technology, global changes in economy and politics, and scarcity of needed resources, collaboration and global citizenry are needed.

Some countries, such as Australia, Canada, the United Kingdom, and the US, internationalize education as a marketing strategy. Knight (2002) points out that internationalization of education is an ancillary of globalization as countries, especially developing ones, see it as profit based and see a commercial commodity in foreign student recruitment. However, there are nonprofit universities whose motivation for internationalization is not financial; instead, they wish to enhance research and knowledge capacity and to increase cultural understanding. These universities are true to education, seeking academic prestige rather than profits. Still other universities seek internationalization of higher education for educational and social benefits. These include acquiring new and cross-cultural knowledge and competencies, improving foreign language proficiency (especially in English), establishing international and professional networks, familiarization with other countries and cultures, etc. (Van Damme 2001).

Indeed, the use of English in internationalizing education is becoming very essential, especially for the benefit of globalization. According to George A. Scott, director of the US Government Accountability Office, greater competition on the global market for expertise in various academic disciplines has prompted some countries to embrace instruction in English and encouraged other systems to expand their recruiting activities and incentives. There are many countries that are very committed to attracting



international students and are now competing with the US for the best and the brightest. Germany offers over 400 courses in English that are geared toward international students. While most countries charge higher tuition to international students, Japan offers the same subsidized tuition rates to international students as domestic students and offers more scholarship programs. Singapore offers all students, foreign and domestic, tuition grants covering up to 80 % of school expenses as long as the students agree to work in Singapore for three years after graduation. France has also strengthened and expanded its scholarship programs for international students. Also, some countries like Taiwan hope to increase their recruitment by providing scholarships to international students who may not be able to afford the costs of obtaining a higher education degree in the United States. The Taiwanese Scholarship and organizations such as Taiwan ICDF are two committed scholarship programs. Thus, the competition is fierce and the demand for internationalization of higher education standards is increasing and needs to be met.

It is so fierce that while the US is the leading single country in attracting international students (although the percentage is decreasing), and has been doing so for over a hundred years, there are stronger and more aggressive regions/countries. Europe is probably the strongest region with the European Union's ERASMUS program and the Bologna process. European Universities are even extending to Latin America, Asia, and Africa more rapidly than the US. Australia's internationalization is growing as well with over 175,000 foreign students. Rubin (2007) gives us a look at Asian countries' attraction of international students. Japan is the Asian country attracting the most international students with over 960,000. China attracts over 141,000 students and hopes to reach 300,000 by 2020. Korea has 22,600 international students. Taiwan has far to go with their new programs and an international higher education population just over 5,000 and estimated to reach 13,000 by 2011 (Chang 2000).

## **Internationalization of Higher Education in Taiwan**

The government of Taiwan saw the need to reform higher education and started following the lifting of martial law in 1987. This process started with a review of the education system in the mid-1990s. Besides focusing on transforming the way the universities are funded, regulated and managed, the review especially focused on internationalizing higher education. After the review, the government was convinced to internationalize Taiwan's higher education. To accomplish this it was important for their universities to establish links and academic exchanges with universities overseas. It was important to develop links so that the curriculum and pedagogies of the universities could be recognized worldwide.

The socio-political environment of Taiwan had a lot to do with this education reform. Having become a more politically liberal and democratic society, Taiwan's university academics were eager to establish links with the external world, while the government was very ardent to make the island more international. As a matter of fact the government urged Taiwan's universities to establish programs and linkages with western universities (Weng 2001). Thus, the emphasis on the importance and significance of internationalization of education can be understood as strategies to make Taiwan less isolated within the international community and more independent of mainland China. In addition, the rapid expansion of private higher education in Taiwan has caused concern for improving and assuring the quality of higher education (Weng, 2001; Law, 2003 cited in Mok, 2003).

In addition, a venture of the Taiwan Government was to introduce measures to improve the efficiency and effectiveness of higher education, particularly in terms of funding methodology, modes of provision and new management strategies (Tai, 2000; Weng, 2000; Mok, 2000b). To accomplish this, the state-education relationship has been redefined as the Taiwanese government introduced the policy of "privatization" in higher education. This policy prompted the private sector and other non-state sources to run education as a means to revitalize the education system. According to Law (2003) and Mok (2002), this movement will alleviate the pressure on the state to meet the demands for higher education.

The rapid development of Taiwan's economy and direct involvement of the government and private sectors have made the internationalization of higher education move at a quick pace and the attraction of international higher education students is growing by great percentages. Presently there are only 5,259 international higher education students in Taiwan pursuing degrees. However, Taiwan is undergoing a number of changes and implementations to attract foreign students and raise their universities' international competitiveness. The universities are aggressively building a bilingual learning and living environment, constructing a campus information network, establishing an office to handle foreign student affairs, opening professional courses, providing foreign students with scholarships, and planning further education to raise students' and the faculty's foreign-language abilities (MOE Taiwan). Their belief is that the number of foreign students is not only a key indicator of a nation's educational internationalization and competitiveness, but also the characteristic of the nation's national appeal and international influence. Therefore, the more advanced the nation, the more foreign students it has and the more efforts it has made to attract foreign students. The figure below illustrates the consistent growth rate of Taiwan's attraction of international students.

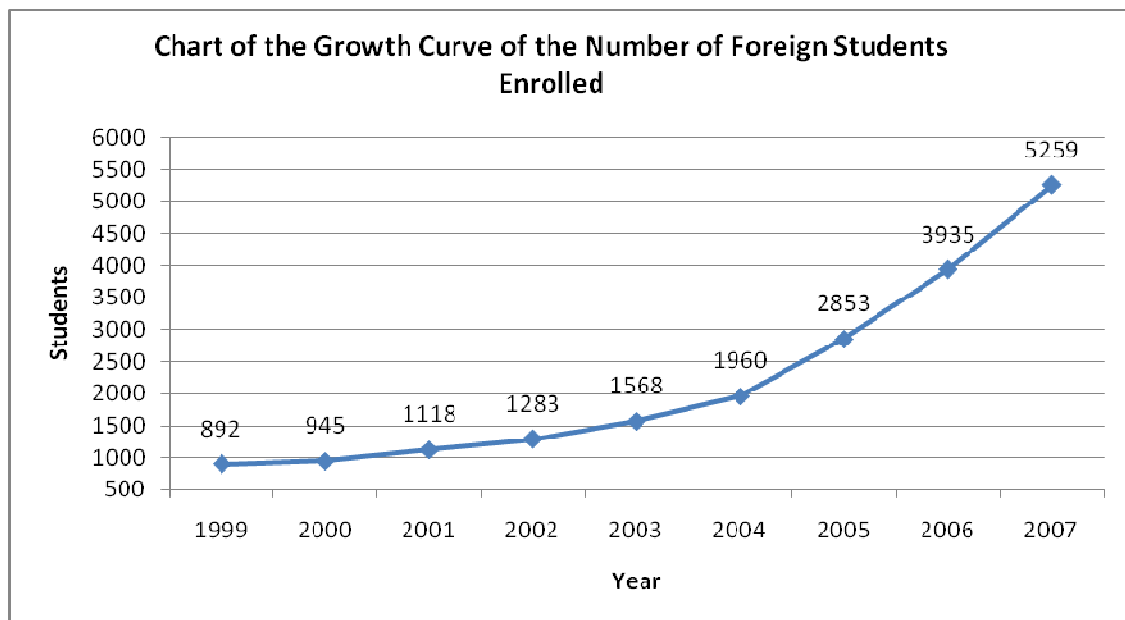


Figure 2.1. Foreign Students' Growth Chart

Source: Adapted From MOE Taiwan (2007) – Department of Higher Education

Persistence is what drives Taiwan's MOE to the internationalization of higher education meeting world standards. Two policies to ensure development are: the provision of more scholarships to foreign students studying in Taiwan; the encouragement of schools to offer more courses in English, develop competitive, characteristic curricula, and establish programs needed to conduct national development in order to attract foreign students. Taiwan now has 20 universities offering 123 degree programs taught in English. Since the implementation of these policies in 2003, the number of foreign students studying in Taiwan has increased by over 26% annually and the number is growing. Taiwan's MOE vision is one day to have first-class universities (35 – 60) and top-level research centers (40 – 65) by 2009.

Foreign students in Taiwan study subjects that fall into one of the following disciplines: science and technology, social sciences, business administration, humanities and arts, and others.

*Table 2.1. Categories of programs for foreign students*

<b>Category</b>	<b>Branch of learning</b>	<b>Percentage</b>
<b>Science and technology</b>	Engineering, mathematics, computer science, natural science, agriculture, forestry, fishery, and animal husbandry	30.62%
<b>Social sciences</b>	Sociology, economics, psychology, mass media	25.19%
<b>Business Administration</b>	Business administration, tourism and travel	20.31%
<b>Arts and Humanities</b>	Arts and Humanities	23.31%
<b>Others</b>	Police administration, physical education	0.56%

*Source:* Adapted from MOE Taiwan (2006)

Foreign students come to Taiwan from 122 nations across the world to pursue degrees. The majority are from Asian nations, accounting for 69.73% of all foreign

students. The chart below illustrates the nations and the percentages of students they send to Taiwan.

*Table 2.2. Countries and percentages of students studying in Taiwan*

<b>Nation</b>	<b>Percentage</b>
<b>Japan</b>	15.95%
<b>South Korea</b>	13.81%
<b>Malaysia</b>	13.31%
<b>US</b>	12.09%
<b>Vietnam</b>	5.64%
<b>Indonesia</b>	4.42%
<b>India</b>	3.76%
<b>Thailand</b>	2.64%
<b>Philippines</b>	0.61%
<b>Russia</b>	0.46%
<b>112 Other nations</b>	27.32%

*Source:* Adapted from MOE Taiwan (2006)

Of course, internationalization of higher education does not only entail foreign students coming to Taiwan. Sending students abroad is equally important in the development. Taiwan has presently over 500,000 students studying abroad mostly in the US. However, the focus of this thesis is internationalization in Taiwan only.

## **Internationalization and Culture in Taiwan**

Taiwan's internationalization of higher education is more than just administration, curriculum with global standards, and program quality control. Taiwan realizes that its educational policy in internationalizing education has to take strongly into consideration the cultural and societal differences of locals and foreigners studying together. The students, both local and international, are forced to find a balance between their academic and cultural lives, a task that is quite difficult but not impossible given the Asian culture and practices. Coupled to this, are the diverse ethnic/racial backgrounds of international students. One classroom can have more than 10 different cultures – certainly a crucible for racial tension and cultural disputes. One major policy of the MOE Taiwan to ease the possible gravity of this situation is providing a friendly environment and convenience to foreign students. This includes creating a bilingual campus environment, employment of counselors for foreign students, solving problems with housing, etc. All this is part of their international cultural and educational exchange and cooperation program. However while all these measures are honorable and are in place, the culture of Taiwan can be a barrier.

Taiwan's culture is very distinctive. International students in Taiwan face changes in climate, geography, food, social customs, politics, and general lifestyles. It is normal to experience difficulty adjusting and adapting to the culture, values, and traditions of any country, but in Taiwan that difficulty is especially great. That is because Taiwan is still building a culture that is representative of its people, 'A National Identity' so to speak. Taiwan since the seventeenth century has been governed by China, Holland, Spain and France that have all contributed to the Taiwanese culture and thereby also hindered it from forming a true national identity. These various cultures have had an impact on present-day Taiwanese government, social issues, and cultural identity. June Teufel Dreyer of the University of Miami, Thomas B. Gold of the University of California, and Shelly Rigger of Davidson College all have different views on Taiwan's quest for national identity but the fact remains is that there is a quest and it has its impact on Taiwanese citizens. They have, after all, been through a series of social, political, and economic changes.

These changes can surely affect the foreign student's adaptation in different ways. Firstly, according to Yueh-Ying Chen, in a study done using 292 Taiwanese students from two different schools in 1996, the students exhibited their ambivalence about national identity. 61% of them claimed themselves as Taiwanese, 35% as Chinese. On the other hand, 46% considered China as their motherland, while 67% saw Taiwan as their motherland. Although the study has its limitations, we see that Taiwanese youth are not overwhelmed with Taiwanese nationalism and still hold Chinese consciousness. This is a strong barrier being that the students are the "Xers" and "Nexters", the future of Taiwan, and as a consequence, they may not be so tolerant of international cultures among them because it would mean democratically accepting and acculturating to other cultures. This acceptance and acculturation would mean more interference with their already distorted national identity.

Secondly, since the lifting of martial law in 1987, many changes have occurred in Taiwan's education reform. On a local perspective, a Taiwanese-centered education and culture system which started with Lee Teng-Hui and continued with Chen Shui-Bian focused on creating Taiwanese history, geography, literature and main language, Mandarin (Law, 2002). On an international perspective, as one of the goals of modern educational reform Taiwan's educational curriculum added global citizenship, so as to foster students' consciousness of the different cultures and traditions of the global community (Law, 2002). Yet there are problems with aspects of this reform both locally and globally. Wai-Chung Ho (2006) in his study on music education in Taiwan concluded that the local movement for school music education is limited by little support from higher education institutions for teacher training, a lack of available materials for teaching Taiwanese local music, and the insufficient integration of traditional Chinese and other global music. He believes that the lack of support of higher education institutions to promote both local and international music creates a gap in the cultural identity locally, nationally, and globally.

Thirdly, Taiwan is a multilingual, multiethnic country, composed of four major ethnic groups: 1.7% are the aborigines who speak Austronesian languages; 12% are Hakka; 13% are mainlanders; and 73.3 % of Taiwan's 22.7 million people are the Taiwanese who speak Southern Min. Undoubtedly, in Taiwan there is a diversity of

ethnicities that have their own distinct cultural practices and all homogeneously Asian. But Taiwan has never been exposed to international multi-ethnicity before, and with internationalization, the country is now seeing many different ethnic and racial differences, a multi-culture exposure, and coping with that exposure poses a challenge and in some cases a threat. The distinct local ethnic groups all have their personal battles with the Taiwan government to maintain their own ethnic language and culture. Students who defied authority and spoke Taiwanese (a dialect of southern Fujian, also known as Minnan), Hakka, or other aboriginal languages could be fined or subjected to other disciplinary punishment in favor of Mandarin, the “national language” (Yang, 2004, p.219). On one hand, the Taiwanese government is promoting “Nativiation” (bentuhua) which means the promotion of local languages. But additionally and most importantly to them speaking any other language other than mandarin is considered *song* – a Taiwanese word meaning “unrefined” or “uncultured”. Certainly these problems may carry over to foreign students who may not be accepted by these ethnic groups that are being coerced out of their cultural practices. The locals are overwhelmed by an accelerated pace of accepting new cultural changes and practices, and an exposure to a *mélange* of other cultures to learn and become accustomed to.

Fourthly, Confucian philosophy and practices – no conclusion has been drawn on whether it is a religion or not – still govern most of Taiwanese everyday lives both educationally and socially. Confucius' main philosophy is based on relationships, all with hierarchical patterns, that if properly pursued will lead to a harmonious institution and collegial behavior. Individualism is seen as an aberration. One must subsume one's identity to the group one belongs to and not be individualistic, for the welfare of that group. A rational person is expected in a Confucius society not an individualistic one that deviates in social behavior. Members of that society should be very dispassionate and have objective loyalty because a person is part of a family and a community and not an autonomous entity as in many other cultures.

This concept is embedded in Taiwan's education. Different cultural expectations regarding what are accepted classroom behaviors dictate implicit rules regarding amount, frequency and content of speaking in classrooms. The Taiwanese culture guided by Confucian ethic implies that students listen, and only speak when spoken to so as not to



disrupt the professor nor appear insolent by raising questions or giving opinions. Lee (2002) points out that it is not rare to see the absence of criticism of teachers' or seniors' claims or theories (between teachers and students, as well as between senior and junior faculty, students and junior faculty), and a closed organizational culture in higher education institutions in East Asia, especially Confucianism-influenced countries like Taiwan. Dominika Baran's article corresponds with Lee. She concludes that despite the multiethnic and multilingual identity of Taiwan, Taiwanese retains low cultural prestige especially in education, whose rigid structures channel students into fixed career paths that reflect class divisions and language stereotypes. That is because the students are brainwashed into thinking success in the educational system demands proficiency in Mandarin, leading to the reproduction of ideologies which link Mandarin with cultural prestige. Likewise, the Confucian principles expect Taiwanese students and teachers to strive for perfectionism – mistakes may yield undesirable consequences - while other cultures accept mistakes and pitfalls as part of the learning process and are unavoidable and acceptable. The international student is caught between two cultures that dictate conflicting norms of proper classroom behavior.

The governance of higher education institutions has also been affected by authoritative Confucian principles. Lee further comments that universities or colleges in Confucian-oriented countries maintain closed or vertical organization systems – as opposed to western and other regions' democratically open organization culture. These systems would ignore an open organizational system that embraces internal and external communication networks. He concludes that this closed system of higher education administration is one of the main reasons why a number of East Asian universities are backward in globalization i.e. internationalizing their higher education. This in effect creates a homogenous organizational culture of the universities/colleges that will limit or restrict international students' input and mobilization while in Taiwan.

Even the political systems of East Asian countries including Taiwan are to some extent influenced by Confucian ethics. There has to be patriarchal obedience toward the authority, strong political-ethical morality, and unconditional fidelity. The political system has two core concepts, authority and obedience (Lee, 2002). The incumbent president Chen Shui-Bian has brought much opposition to his political practices. In 2006-

2007 there were strong protests by the people that brought military barricades and presence. International students in Taiwan at that time were caught in political tension that could have led to riots and possibly bloodshed. History shows such a chaotic consequence is common when the people of a nation feel oppressed by their government.

Finally, there are practices in Taiwan's everyday culture (religious practices, holidays, small-group behavior, public behavior, leisure pursuits, aural and physical space, etc.) that can make adaptation and adjustment very challenging to foreign students. Every country has its own distinct religious practices that are accepted as part of their culture. But in Taiwan when those practices includes burning paper on the public walkway, with fire very visible, it is somewhat of a threat given the congested sidewalks and buildings. It is an accident waiting to happen. Likewise each country has its own holidays and while the many holidays in Taiwan are acceptable, universal holidays like Christmas are not celebrated and students have to attend classes on that day. Speaking loudly, talking on the cell phone on busses or trains, laughing loudly or any show of affection are all small group or public behaviors that are considered rude and unmannerly. Yet, in Taiwan during festivals and even on a daily basis you will hear firecrackers celebrating something, blaring loudspeakers touting some product, even the garbage trucks blare a very loud, annoying tune every morning and night. Even near schools and hospitals – that is illegal in most countries – these loud noises can be heard. The foreign student finds it quite disturbing to the peace and tranquility in the morning or during study time and may be quite disturbed by the irony of being questioned about a loud burst of laughter. Taiwanese also revel in congestion, the “renao” or noisy warm feeling. One need only take a walk in a night market or on a street at night, or live in the city, to experience congestion to a high extent. Most foreign students require a certain amount of personal space that Taiwanese sometimes are surprised or even appalled by.

Also there are many little taboos like they type of gifts we give or color dress we wear and the type of words we may say that Taiwanese find very important to their culture but would be considered as too arcane for foreigners. Foreign students just want to relax and feel accepted and too many restrictions or rules and regulations will affect acculturation and adaptation to Taiwan.

## **Student Satisfaction/Dissatisfaction Factors**

According to Pendersen (1991) international students need to learn a wide range of culturally defined and typically unfamiliar roles in a short time while they are under considerable stress. Once international students learn and adapt to the requirements and roles of the new culture, however, their experience is likely to be successful. However, numerous researchers have found learning to adapt proves to be difficult. Researchers discovered many factors of dissatisfaction, involving aspects of enculturation, cultural adaptation, social adjustment, inter-cultural communication, and racism and learning difficulties encountered by international students. The cross-cultural experience of the students proves to be very challenging. In general the students' experience is not only shaped by their personal histories, cultural traditions and professional aspirations; it is also continually reshaped by new cultural experiences, but in ways that are neither uniform nor predictable. Students interpret new experiences in a variety of ways, and their imagination is always a product of a range of factors, some of which are known to them, while others are not. As a result, the international students find themselves in a struggle to make sense of their experience.

Loneliness, depression, homesickness, academic concerns, language proficiency, discrimination, cultural differences, personal characteristics, and financial concerns are just a few of the difficulties experienced by many international students (Heikinheimo & Shute, 1986; Surdam & Collins, 1984). In an article entitled 'International Students in Russia', Hasan Khondokar points out that the international students in Russia face a number of problems that affect adaptation such as new socio-culture, environment, education system, language of dialogue, adaptation to culture of the new country, and financial problems due to economic difficulties, which cause stress. Many students complain of loss of appetite, weariness, slackness, sleeplessness, bad mood, and irritability. Many teachers do not understand the problems of the foreign students, do not have experience of teaching to the foreigners, and have no free time to be engaged after-hours. Some teachers behave rudely to the foreigners, showing nationalism. Still more humiliating for the foreign students are those officials who check the background documents, ask for money, and use offensive language when dealing with the students.

As students move from one culture to another, behavioral modes and values they have learned at home may prove inadequate and mal-adaptive in a new society. To reduce the high degree of uncertainty and isolation because of these modes and values, students have to acquire social skills, ranging from language competence to driving abilities that are practiced and accepted in the new society.

#### *Physical factors affecting international students*

Fitting into the host culture involves changes in: roles which mean disengaging from old roles that no longer exist for the student to new collegiate ones in a new culture. Moreover, the international student needs to make new friends or peer groups. Academic demands mean adapting to the expectations of the institutions. Social demands require getting integrated into the culture of the host country.

One major factor is communication. Communication is crucial to the adaptation and satisfaction of foreign students. Only through communication with the new society and its members will newcomers develop insight into the new environment. Learning could not take place without communication, either through intrapersonal, interpersonal, mass communication, or most commonly, combinations of those channels. Through communication, international students may come to better understand social practices and cultural patterns of the host society. However, communication is difficult to attain. International students cited language difficulties as one of the primary reasons for not interacting socially with host country students (Heikinheimo & Shute, 1986). Research has shown that language restrictions are detrimental to academic performance and to the overall educational experience. Although these studies suggest the need for social contact with host nationals, such contact among international students seems limited by their language proficiency level which, in turn, deters communication with peers, teachers, and counselors (Bochner, Hutnik, & Furnham, 1985; Furnham & Alibhai, 1985). Likewise, the interactive class discussions may work against international students and limit the potential benefits they could bring to domestic students (Huxur et al., 1996). In Australia, Asian students are exposed to negative experiences in classroom interaction; they pointed to instances of racial discrimination, cultural indifference, suppression of "voice," and a perception that local students do not appreciate them (Edgeworth & Eiseman 2007).

Devos (2003) and Jones (1999) focused on international students studying in Australia. Their conclusions revealed that cultural factors cause problems for international students. These cultural problems related more to adjusting in communication and being unable to understand the language and thus affected the students' academic culture. Others could not adapt to the bureaucratic system of the universities, for example how the library functions and the services available – all in a language that they have little exposure to. Devos further added that it makes the international students be perceived as contemptuous and resentful when they refuse to adapt or cannot adapt.

The ability to socialize is another factor. International students experience new and unfamiliar cultural environments; thus their abilities to succeed socially are limited. Making friends is an important factor in this successful socialization and adaptation. Unfortunately, host students neither make themselves available nor make an effort great enough to create a bridge for international friendship. In addition, host nationals generally recognize that international students have language difficulties but hosts are often insensitive to the need of the international student for conversation (Bochner, Hutnik, & Furnham, 1985; Furnham & Alibhai, 1985). Cunningham's (1991) survey of 53 Canadian universities indicated two categories of barriers to integration: barriers related to international students themselves and barriers related to the institutional community. Their lack of familiarity with the educational and social systems was listed as a barrier. They tended to stick to co-nationals. International students placed so much importance on academic achievement that many spent little time on social activities. Lack of cross-cultural awareness and sensitivity among all university constituents and the local community was listed as a barrier.

In Australia, there is a lack of interaction between local and international students. The locals find it uncomfortable and the international students opted out of social relationships because of the incompatibility of values in social activities (Volet & Ang, 1998; Edgeworth & Eiseman 2007). A comparative study of three ethnic groups in New Zealand universities, by Beaver and Tuck (1998) found that overseas students' desired interaction with local students, were concerned about social isolation, and believed heterogeneous classes facilitate the achievement of their personal learning goals but the local group known as Pakeha students, those of European descent, did not share the same

sentiment and placed significantly greater value on homogenous classes and less value on opportunities for social interaction with foreigners.

Financial pressures or restrictions hindered some international students from joining in social gatherings and parties (Cunningham, 1991). This might create tension while the person learns the best ways in which to utilize the money available (e.g., grocery shopping, transportation options, movies, and so forth). Financial problems were the most frequently reported problems in 1988 and 1999 surveys in Canada. Nearly 52% of all students reported problems with obtaining money for living expenses and 48% reported problems obtaining money for tuition. In a study by Boyer and Sedlacek (1986) at the University of Maryland, College Park, 24% of international students reported the hardest part of adjusting to college was meeting the financial expenses. Walker (1999) findings from studies suggest that international students are experiencing considerable financial hardships. These include government and institutional policies such as differential tuition fees, and right-to-work restrictions. Lyakhovetska, (2004) interviewed 10 students studying at Pacific University in Canada and also found consistency with Walker that students feel insecure financially with high tuition and limited financial aid; they are restricted in seeking employment in most cases and have limited access to employment, factors which create additional financial hardships.

The need for institutional support is a factor that directly affects international students academically. Fifty-nine percent of administrators (international student advisors and the heads of international offices) who responded to Cunningham's survey (1991) indicated that unless there was a problem, their institution did not care about international students. Lyakhovetska, (2004) found that the majority of participants felt their needs in academic programming, social interaction, community sensitivity, support services, institutional policies, and the role of international students in internationalization were not fully met and improvements would enable them to have better educational and social experiences. De Vita (2000) discussed challenges students face as a result of lack of institutional support which include the practical issues of travelling to the UK (from the nuts and bolts of arranging visas to orientation difficulties).

Coupled with institutional support is the school culture. International students are confronted with an educational culture, both at lecturer and system levels, that

undervalues their prior learning experiences. In Australia research has shown that the academic adjustments that international students make are generally the most challenging and enduring, with teaching approach, classroom culture, academic expectations and classroom interactions with local students (Burns, 1991; Mullins, Quintrell, & Hancock, 1995). Mullins et al. (1995), in their study of three South Australian universities found that the student participants held the perception that lecturers and academic staff gave international students less attention than local students. In the US both Story (1982) and Shana (1997) found that international students have great difficulty adjusting to the school culture and it affects their academic performance. Some teachers view them as academically incompetent for not expressing or defending their views in class. Other research in the US concluded that issues related to language acquisition and competence as well as pedagogic issues expected to arise from differences in teaching and learning styles, attitudes to participation in classes, and conventions on how to structure and reference written work, all affect the foreign students' adaptation (De Vita, 2000).

The living conditions of students seem to have a significant impact on their adjustment. Of the campuses surveyed by Cunningham (1991) only 21% indicated they had an on-campus housing policy for international students. Most of the campuses allocated housing to international students on the same basis as Canadian students. Lyakhovetska, (2004) also finds that absence of priority housing policy creates adaptation hardships for foreign students. Edgeworth and Eiseman (2007) in their study found that the particular residences and composition of the residences that international students were allocated to had a profound influence on the quality of their social and academic adjustment experience. In the worst-case situations, students felt alienated and anxious in their living arrangements. John Clammer in an article on international education pointed out that with this expansion of numbers of foreign students to Japan, some fairly severe problems have become apparent which include adaptation to culture especially the absorption of the very high cost of living in Japan, and access to housing. The absorption of foreign students and their acceptance as social equals is one of the great tests of the internationalization in Japan.

Another concern of international students is the choice of food offered in dining halls and food courts in campus facilities. They would like more cultural variety of food

and more vegetarian selections. Alazzi and Chiodo (2006) in their research interviewed 8 foreign students attending universities in US and found that they all had conflicting norms and expectation of the food. Many other researchers (Dillard and Chisolm, 1983; Edgeworth & Eiseman, 2007; Heikinheimo & Shute, 1986 among others) have found foreign students complain of the type of food of the host country but none have made any significant conclusion on food as a serious factor. It should be a factor looked into more deeply.

#### *Psychological factors affecting international students*

The psychological adaptation factors refer to feelings of well-being and satisfaction of the student in their host countries. In moving to another country for the first time, international students experience profound psychological problems that are unique in their nature. There is loss of social support and status, loss of familiar cues, loss of certainty, and self-worth. As a consequence, they often feel less confident and tenser, tend to take less time off, become preoccupied with academic demands, and may even become confused over how to live day to day. Adaptation to the cultural values, norms, and behaviors of the dominant group generally causes unavoidable psychological distress for international students. As a consequence, threats to cultural identity, powerlessness, feelings of marginality, sense of inferiority, loneliness, hostility, and perceived alienation and discrimination become major mental health risks (Rutter & Tienda, 2005).

Farrokh's (1988) study of 13 international graduate students at University of British Columbia in Canada revealed that a range of social and personal needs had to be satisfied: security, support, self-worth, self-acceptance, competence and autonomy, identity and belonging, love, fulfillment and meaning in life. Nebedum-Ezeh's (1997) study of ten African students at institutions of higher education in Western Massachusetts revealed that African students felt isolated and disconnected from domestic counterparts. Others indicate loneliness and isolation. Ishii's (1997) study of five international graduate students at University of British Columbia found overwhelming feelings of nervousness, fear, loneliness, feelings of inadequacy, and invisibility. Ishii's study also emphasizes students feeling small and losing self-confidence and some even felt shame and depression. This shifted their priorities from academic success to survival and struggle to



feel “normal” just as “Canadians.” International students reported that loneliness and cultural displacement undercut self-confidence as they felt detachment from both their home and host countries (Garrod & Davis, 1999).

Chapman and Pyvis (2006) conducted research on students in Australian universities. A major dilemma shared by the Hong Kong professional doctorate students was how to develop a ‘sense of belonging’ - their various forms of identity (international student, university student, doctoral student, offshore student) into one form of student identity -and being offshore students they feel that they were not part of the university community. Leong & Sedlacek (1986) discuss how most international students deal with stress in isolation. The students may estrange themselves from potential sources of social support such as cultural and sports groups. They isolate themselves from others who can help them learn about the new environment and from co-nationals with whom they can discuss similar problems. Amoh (1995) drew the same conclusion that foreign students isolate themselves from host nationals some because of more serious problems. Alazzi and Chiodo (2006) described it as a crisis in which the foreign students feel isolated and stress themselves trying to prove their capability despite their lack of participation. They conclude that generally the foreign students suffer from stress and anxiety trying to fit in and develop a sense of belonging; such stress often leads to a feeling of inadequacy and a loss of self-confidence.

Stereotyping, prejudice or racial discrimination is serious psychological factors. Different students will encounter different prejudices in the form of stereotypes depending on their own specific stigmatized characteristics. This tendency to think of members of other cultures in terms of stereotypes (i.e., the excitable Arabs; the amorous French; the touchy Italians; the lazy Latinos; the volatile Hungarians; the materialistic Americans; and so forth) can be another stumbling block to their adaptation. In their study on foreign students at a Canadian university, Heikinheimo and Shute (1986) found 91% of foreign students feel themselves victims of racial discrimination. The students feel service workers and teachers are less polite and less helpful to them, and that testing and grading favored Canadian students. Sodowsky and Plake (1992) examined the acculturation of students studying in the U.S. from various countries and continents and have found a great deal of perceived prejudice to these students from Americans. Likewise,

Spencer-Rogers (2001) pointed out the negative attributions ascribed to international students by host national peers and instructors describing them as withdrawn, insular, and socially inhibited. The international students were stereotyped as educationally inadequate or behaviorally inappropriate in classroom settings.

These psychological issues can be viewed under the term culture shock. Oberg (1960), who is also credited with coining the term “culture shock”, in his research found that students develop a trauma when placed in a new and unfamiliar culture. They have lost their day-to-day social interactions, rules, language, cultural conventions, and norms which create a certain traumatic stress and anxiety – culture shock. Oberg (1960) described six aspects that accompany and affect culture shock:

- 1) Sense of loss and feelings of deprivation (in regards to friends, status, profession and possessions; decrease of social interaction);
- 2) Strain (anxiety as a result of the efforts to make the necessary adaptations);
- 3) Ejection (being rejected by and/or rejecting members of a new culture due to stereotyping);
- 4) Confusion (mixed feelings in role, values, feelings and self-identity);
- 5) Surprise and distress after becoming aware of cultural differences; and
- 6) Feelings of being less important or capable (low self-esteem; perceived inability for not being able to cope with the new environment due to language limitations).

The levels of anxiety, stress and rejection vary from one individual to another and from culture to culture. However, there is not enough research yet to explain for whom the shock will be more or less intense (men/women, less educated individuals, university or college students, etc.); what determines which reaction a person is likely to experience; how long will they remain in a period of shock; and so forth. Nevertheless, culture shock is not always an unpleasant experience. De Vita (2000) concludes in his study that the emotional and affective issues of culture shock (homesickness, isolation, etc.) do affect the international students' adaptation.

## Hofstede's Dimensions of Culture

One of the most often quoted cultural theorists is Geert Hofstede, a Dutch cultural anthropologist. From 1978 to 1983, he conducted a landmark cultural study of hundreds of IBM employees in 53 countries. He identified four primary dimensions of cultural difference: power distance, uncertainty avoidance, individualism, and masculinity. These four dimensions of culture analyze how patterns of acting, feeling and thinking are often ingrained in people and the differences in these cultural patterns are displayed in the choice of symbols, rituals and values. The dimensions represent separate but interdependent continua along which culturally influenced attitudes of both nations and individuals can be assessed concerning such important issues such as authority, emotional display, and the appropriate roles of individuals in family, society, and in the interest of this study, school. The dimensions are measured by indices and rankings.

### *Power distance*

Power distance (PD) refers to how much less powerful members depend on more powerful members of the group. In large power distance countries, like China, the dependence of subordinates on supervisors is considerable. Hofstede claims that large PD countries tend to have centralized political power and exhibit tall hierarchies in organizations. Subordinates are expected to be obedient to supervisors and do as they are told. Statistics show that large PD countries tend to have larger populations. In small power distance countries, like the United States, subordinates depend less on authority, and there is a strong indication of interdependence relationship. Subordinates and supervisors are closer together and are more interchangeable. The hierarchical structure is flatter, with less difference in status. The Power Distance Index (PDI) is the measurement of how comfortable the people of a culture are with unequal distribution of authority and power in society. A high PDI index indicates a culture that is more comfortable with unequal power distribution, while a low PDI indicates a culture that is less comfortable with unequal power distribution.

*Individualism vs. collectivism*

Collectivism deems that people are integrated into strong groups that protect them in exchange for loyalty. At work, collectivist cultures, this is dominant in China, value training, physical conditions, skills, and the intrinsic rewards of mastery. Hofstede found out that such societies and governments place collective social-economic interests over the individual, and profess the ideologies of harmony, consensus, and equality. On the other hand, individualism in a country reflects a person's strong sense of self. Individualistic cultures, represented by the United States in this study, value personal time, freedom, challenge, and extrinsic motivators such as material rewards at work. Their societies and governments place individual social-economic interests over the group, and profess the ideologies of self-actualization, self-realization, self-government, and freedom. The Individualism index (IDV) is a measurement of a culture's tendency toward either closely-knit group integration or a loose association of individuals. A low IDV index indicates a culture that is more collectivist, while a high IDV index indicates a culture that is more individualist.

*Masculinity vs. femininity*

In Hofstede's cultural dimensions, femininity and masculinity are defined as gender roles, not physical characteristics. He maintains traditional views of gender differences, in which feminine roles are oriented to home, children, people, and tenderness, and masculine roles to assertiveness, competition, and toughness. In terms of work, although different professions are dominated by different genders, high-femininity cultures, like those of China, tend to blur the lines between gender roles, while high-masculinity cultures, like those of the United States, display traditional distinctions. Consequently, femininity cultures put emphasis on values like good relations with supervisors, peers, and subordinates, good living and working environments, and the sense of security in employment, while masculinity cultures focus on goals like earnings, recognition, advancement, and challenges. The Masculine (MAS) Index measures where a culture lies in a spectrum where masculinity is at one end and femininity at the other. A high MAS Index indicates a very masculine culture and a low MAS Index indicates a

more feminine culture. Feminine cultures are more modest and caring overall, while masculine cultures are more aggressive and assertive.

#### *Uncertainty avoidance*

Uncertainty avoidance reflects the extent to which a society attempts to cope with anxiety by minimizing uncertainty. Uncertainty Avoidance defines the extent to which people are made nervous by situations which they perceive as unstructured, unclear, or unpredictable. These are situations that they try to avoid by maintaining strict codes of behavior and a belief in absolute truth. Therefore it refers to the amount an individual is willing to invest to maximize the probability of obtaining a desired outcome or to reduce unexpected events. Uncertainty Avoidance Index (UAI) is a measure of a society's tolerance for ambiguity and uncertainty. Cultures that scored high in uncertainty avoidance prefer rules (e.g. about religion and food) and structured circumstances and are very uncomfortable with ambiguity and uncertainty and thus seek out structure, stability and certainty to satisfy the need to eliminate such feelings. Cultures with a low UAI are comfortable with few rules, little structure, risk takers, differing opinions, tolerant of viewpoints and behavior different from their own, and the like.

#### *Research focus using Hofstede's dimensions*

The table below gives an overview of the researcher's use of Hofstede's dimensions in relation to the international higher education and how the international student function in respect to power distance, individualism, masculinity, and uncertainty avoidance while studying in Taiwan. The society or culture from which a student is from is often visible in their classroom behavior. Consequently, all international students, with the exception of those from Asian countries that share homogenous aspects of their culture with Taiwan, come to Taiwan and will encounter a culture totally new and unfamiliar to them. According to Hofstede (1984) Taiwan has a large power distance and low individualism, and strong uncertainty avoidance and feminine culture. This is the challenge of the foreign students that the research is focusing on that may affect their satisfaction and hence affect their academic performance.

Table 2.3. Hofstede's (2002) descriptions of expected behaviors as a function of cultural value scores and environment

<b>Small Power Distance Societies</b>	<b>Large Power Distance Societies</b>
<b>In the Family</b>	
1. Children encouraged to have a will of their own	1. Children educated towards obedience to parents
2. Parents treated as equals	2. Parents treated as superiors
<b>At School</b>	
1. Student-centered education (student initiative)	1. Teacher-centered education (order)
2. Learning represents impersonal 'truth'	2. Learning represents personal 'wisdom' from teacher (expert, guru)
<b>At Work Place</b>	
1. Hierarchy means an inequality of roles, established for convenience	1. Hierarchy means existential inequality
2. Subordinates expect to be consulted	2. Subordinates expect to be told what to do
3. Ideal boss is resourceful democrat	3. Ideal boss is benevolent autocrat (good father)
<b>Collectivist Societies</b>	<b>Individualistic Societies</b>
<b>In the Family</b>	
1. Education towards 'we' consciousness	1. Education towards 'I' consciousness
2. Opinions pre-determined by group	2. Private, personal opinions expected
3. Obligations to family or in-group: <ul style="list-style-type: none"> <li>- Harmony</li> <li>- Respect</li> <li>- Shame</li> </ul>	3. Obligations to self: <ul style="list-style-type: none"> <li>- Self-interest</li> <li>- Self actualization</li> <li>- Guilt</li> </ul>
<b>At School</b>	
1. Formal learning is for the young only	1. Education be lifelong
2. Learn how to do	2. Learn how to learn
<b>At Work Place</b>	
1. Value standard different for in-group and out-group: particularism	1. Same values standards apply to all: universalism
2. Other people are seen as members of their group	2. Other people seen as potential resources
3. Relationship prevails over task	3. Task prevails over relationship
4. Moral model of employer-employee relationship	4. Calculative model of employer-employee relationship

Table 2.3. (Continued)

<b>Feminine Societies</b>	<b>Masculine Societies</b>
<b>In the Family</b>	
1. Stress on relationship	1. Stress on achievement
2. Solidarity	2. Compensation
3. Resolution of conflicts by compromise and negotiation	3. Resolution of conflicts by fighting them out
<b>At School</b>	
1. Average student is norm	1. Best students are norm
2. System rewards student's social adaptation	2. System rewards student's academic performance
3. Student's failure at school is relatively minor accident	3. Student's failure at school is disaster, may lead to suicide
<b>At Work Place</b>	
1. Assertiveness ridiculed	1. Assertiveness appreciated
2. Undersell yourself	2. Oversell yourself
3. Stress on life quality	3. Stress on careers
4. Intuition	4. Decisiveness
<b>Weak Uncertainty Avoidance Societies</b>	<b>Strong Uncertainty Avoidance Societies</b>
<b>In the Family</b>	
1. What is different is ridiculous or curious	1. What is different is dangerous
2. Ease, indolence, low stress	2. Higher anxiety and stress
3. Aggression and emotions not shown	3. Showing of aggression and emotions accepted
<b>At School</b>	
1. Students comfortable with:	1. Students comfortable with:
- Unstructured learning situations	- Structured learning situations
- Vague objectives	- Precise objectives
- Broad assignments	- Detailed assignments
- No timetables	- Strict timetables
2. Teachers may say "I don't know"	2. Teachers should have all the answers
<b>At Work Place</b>	
1. Dislike of rules, written or unwritten	1. Emotional need for rules, written or unwritten
2. Less formalization and standardization	2. More formalization and standardization

Source: Adapted from Romie F. Littrell Learning styles of students in and from Confucian cultures

If international students have perceptions of inequality, it can lead to reticence of students to interact with lecturer. Less interaction will be a result of large power distance and more interaction signifies small power distance. The lecturer and locals will accept less interaction since Taiwan has large power distance index. Since they are in a new society a new cultural milieu, their reaction to the unfamiliar can influence their openness to new ideas and new ways of doing things. If the international student fights, he will display strong uncertainty avoidance; if there is tolerance of this unknown, then a display of weak uncertainty avoidance is observed. Although this is more personal, coming from a society that has strong uncertainty avoidance can create problems for foreign students in Taiwan. When the international students want to socialize, the relation with in-group can affect their perception as an insider or outsider, and determine attitudes toward assisting other international students. So, a loose relationship will mean individualism while a tight relationship displays collectivism. This can also be seen in the lecturers' treatment of the international student who are either considered as individualistic or collectivist in their behavior. The lecturer's perception will be inclined as either an insider being in the in-group or an outsider. Emotional gender roles might affect attitudes toward male and female lecturers and fellow students. Taiwan is feministic and would prefer the same cultural values; anything else is different and considered masculine and may be a threat.



## **Theories of Adaptation and Acculturation**

In this section the researcher is exploring theories that have been developed that may assist the appropriate parties to making the adaptation and adjustment of international foreign students in Taiwan better. The theories explain why students encounter certain problems and descriptions and examples of those problems. According to Kim (1988), new sets of relationships can help facilitate newcomers' adaptation to the new cultural environment. The adaptive functions of relational networks, such as informational and emotional support, provide newcomers a sense of security and well-being as well as various types of knowledge about the host culture. Studies have consistently found that interactions with new close ties, especially interactions with members of the host culture, are positively linked to successful adaptation.

### *Culture shock*

The anthropologist Oberg (1960) was the first to use the term culture shock. As most people take for granted that all cultures operate and behave in exactly the same manner as their own, they are 'shocked' or made temporarily uncomfortable by the differences and unpredictability they encounter, whether it be in the language, food or various society ceremonies of everyday life. One positive aspect of the living abroad experience is the ability to better understand one's own culture and society through observing another. The most common occurrence is a feeling of uncontrollability and helplessness. Oberg identified four stages and six aspects to this reaction, which has been seen as a normal part of a routine process of adaptation to cultural differences and the manifestation of a longing for a more predictable and understandable environment. The stages, according to Oberg are Initial Euphoria, Irritability and Hostility, Gradual Adjustment, and Biculturalism.

Upon arriving in the new cultural milieu, the international student encounters Initial Euphoria. Most people begin their new responsibility with great expectations about themselves and a positive frame of mind towards the host country. Anything new is intriguing and exciting but soon, disappointment is inevitable. The international student will then move into the Irritability and Hostility stage. In this stage, gradually, the focus shifts from the excitement of being in interesting places with fascinating people to the

difficulty of living amongst them. People seem to focus on the differences (which suddenly seem to be everywhere) and begin to emphasize them. The next stage the student experiences is Gradual Adjustment. The crisis is over and people seem to be more open to others and willing to share. Once students are able to interpret some of the subtle cultural clues, which were overlooked earlier, the culture seems more familiar. One becomes more comfortable in it and feels less isolated. Interestingly, a person's sense of humor returns and there is a realization that the situation is not a hopeless one after all. Then finally, the student reaches the stage of Adaptation or Biculturalism. Full recovery will result in an ability to function in two cultures with confidence. Students might even enjoy a great many customs, ways of doing and saying things, and personal attitudes to which they have acculturated (to some extent) and which they might even miss when the time comes to pack up and return home.

#### *Acculturation theories*

Acculturation refers to changes in cultural attitudes, values, and behaviors that result from the continued firsthand contact between two distinct cultures. Acculturation is marked by physical and psychological changes due to the adaptation required in diet, climate, housing, interactional styles, norms, and values of a new society. Berry (1997) stated that cultural maintenance (how much foreigners strive to maintain their cultural identity and characteristics) and contact and participation (how much foreigners become involved with the host society's population) influence acculturation. According to Berry there are four strategies of acculturation: Assimilation, Separation, Integration, and Marginalization. Foreigners using either Assimilation or Integration strategy seek daily interaction with people in the host culture. Naturally, they will be influenced by the host society's values and preferences and learn appropriate behaviors for the new cultural context more than foreigners using Separation or Marginalization strategy.

Berry describes the Integration strategy as maintaining cultural heritage while supporting inter-group relations. The Assimilation strategy entails relinquishing or giving up one's cultural heritage and adopting the beliefs and behaviors of the mainstream culture. The Separation strategy involves one maintaining their heritage culture while rejecting intergroup relations. The Marginalization strategy entails one not adhering to

the heritage or mainstream cultures. In the case of Marginalization, the individual relinquishes contact with his heritage and mainstream cultures. Berry believes that it is important to know how the four apply to individual preferences. For Berry (1997), a host society's interest to improve intercultural relations requires institutional and individual change. Berry believes that corporate practices (i.e., curriculum, recruitment, policies, etc.) must be modified in order for immigrants like international students to socialize and professionally adapt. Berry (1997) terms the changing (modification) "cultural sensitivity training" and during this change process, the inability to change institutionally, from the "inside out/top down," will not ensure the person full understanding of and acceptance to diverse societies. Cultural distance between foreigners' native culture and a new culture is another factor influencing acculturation.

The psychological adaptations to acculturation are a matter of learning a new behavioral repertoire that is appropriate for the new cultural context. It may be accompanied by some moderate "cultural conflict," and individuals may experience "acculturative stress" if they cannot easily change their behavior (Berry, 1997). Since adaptation refers to changes that take place in individuals or groups in response to environmental demands, these adaptations can either occur immediately or be extended over the longer term. Short-term changes during acculturation are not always positive. Sometimes these are negative and disruptive in character. However, for most acculturating individuals, after long-term period of time, some long-term positive adaptations to the new cultural context usually take place.

Sodowsky and Plake (1992) described acculturation as "a dynamic process of relating to the dominant group, whereby, the minority group selectively adopts its value system and culture practices when involved in the processes of integrating with, and differentiating from, the dominant group". Adding to this research Suinn, Khoo, and Ahuana(1995) highlight three possible outcomes of acculturation: (i) assimilation, whereby the person adopt to the host culture's attitudes, values, and behaviors, thereby giving up his or her original culture (ii) resist assimilation whereby the person resists the host culture and maintains his or her own and (iii) biculturalism whereby the person adopts both the host culture and his or her own.

In 1967, Graves took a more in-depth view at the definition of acculturation and made a distinction between acculturation as a collective or group-level perspective and a psychological perspective. Graves' (1967) Acculturation Framework depicts group-level acculturation as a change in the culture of the group; whereas, psychological acculturation is a change in the psychology of the person. Graves' framework indicates that the study of acculturation is designed to provide a distinction between the cultural variables influencing people and the psychological outcomes of those cultural variables. According to Graves, the dominant culture and the acculturating group(s) have continuous contact within and among themselves. Based on contact between and among the groups, acculturation is viewed in two manners. According to Graves, the contact between the dominant culture and acculturating groups will generate group-level acculturation, which entails experiencing one or more of the following changes: physical (such as, urbanization and population density), biological (associated with diet, health, and diseases), political, economic, cultural, and social. Graves indicates that the same contact between the cultures can also generate psychological acculturation, which entails experiencing one or more of the following changes: behavioral, value, identity, acculturative stress, pathological, and adaptation. Although Grave's reasoning for the study of acculturation resides with changes being more obvious in a group over individual people, his theory is still applicable. International students in Taiwan can be viewed as a group.

#### *Social network theory*

Acculturation scholars believe that for adaptation to take place, communication must be present via social contacts. International students will reduce the intensity of isolation from the new society through social contacts with members of the host society. The international students as out-group members become acculturated primarily by participating in communication with members of the in-group, host nationals. Studies have shown that the more frequently one associates with the host people, the more easily one may adapt to the dominant society. Kim (1988) indicates ties with host people would replace some of the ethnic ties, making the immigrant social network increasingly heterogeneous over time.

Social network theory is concerned with the properties of social support networks and social support and resource exchanges among network members. From a social network perspective, a social network involves a set of actors and the relations that connect them. Actors, either individual people or aggregated units such as organizations or families, exchange resources. These resources may include data, information, goods and services, social support, and financial support (Marsden & Campbell, 1984). According to social network theory, an individual's social networks comprise strong ties and weak ties - a tie simply refers to the relationship between a certain individual and a particular network member - that help the individual identify with others of different groups, not just different ethnic groups, but also across boundaries of age, gender, class, organizational or professional affiliation or even across boundaries of identity constructs such as hobbies, personalities, and subculture identification. While strong ties can provide informational support and validation, the close relationships among strong ties may play an effective role, which can satisfy an individual's emotional needs. Weak ties, on the other hand, involve fewer intimate exchanges and less frequent maintenance. Weak-tie relationships allow people to diversify their networks or connections, thus providing a helpful alternative for social support.

Social network theory, particularly its contentions about strong ties and weak ties, is applicable to the examination of social support networks for international students. International students are a group in transition who live in a foreign country to pursue their educational goals. These students need to seek support and help from different sources and personal networks in order to cope with the feelings of inadequacy and frustration in their changed environment. There are types of strong ties in cross-cultural adaptation: new relationships established in the host country, and distant long-standing relationships in the home countries. According to Kim (1988), new sets of relationships can help facilitate newcomers' adaptation to the new cultural environment. The adaptive functions of relational networks, such as informational and emotional support, provide newcomers a sense of security and well-being as well as various types of knowledge about the host culture. Interactions with new close ties, especially interactions with members of the host culture, are positively linked to successful adaptation.

International Higher Education: A Study of the Effect of Satisfaction  
on Foreign Students' Performance in Taiwan

## **CHAPTER III. METODOLOGY**

### **Chapter Overview**

This chapter contains the research framework, research procedure, and research methods. The chapter explains the approach taken in using Hofstede's four cultural dimensions as independent variables whereby the researcher provides definitions for each dimensions in relation to the purpose of the study. The chapter also explains the sampling procedure and the necessity for the researcher to follow this procedure to obtain the required sample. The framework shows how the variables are being tested and the research process explains the steps taken. Details of the method, procedure and instrumentation are given. Within the methods there are the validity and reliability of the instrument, data analysis, population and sampling, and instrumentation sections for the study.

### **Research Framework**

This research framework was developed to accord with the literature review. From the review, it was noticed that international students in other countries face a high level of dissatisfaction that have impacted their motivation to study and learn and thus their performance. The Satisfaction Variables identified are in relation to Geert Hofstede four dimensions: Power Distance, Uncertainty Avoidance, Individualism, and Masculinity as defined by the research. Other variables are Demographic which includes Age, Gender, and Nationality by regions which include Asia, Europe, North America, Central America, South America, Africa, and Australia and Oceania. The researcher also looked at the ICDF and Non-ICDF scholarship recipients as variables. Students' Degree pursued, Graduate and Undergraduate, was also compared. All these variables will be tested against the Students' Academic Performance.

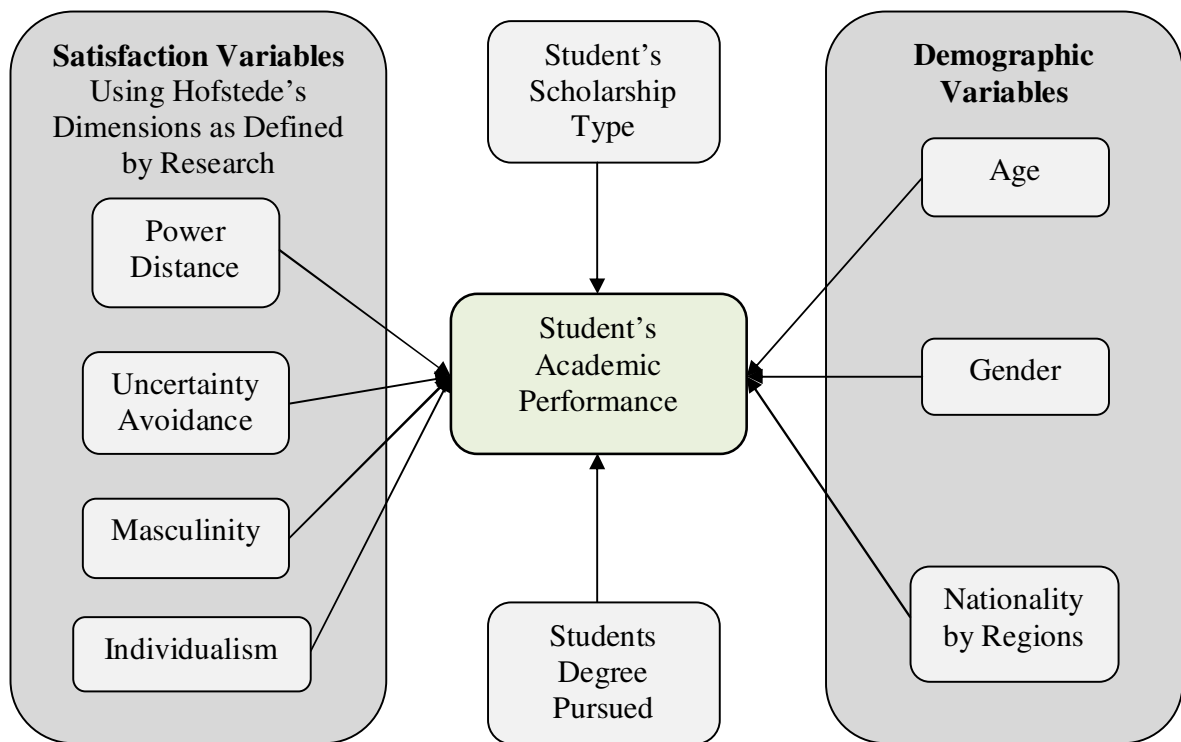


Fig. 3.1. Framework of Study

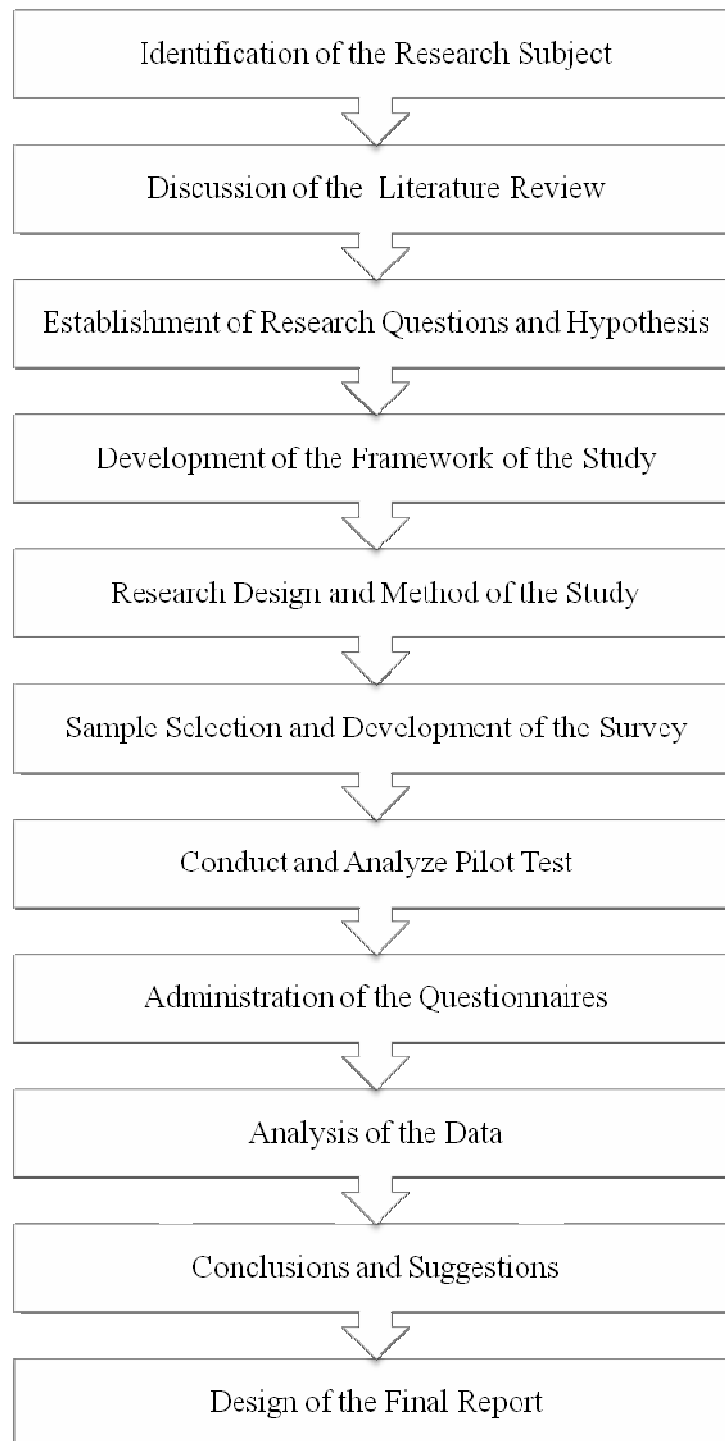


## **Research Procedure**

A pilot test was administered in November 2007 and the data were collected electronically. Ten international higher education students in Taiwan were chosen using the snowballing sampling method. This approach was taken because the researcher wanted to target 5 ICDF students and 5 Non ICDF students. Participants came from five different universities throughout Taiwan. The 5 ICDF participants were mailed a letter requesting their participation in the pilot study and a further request to identify one Non-ICDF foreign student each. The purpose of the pilot study was to assess reliability of the measures to be used in the main study. Some of the items for the pilot test came from of the Student Adaptation to College Questionnaire (SACQ) developed by Baker and Siryk (1989) but were modified to suit this research. The rest of the items came as a result of the Literature Review having seen what factors affect international students in different countries. The questionnaire has 35 items. Items were then categorically placed in Hostede's four dimensions in relation to the meaning used by the researcher (see Hofstede Dimensions in Literature Review for the definitions).

For the main study, the researcher took a letter to the Universities in Taiwan requesting permission to conduct a survey using their foreign graduate students. The letter consisted of an explanation of the research purpose, an explanation of the research, and a note of confidentiality that the data collected will be used solely for the researcher's thesis and all names of schools will be excluded. After permission was granted, a second letter was given to the foreign students requesting their participation in the survey and attached to the letter will be the questionnaire survey. The letter explained the purpose of the survey and the contributions it may have to their life as students while in Taiwan. It also contained assurance of their anonymity and that the results will be sent to them if requested.

The researcher waited and collected all the data personally. The data was coded and the information was keyed into the Statistical Package for Social Sciences (SPSS) PC 12.0 statistical software program. This coding helped the researcher to run the information in SPSS to test the hypothesis and answer the research questions.



*Fig 3.2. The research process*

## Research Methods

This research employed a quantitative method approach for data gathering. A quantitative questionnaire with some items taken from the Student Adaptation to College Questionnaire (SACQ) developed by Baker and Siryk (1989) and other factors found through research will be used to test foreign students' satisfaction on their performance. The test used a Likert-type scale. Responses were based on a five-point Likert scale: 1 = very dissatisfying, 2 = dissatisfying, 3 = NA/neutral, 4 = satisfying and 5 = very satisfying.

The respondents were instructed to refer to their experience here in Taiwan as a student and to fill out the questionnaire that has a range of selected items about their experience as a foreign student in Taiwan, and the items are in relation to Geert Hofstede's theory on power distance, individualism, uncertainty avoidance, and masculinity. The questionnaire is not Hofstede's but the items are related to the meaning of each dimension as described by Hofstede. The literature review has a more detailed explanation with a table on cultural dimensions in relation to students.

The respondents also supplied their demographic data of gender, age and nationality. They indicated whether their scholarships are ICDF or Non-ICDF. A section rating their grade point average so far in their studies was used with ranges from A to C as indicators of their performance. The respondents also had to indicate whether they were Graduate or Undergraduate students. Finally there was a section to fill in any additional comments they may want to express about their satisfaction and in relation to their academic performance. The nature of the topic and questions in the questionnaire was influenced by previous researches and the conclusion that the researchers have made on what factors affect foreign students.

*Population and sample*

The population is all international higher education students in the universities and colleges in Taiwan. But from that population the focus were on students who took courses in English. The researcher chooses to use these students since the research will be on higher education in Taiwan. These students had to spend at least one year in Taiwan. The last enrollment census of higher international students in Taiwan was in 2007 that showed the population of 5259 (N = 5259). Therefore the recommended sample population for the study should be 357 (n = 357) as determined by 95% level of certainty developed by Krejcie and Morgan in 1970 and Raosoft at raosoft.com. The research used a nonrandom or non-probability sampling technique known as snowball sampling. This sample technique was used because it is hard for the researcher to identify members of the desired sample for the Non-ICDF higher education scholarship students. The researcher hoped through snowballing that the ICDF students could identify at least one Non-ICDF student to reach the desired sample and it resulted in a good sample population.

The ICDF higher education students can be identified from ICDF statistics they have in their database. Of the 132 ICDF students approached 114 responded which is an 86.4% response rate. An additional 142 international students were obtained through various means. As requested the ICDF students identified international classmates and others at their university. The researcher also got some by approaching international students wandering on their campuses; once they fit the criteria, they were asked to do the questionnaire. Of the 350 questionnaires the researcher took out 256 responded which is a rate of 73.1%. The Table 3.1 below provides a view of the sample population and their demographic, status, degree and GPA distributions.

Table 3.1. Data of variables by entries and values (n = 256)

<b>Variables</b>		<b>Entries</b>	<b>Percentage</b>
<b>Gender</b>	Male	156	60.9
	Female	100	39.1
<b>Nationality by Regions</b>	Asia	40	15.6
	Europe	20	7.8
	North America	22	8.6
	Central America	103	40.2
	South America	21	8.2
	Africa	30	11.7
	Australia and Oceania	20	7.8
<b>Degree Pursued</b>	Undergraduates	124	48.4
	Graduates	132	51.6
<b>Students Status</b>	ICDF	114	44.5
	Non-ICDF	142	55.5
<b>Grade Point Average Level</b>	A = 90 – 100	55	21.5
	B = 80 – 89	143	50.9
	C = 70 – 79	58	22.7

#### *Instrumentation*

The instrument that was used for the data collection of students' satisfaction effect on their performance was a questionnaire. The items in the questionnaire was gathered from the Student Adaptation to College Questionnaire (SACQ) developed by Baker and Siryk (1989) and formulated from factors observed by the researcher that are problems for international students in various countries. In the first section students identified their demographic data age, gender and their nationality.

The second section had statements based on the variables that were rated from 1- very dissatisfied to 5 - very satisfied. The 35 explanatory variables are interrelated and classified into the four pre-determined factors: Power Distance, Uncertainty Avoidance, Masculinity, and Individualism. Factor I, Power Distance includes Question items Q1, Q4, Q7, Q10, Q13, Q15, and Q18. Factor II – Uncertainty Avoidance contents incorporate Q12, Q14, Q17, Q20, Q21, Q23, Q24, Q26, Q30, Q31, and Q34. Factor III -

Masculinity has Q3, Q6, Q9, Q16, Q19, Q22, Q25, Q28, and Q35. Factor IV - Individualism covers Q2, Q5, Q8, Q11, Q27, Q29, Q32, and Q33.

The third section on Academic Performance was a rating of their academic performance by asking the students to provide as an objective indicator, their school grade point average (GPA) after one year or more of study in Taiwan. The final section asked students to make further comments (if any) on their satisfaction and motivation as international students in Taiwan and in relation to their academic performance.

#### *Validity and reliability*

Validity of the instrument was determined by content validity. Content validity is basically the extent to which the measurement device or in this case, the measurement questions in the questionnaire, provides adequate coverage of the investigative questions and hypotheses. The researcher tests content validity of the items in relation to Hofstede's dimensions by providing definitions of each dimensions used in the study. A table provided in the literature review with descriptions show what meaning the researcher gives to the dimensions. The researcher also reached content validity by discussing the items and the meaning with experts. The experts are teachers who have been in teaching and education for many years. Two in particular have published numerous articles on education. The experts provided an assessment of each item in the questionnaire by determining if they are useful or not.

To test reliability, the researcher conducted a pilot test using 10 samples which indicates a high internal consistency based on the alpha reliability of all items combined .965 (35 items) and for the sections: Power Distance .826 (7 items); Uncertainty Avoidance .878 (11 items); Masculinity .899 (9 items); Individualism 0.894 (8 items). The final test gave a Cronbach Alpha of .943 for all items combined: Power Distance .790 (7 items); Uncertainty Avoidance .864 (11 items); Masculinity .818 (9 items); Individualism .777 (8 items).

Table 3.2. Cronbach alpha value of survey instrument

	Tests	
	Pilot	Final
Power Distance	.826	.790
Uncertainty Avoidance	.878	.864
Masculinity	.899	.818
Individualism	.894	.777
Complete Test	.965	.943

#### Data analysis

The data for this research was analyzed using the Statistical Package for the Social Sciences (SPSS) PC 12.0 version. But, before analysis the data were coded using number sequences. The 35 questions were coded using a 5-point Likert scale as previously mentioned. The demographic variables, students' status, students' degree pursued, and GPA coding can be seen in Table 3.2 below.

Table 3.3. Coding system used in SPSS data analysis (n = 256)

Categories	Coding System
<b>Age</b>	Age Given
<b>Gender</b>	0 = Male 1 = Female
<b>Nationality</b>	1 = Asia 2 = Europe 3 = North America 4 = Central America 5 = South America 6 = Africa 7 = Australia and Oceania
<b>Education Level</b>	0 = Undergraduate 1 = Graduate
<b>Scholarship Type</b>	0 = ICDF 1 = Non-ICDF
<b>Grade Point Average Level</b>	0 = C = 70 – 79 1 = B = 80 – 89 2 = A = 90 - 100

The researcher used from the SPSS software, descriptive and inferential statistics to analyze and interpret the data collected from the sample population. These statistical procedures allowed the researcher to present the relevance and importance of the study. The descriptive statistics helped the researcher to arrange the data into a more interpretable form by forming the frequency distributions and generating graphical displays and by calculating numerical indexes such as averages, percentile ranks, and measures of spread. Descriptive statistics, e.g., means, frequencies, and a histogram of student responses are often applied to detect the most and the least satisfaction items regarding college programs and services (Damminger, 2001). All this data can be summarized easily or can be examined on their interrelation. The weighting of the data is very essential and important.

The use of inferential statistics helped the researcher to examine relationships, differences and trends, a process also known as hypothesis testing or significance testing. In effect the researcher is trying to compare the data collected to what was theoretically expected to happen. The inferential statistics provided the researcher with the means to test whether two variables are associated, and to assess the strength between the independent and dependent variable, to predict the value of dependent to independent variable, and compare relative changes in trends.

Different statistical methods used to analyze satisfaction data and students' performance data. These methods include crosstab and chi-square, and linear regression analysis. Chi-square method is used to identify the significant proportion difference for students' performance based on their degree. The linear regression method is a useful tool to analyze the relationship between multiple predictor variables and student performance results (Thomas & Galamos, 2002). Linear regression allows the researcher to identify explanatory variables related to academic performance and how it contributes to the overall college satisfaction. This method also permits the researcher to estimate the magnitude of the effect of the predictor variables on the outcome variable. Therefore, regression methods seem to be superior in studying the relationship between the predictor and outcome variables. Specifically, the Multiple Linear Regression is used because the researcher wanted to use a model that would fit the data. Since there are 45 predictor variables, the researcher is interested in a process that can choose a subset of independent



variables which best explains the dependent variables. The backward elimination process is used, which examines the p-values for the 45 independent variables, and eliminates the highest insignificant variable in each equation. This means the researcher starts with all the variables in the model, and drops the least "significant", one at a time, until you are left with only "significant" variables. That is, instead of focusing on individual variables, it is important to study the relationship or interaction of these variables designated to be important, because in reality the variables do not exist or exert their influence independently.

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## CHAPTER IV. FINDINGS AND DISCUSSIONS

### Chapter Overview

This chapter contains three major sections: Empirical Results; Commentaries Results; Discussions. The empirical section is a sequential presentation of the hypotheses that have been further subdivided into: Descriptive Results measuring the students' satisfaction levels; the Inferential Results I measuring the predictor variables' statistical significance to students' academic performance via a multiple linear regression analysis; the Inferential Results II showing comparisons of students' status and degree using crosstab and chi-squares. The Commentaries section contains the respondents' additional comments on their satisfaction; this has been coded and categorized. The Discussion section is a thorough analysis of the implications from the empirical results.

### Empirical Results

#### *Descriptive results*

##### *Results for hypothesis 1:*

Using the Student Satisfaction Questionnaire and on the 5-point scale, the sample shows that the international students are at a good satisfaction level ( $M = 3.47$ ,  $SD = .68$ ). This means that the score is above the midpoint of the scale which is 3. Using the scores below 2.5 and above 3.5 as cut-off points for poor satisfaction scores and very good satisfaction scores, approximately 9.4% and 51.6% of the international students studying in Taiwan could be said to have poor and very good satisfaction scores respectively. Therefore we reject the Null Hypothesis 1 and accept the alternative. The results of this study indicate that a majority of the international students are satisfied with their lives here where more than 50% may be described as satisfied to very satisfied. This is based on an arbitrary cutoff point established by the researcher that has not been validated so this interpretation needs to be qualified. Still yet it satisfies the research.

The researcher also looks at the percentages of the responses, the means, and the standard deviations for the 35 questions to see the factors that students are most and least

satisfied with. The responses expressed in the five-point Likert scale system have been separated by the dimensions as seen in the four tables below.

*Power distance*

From the variables that belong to the factor power distance, the students show high dissatisfaction to Q13. This shows that 39.5 % are dissatisfied that there are no forums for them to express their concerns about their lives here in Taiwan. None of the other questions show great dissatisfaction; they all show about 50% or more satisfaction.

*Table 4.1.* Power distance by Likert scale, mean and standard deviation (n = 256)

<b>Variables</b>	<b>VD</b>	<b>D</b>	<b>N</b>	<b>S</b>	<b>VS</b>	<b>Mean</b>	<b>SD</b>
<b>Q1</b>	1.2	7.0	22.7	30.5	38.7	3.98	1.002
<b>Q4</b>	6.3	7.0	28.5	32.8	25.4	3.64	1.122
<b>Q7</b>	3.1	7.8	20.3	32.4	36.3	3.91	1.075
<b>Q10</b>	5.5	4.7	21.5	31.3	37.1	3.90	1.123
<b>Q13</b>	<b>16.8</b>	<b>22.7</b>	28.9	2.5	10.2	2.86	1.227
<b>Q15</b>	3.1	7.8	31.6	35.2	22.3	3.66	1.009
<b>Q18</b>	5.5	15.2	30.1	35.5	13.7	3.37	1.069

*Note:* The 5-Point Likert scale is reported in percentages

*Uncertainty avoidance*

The uncertainty avoidance factor provides favorable results. All questions indicated fair to high satisfaction level. Q14, Q20, Q23, and Q31 show some reasonable dissatisfaction but not too significant enough to cause great concern.

*Table 4.2.* Uncertainty avoidance by Likert scale, mean and standard deviation (n = 256)

<b>Variables</b>	<b>VD</b>	<b>D</b>	<b>N</b>	<b>S</b>	<b>VS</b>	<b>Mean</b>	<b>SD</b>
<b>Q12</b>	4.3	12.5	19.9	32.4	30.9	3.73	1.152
<b>Q14</b>	9.8	18.4	21.9	37.5	12.5	3.25	1.181
<b>Q17</b>	3.9	11.3	30.5	37.5	16.8	3.52	1.025
<b>Q20</b>	10.5	12.1	27.3	30.5	19.5	3.36	1.226
<b>Q21</b>	5.9	7.8	25.0	25.4	35.9	3.78	1.185
<b>Q23</b>	9.8	11.7	27.7	35.5	15.2	3.35	1.165
<b>Q24</b>	4.3	6.6	16.0	34.0	39.1	3.97	1.099
<b>Q26</b>	5.5	5.1	20.3	35.5	33.6	3.87	1.105
<b>Q30</b>	2.7	8.6	27.0	30.5	31.3	3.79	1.064
<b>Q31</b>	10.2	16.0	26.2	35.5	12.1	3.23	1.165
<b>Q34</b>	5.9	9.8	27.7	28.5	28.1	3.63	1.161

*Note:* The 5-Point Likert scale is reported in percentages

### *Masculinity*

This factor shows three questions that have high dissatisfaction levels. Q22 shows that 46.7% of the students are dissatisfied with counseling and psychological services offered in English to them. Q25 illustrates that 46.5% of the students are dissatisfied with the selection of food at their cafeteria. 39.8% of the students for Q28 show dissatisfaction with their living conditions at the dorm. The other questions show fair dissatisfaction but none too significant enough for concern.

*Table 4.3. Masculinity by Likert scale, mean and standard deviation (n = 256)*

<b>Variables</b>	<b>VD</b>	<b>D</b>	<b>N</b>	<b>S</b>	<b>VS</b>	<b>Mean</b>	<b>SD</b>
<b>Q3</b>	10.5	17.6	26.6	25.4	19.9	3.27	1.259
<b>Q6</b>	5.5	19.9	23.4	31.3	19.9	3.40	1.171
<b>Q9</b>	4.7	14.8	18.0	31.6	30.9	3.69	1.189
<b>Q16</b>	11.7	11.3	30.9	25.8	20.3	3.32	1.248
<b>Q19</b>	12.9	12.5	28.9	25.4	20.3	3.28	1.279
<b>Q22</b>	<b>16.8</b>	<b>19.9</b>	32.0	21.9	9.4	2.87	1.206
<b>Q25</b>	<b>22.7</b>	<b>23.8</b>	25.4	17.2	10.9	2.70	1.292
<b>Q28</b>	<b>19.1</b>	<b>20.7</b>	19.9	23.4	16.8	2.98	1.373
<b>Q35</b>	3.5	13.7	27.7	34.4	20.7	3.55	1.073

*Note:* The 5-Point Likert scale is reported in percentages

### *Individualism*

For this factor, only Q27 shows significant dissatisfaction where 34% of the students feel that they are not being informed or updated on the student activities at their institution. With the exception of Q29 and Q32, the other remaining questions show some degrees of dissatisfaction but none too high enough for concern.

*Table 4.4. Individualism by Likert scale, mean and standard deviation (n = 256)*

<b>Variables</b>	<b>VD</b>	<b>D</b>	<b>N</b>	<b>S</b>	<b>VS</b>	<b>Mean</b>	<b>SD</b>
<b>Q2</b>	3.5	19.5	23.0	35.5	18.4	3.46	1.105
<b>Q5</b>	9.8	11.3	31.3	33.6	14.1	3.31	1.146
<b>Q8</b>	10.2	14.5	22.3	21.1	32.0	3.50	1.340
<b>Q11</b>	5.1	13.7	21.1	30.5	29.7	3.66	1.184
<b>Q27</b>	<b>18.0</b>	<b>16.0</b>	25.4	23.4	17.2	3.06	1.343
<b>Q29</b>	5.9	5.5	21.1	34.4	33.2	3.84	1.126
<b>Q32</b>	0	5.5	30.1	50.0	14.5	3.73	.772
<b>Q33</b>	8.2	17.6	35.9	31.6	6.6	3.11	1.038

*Note:* The 5-Point Likert scale is reported in percentages

From all the tables above, the researcher has decided to show the top 5 satisfaction variables and the bottom 5 dissatisfaction variables as indicated by the respondents. In Table 4.5 we can see that students feel respected, free of racial discrimination by professors, and safe and healthy on campus. They also feel free to express themselves in class.

*Table 4.5.* Top 5 satisfaction responses from the Student Satisfaction Questionnaire  
(n = 256)

<b>Questions</b>	<b>Descriptions</b>
<b>Q24</b>	I am satisfied that I am treated as a student free of racial discrimination towards me from my professors.
<b>Q1</b>	I am satisfied with the opportunity to freely express my opinion in class.
<b>Q26</b>	I am satisfied with my health and safety on campus.
<b>Q7</b>	I am satisfied with the level of equitable respect I receive from my professors.
<b>Q10</b>	I am satisfied with the level of equitable respect for my culture by my classmates.

In Table 4.6 we see that students want better services and in English, a better selection of food, and better living conditions, they want to feel more motivated on campus, and be kept updated about school activities.

*Table 4.6.* Bottom 5 dissatisfaction responses from the Student Satisfaction Questionnaire  
(n = 256)

<b>Questions</b>	<b>Descriptions</b>
<b>Q22</b>	I am satisfied with the counseling and psychological services in English offered to me as an international student.
<b>Q25</b>	I am satisfied with the diverse selection of food at the cafeteria.
<b>Q28</b>	I am satisfied with the living conditions (dorms) I have.
<b>Q3</b>	I am satisfied that the institution (foreign affairs, department. Etc) tries to motivate me as a foreign student.
<b>Q27</b>	I feel that I am kept informed and updated of the students activities at my university

### *Inferential results I*

In order to test hypotheses 2 to 10 of Research Questions 2 and 3, a Multiple Linear Regression Analysis was used to investigate whether the independent variables have statistical significance as predictor variables and students GPA as the criterion variable. The independent variables are the 35 Questions, Age, Gender, Nationality, Degree, and Status. The 35 Questions are subdivisions of Hofstede's Dimensions - Power Distance, Uncertainty Avoidance, Individualism, and Masculinity. Students' nationality was subdivided into the geographical regions Asia, Europe, North, Central, and South Americas, Africa, Australia/Oceania. Students Status represents ICDF scholarships students and Non-ICDF scholarship students. Degree is divided into Graduates and Undergraduates.

The process used in the Multiple Linear Regression Analysis in Table 4.7 is the backward elimination procedure, which examines the p-values for the 45 independent variables, and eliminates the highest insignificant variable in each equation. This process is repeated 35 times, in 36 equations, until all remaining independent variables reach at least the 10% level of significance. In the table, the independent variables accounted for 82.2% of the variance of GPA in Equation 1 and 79.9% of the variance of GPA in Equation 36. For a clearer view, only Equations 1 and 36 are shown and the rest of the equations are reported in Appendix E. The researcher decided to show all variables and their significance in Equation 1 and how that value changes because of the backward regression process by Equation 36 where all remaining variables are significant. The 35 predictor variables which are divided by their factors are used to answer Research Question 2. The demographic variables are use to answer Research Question 3.

*Table 4.7. Multiple Regression of independent variables as predictors for GPA (n = 256)*

Variables	Equation 1		Equation 36	
	$\beta$ value <sup>1</sup>	t-value	$\beta$ value <sup>1</sup>	t-value
Q1	<b>.176***</b>	<b>3.429</b>	<b>.201</b>	<b>6.025***</b>
Q4	-.070	-1.441		
Q7	-.022	-.447		
Power	Q10	-.058	-1.139	
Distance	Q13	-.013	-.275	
	Q15	<b>.088*</b>	<b>1.673</b>	
	Q18	.067	1.287	<b>.085</b>
				<b>2.127**</b>

Table 4.7. (Continued)

	Variables	Equation 1		Equation 36	
		$\beta$ value <sup>1</sup>	t-value	$\beta$ value <sup>1</sup>	t-value
Uncertainty Avoidance	Q12	<b>-.090*</b>	<b>-1.690</b>	<b>-.066</b>	<b>-1.975**</b>
	Q14	.008	.167		
	Q17	.037	.650		
	Q20	.078	1.485		
	Q21	.047	.811		
	Q23	-.019	-.333		
	Q24	.061	1.168		
	Q26	.008	.175		
	Q30	-.031	-.565		
	Q31	.012	.227		
	Q34	-.006	-.123		
	Masculinity	Q3	.042	.893	
Q6		.048	1/123		
Q9		-.036	-.867		
Q16		-.049	-.920	<b>-.060</b>	<b>-1.739*</b>
Q19		.040	.899	<b>.059</b>	<b>1.824*</b>
Q22		-.045	-1.114		
Q25		.046	1.289	<b>.059</b>	<b>2.007**</b>
Q28		<b>.071**</b>	<b>2.069</b>		
Q35	-.006	-.119			
Individualism	Q2	.053	1.037		
	Q5	-.002	-.041		
	Q8	-.041	-.916		
	Q11	<b>-.102**</b>	<b>-2.245</b>	<b>-.087</b>	<b>-2.493**</b>
	Q27	-.038	-1.026		
	Q29	-.048	-1.063		
	Q32	.059	.985		
	Q33	-.050	-1.100		
Demographic	Age	-.001	-.075		
	Gender	-.009	-.105		
	Asia	.009	.064		
	NAmerica	.150	.885		
	SAmerica	<b>.303*</b>	<b>1.756</b>	<b>.292</b>	<b>2.309**</b>
	Europe	<b>.388**</b>	<b>2.192</b>	<b>.411</b>	<b>3.209***</b>
	Africa	-.131	-.885		
AOceania	-.143	-.811			
Status	ICDF/Non-ICDF	-.032	-.297		
Degree	Grads/Undergrads	<b>.467***</b>	<b>4.623</b>	<b>.477</b>	<b>6.951***</b>
<b>R<sup>2</sup></b>		<b>.882</b>		<b>.799</b>	

Note: \* =  $p < .1$ , \*\* =  $p < .05$ , \*\*\* =  $p < .01$

<sup>1</sup> The value of the beta here is from the Unstandardized Coefficients.



In **Equation 1**, of the 45 independent variables, 23 have negative parameters of which only 2 have statistical significance explaining the variance of GPA. From the other 22 variables that have positive parameters 6 have statistical significance to GPA. For the Power Distance dimension, two questions show significance to GPA. The parameter for Q1 is positive (.176), with the t-ratio (3.429), indicating that it is significant at the 1% level and Q15 has a positive parameter (.088) and t-ratio (1.673) showing significance at 10%. The Individualism dimension only has one question that is statistically significant which is Q11 with a negative parameter (-.102) and a t-ratio of (-2.245) that is significant at 5%. For the Uncertainty Avoidance dimension, Q12 is the only significant question with a negative parameter of (-.090), t-ratio of (-1.690) that is significant at 10%. The final dimension Masculinity likewise only has one question Q28 significant with a positive parameter of (.071), t-ratio (2.069) that indicates a significance at 5%. From the demographic variables, Europe has a positive parameter (.388), t-ratio (2.192) that is significant at 5%, and South America also has a parameter (.303), t-ratio (1.756) that is significant at 10%. Students' degree shows significance to performance with a positive parameter of (.476) and t-ratio (4.623) indicating significance at 1%. These results change from equation to equation. In **Equation 36**, 10 variables show statistical significance to students GPA. Of those 10 variables, 3 have negative parameters and 7 have positive parameters.

For easier reading Table 4.5 was divided by factors that correspond with their respective hypothesis. Each division was placed at the end of the results for each hypothesis.

*Results for hypothesis 2:*

The final equation shows that for the Power Distance dimension, only two questions show significance to GPA. Q1 has a positive parameter (.201) and t-ratio (6.025) which is significant at 1%; the results of this variable imply that as students' satisfaction to freely express their opinions in class increases, their GPA increases. Q18 has a positive parameter (.088) and t-ratio (2.127) indicating significance at 5%; this implies that a rise in students' feeling that they are being recognized for their performance and contribution at their school will produce a rise in their GPA. The other

questions show no statistical significance to GPA. As a result we reject the null hypothesis of Research Hypothesis 2 for Q1 and Q18 and accept the alternative that there is statistical difference between Power Distance and students' academic performance. The null hypothesis is accepted for the other questions belonging to Power Distance; they show that there is no statistical significance between Power Distance and students' performance.

Table 4.8. Multiple Regression of Power Distance as predictor for GPA (n = 256)

Variables	Equation 1		Equation 36	
	$\beta$ value <sup>1</sup>	t-value	$\beta$ value <sup>1</sup>	t-value
Q1	<b>.176***</b>	<b>3.429</b>	<b>.201</b>	<b>6.025***</b>
Q4	-.070	-1.441		
Q7	-.022	-.447		
Power	Q10	-.058	-1.139	
Distance	Q13	-.013	-.275	
	Q15	<b>.088*</b>	<b>1.673</b>	
	Q18	.067	1.287	<b>.085</b>

Note: \* =  $p < .1$ , \*\* =  $p < .05$ , \*\*\* =  $p < .01$

<sup>1</sup> The value of the beta here is from the Unstandardized Coefficients.

### Results for hypothesis 3:

The Uncertainty Avoidance dimension only has one question that is statistically significant which is Q12 with a negative parameter (-.066) and a t-ratio (-2.127) that is significant at 10%. This result implies that a rise in the students' satisfaction that their instructors have sufficient background knowledge would lead to a fall in their academic performance. As a result we reject the null hypothesis for Research Hypothesis 3 and accept the alternative that there is a statistical significant difference between Uncertainty Avoidance and students' performance. The other questions show no significance resulting in the null hypothesis for Research Hypothesis 3 being accepted that there is no statistical difference.

Table 4.9. Multiple Regression of Uncertainty Avoidance as predictor for GPA (n = 256)

Variables	Equation 1		Equation 36	
	$\beta$ value <sup>1</sup>	t-value	$\beta$ value <sup>1</sup>	t-value
Q12	<b>-.090*</b>	<b>-1.690</b>	<b>-.066</b>	<b>-1.975**</b>
Q14	.008	.167		
Q17	.037	.650		
Q20	.078	1.485		
Uncertainty				
Q21	.047	.811		
Avoidance				
Q23	-.019	-.333		
Q24	.061	1.168		
Q26	.008	.175		
Q30	-.031	-.565		
Q31	.012	.227		
Q34	-.006	-.123		

Note: \* =  $p < .1$ , \*\* =  $p < .05$ , \*\*\* =  $p < .01$

<sup>1</sup> The value of the beta here is from the Unstandardized Coefficients.

#### Results for hypothesis 4:

For the Masculinity dimension, Q16, Q19, and Q25 show significance to GPA. Q16 has a negative parameter (-.060), a t-ratio (-1.975) and significant at 5%; it implies that an increase in students' satisfaction with their international affairs office efforts to make their lives more adaptive in Taiwan would result in a decrease in their academic performance. Q19 has a positive parameter (.059) and a t-ratio (1.824) which is significant at 10%. This question suggests that as students' satisfaction with the selection of cultural activities offered at their institution increases, their performance increases. Q25 also has a positive parameter (.059) and t-ratio (2.007) significant at 5%. The students increase in satisfaction with their diet from the diverse selection of food at the cafeteria will produce an increase their academic performance. The null hypothesis of Research Hypothesis 4 for Q16, Q19, and Q25 is rejected and the results show that there statistical significance between Masculinity and students' performance. The other questions are insignificant and thus the null hypothesis is accepted.

Table 4.10. Multiple Regression of Masculinity as predictor for GPA (n = 256)

Variables	Equation 1		Equation 36	
	$\beta$ value <sup>1</sup>	t-value	$\beta$ value <sup>1</sup>	t-value
Q3	.042	.893		
Q6	.048	1/123		
Q9	-.036	-.867		
Q16	-.049	-.920	<b>-.060</b>	<b>-1.739*</b>
Masculinity Q19	.040	.899	<b>.059</b>	<b>1.824*</b>
Q22	-.045	-1.114		
Q25	.046	1.289	<b>.059</b>	<b>2.007**</b>
Q28	<b>.071**</b>	<b>2.069</b>		
Q35	-.006	-.119		

Note: \* =  $p < .1$ , \*\* =  $p < .05$ , \*\*\* =  $p < .01$

<sup>1</sup> The value of the beta here is from the Unstandardized Coefficients.

*Results for hypothesis 5:*

The final dimension Individualism only has one question Q11 significant with a negative parameter (-.102) and a t-ratio (-2.245) which is significant at 5%. This result suggests that an increase in students' satisfaction that they have equal opportunities to participate in campus activities will result in a decrease in their academic performance. As a result we reject the null hypothesis of Research Hypothesis 5 for Q11 only and accept the alternative. The other questions gave no evidence of significance so the null hypothesis is accepted that there is no significant difference between Individualism and performance.

Table 4.11. Multiple Regression of Individualism as predictor for GPA (n = 256)

Variables	Equation 1		Equation 36	
	$\beta$ value <sup>1</sup>	t-value	$\beta$ value <sup>1</sup>	t-value
Q2	.053	1.037		
Q5	-.002	-.041		
Q8	-.041	-.916		
Individualism Q11	<b>-.102**</b>	<b>-2.245</b>	<b>-.087</b>	<b>-2.493**</b>
Q27	-.038	-1.026		
Q29	-.048	-1.063		
Q32	.059	.985		
Q33	-.050	-1.100		

Note: \* =  $p < .1$ , \*\* =  $p < .05$ , \*\*\* =  $p < .01$

<sup>1</sup> The value of the beta here is from the Unstandardized Coefficients.

*Results for hypothesis 6:*

The demographic variable Age was not statistically significant to student's academic performance. As a result the null hypothesis for Research Hypothesis 6 of Research Question 3 is accepted; this states that Age has no statistical significance to students' academic performance.

*Results for hypothesis 7:*

The demographic variable Gender was not statistically significant to student's academic performance. As a result the null hypothesis for Research Hypothesis 7 of Research Question 3 is accepted; this states that Gender has not statistical significance to student's academic performance.

*Results for hypothesis 8:*

Using regional dummy variables, and students from Central America as the baseline group, the regression shows that only Europe with positive parameter (.411) and t-ratio (3.209) significant at 5%, and South America with positive parameter (.292) t-ratio (2.309) and significant at 1% are statistically significant to GPA. This means that students from Europe and South America are performing better than those from Central America. The other regions had no statistical significance to students' performance. Therefore, the null hypothesis of Research Hypothesis 8 is rejected for Regions Europe and South

America and shows that there is statistical significance between students' nationality and their performance. For Regions North America, Central America, Africa, and Oceania the null hypothesis is accepted.

*Results for hypothesis 9:*

Students' Status (ICDF or Non-ICDF) was not statistically significant to student's academic performance. As a result the null hypothesis for Research Hypothesis 9 of Research Question 3 is accepted; this states that there is no statistical significance between students' Status and their academic performance.

*Results for hypothesis 10:*

Students' degree shows significance to performance with a positive parameter of (.477) and t-ratio (6.951) which is significant at 1%. This suggests that students pursuing a Graduate Degree have better performance than those pursuing Undergraduate Degrees. As a result the null hypothesis for Research Hypothesis 10 is rejected and shows that Degree does have statistical significance to students' performance.

Table 4.12. Multiple Regression of Demographics, Status, and Degree as predictors for GPA (n = 256)

Variables	Equation 1		Equation 36	
	$\beta$ value <sup>1</sup>	t-value	$\beta$ value <sup>1</sup>	t-value
Age	-.001	-.075		
Gender	-.009	-.105		
Demographic				
Asia	.009	.064		
NAmerica	.150	.885		
SAmerica	<b>.303*</b>	<b>1.756</b>	<b>.292</b>	<b>2.309**</b>
Europe	<b>.388***</b>	<b>2.192</b>	<b>.411</b>	<b>3.209***</b>
Africa	-.131	-.885		
AOceania	-.143	-.811		
Status				
ICDF/Non-ICDF	-.032	-.297		
Degree				
Grads/Undergrads	<b>.467***</b>	<b>4.623</b>	<b>.477</b>	<b>6.951***</b>
<b>R<sup>2</sup></b>	<b>.882</b>		<b>.799</b>	

Note: \* =  $p < .1$ , \*\* =  $p < .05$ , \*\*\* =  $p < .01$

<sup>1</sup> The value of the beta here is from the Unstandardized Coefficients.

### *Inferential results II*

In order to answer Research Hypotheses 11 and 12 for Research Questions 4 and 5 respectively, Crosstab and Chi-square tests were performed for each. The tests set out to show the difference in the means of ICDF and Non-ICDF scholarship students, and the difference between Graduate and Undergraduate students.

#### *Results for hypothesis 11:*

To test if ICDF students perform better than Non-ICDF Cross-tabulation and chi-square techniques were used to predict the results. From the table below the Pearson Chi-square value is 3.561 and  $p = .109$  has no significance which indicates that there is similarity between ICDF and Non-ICDF students' performances. The Table shows that that the expected count and count for ICDF and Non-ICDF for all levels of GPA are almost similar on all levels of their GPA. As a result we accept the Null Hypothesis Eleven for Research Question 5 which states that ICDF and Non-ICDF has no statistically significant difference in their academic performance.

*Table 4.13. Crosstabular analysis of status of students by GPA (n = 256)*

Status	Statistics	GPA			Total
		C = 70-79	B = 80-89	A = 90-100	
ICDF	Count	23	71	20	114
	Expected Count	25.8	63.7	24.5	114.0
	% within GPA	39.7%	49.7%	36.4%	48.4%
Non-ICDF	Count	35	72	35	142
	Expected Count	32.2	79.3	30.5	142.0
	% within GPA	60.3%	50.3%	63.6	55.5%
Total	Count	58	143	55	256
	Expected Count	58.0	143.0	55.0	256.0
	% within GPA	100.0%	100.0%	100.0%	100.0%

Note: Chi-square value is 3.561 with  $df = 2$  and ( $p = .109$ )

*Results for hypothesis 12:*

Likewise a crosstabular analysis and Chi-square was used to test the performance of Graduate and Undergraduate students. From the Table below, the Pearson Chi-square value is 38.997 and  $p = .000$  showing a significance at 1% which indicates that there are no similarity in Graduate and Undergraduate performances. Even from the crosstabular table we see that the Graduates are performing above their expected count at A and B levels while Undergraduates are performing poorly at C level with 47, almost doubled the expected count and lower than expected in levels A and B. As a result we reject the Null Hypothesis 13 for Research Question 6 and accept the alternative.

*Table 4.14.* Crosstabular analysis of degree of students by GPA (n = 256)

Degree	Statistics	GPA			Total
		C = 70-79	B = 80-89	A = 90-100	
Undergraduate	Count	47	64	13	124
	Expected Count	28.1	69.3	26.6	124.0
	% within GPA	81.0%	44.8%	23.6%	48.4%
Graduate	Count	11	79	42	132
	Expected Count	29.9	73.7	28.4	132.0
	% within GPA	19.0%	55.2%	76.4	51.6%
Total	Count	58	143	55	256
	Expected Count	58.0	143.0	55.0	256.0
	% within GPA	100.0%	100.0%	100.0%	100.0%

*Note:* Chi-square value is 38.997 with  $df = 2$  and ( $p = .000$ )



## Commentaries

Of the 256 students that answered the questionnaire 102 gave additional comments on their satisfaction here in Taiwan. This accounts for about 40% of the respondents. The comments has been coded, categorized and placed in a hierarchical order. Their comments were coded Positive and Negative as seen in Tables 4.4 and 4.5 below. Some of the respondents made more than one comment.

### *Dissatisfaction comments*

#### *Category I*

In the Table 4.4 below we can see that the top problem is Communication. Twenty students complained about communication barriers with classmates and teachers. Eighteen are also dismayed because of being unable to access information because the materials, documents, and services, etc. provided are not in English. Finally twelve students want more time to learn Mandarin in order to communicate in and out of class.

#### *Category II*

The category 'School' is next; ten students finds that their comments in class either to the teacher or their classmates are not appreciated. Twelve of them do not believe in the potential of their teachers stating that they have good sound education and are very knowledgeable but were not trained as teachers so their deliverance and methodologies are not effective. Another eight say that it is the education system or curriculum of their institutions that is poor. Coupled to that, are the four PhD students, who are disturbed that they are taking some courses at Master's level, which they have done already. Then another four view the grading system of their institutions as problematic, because too much credit is given for participation which is a subjective criterion. A final noteworthy problem is the view of two students that their professors give exams that are not testing the appropriate competency as prescribed by Bloom's Taxonomy; instead students are expected regurgitate information committed to memory.

### *Category III*

In the third Accommodations category, twelve students wish that the scholarship money given was increased and sometimes the payment takes long and they run out of money. Six of them complain about the small and overcrowded dorm rooms and wish that they are placed in single rooms; sharing becomes too problematic with limited space for mobility. Finally two of the students wish for the scholarship organizations to provide funds so that they can do their research at home as a lack of finance force them to change their thesis topics

### *Category IV*

Under the fourth category labeled 'Personal', twelve of the students believe that the scholarship should provide for their spouses to be with them in Taiwan; they claim that they would study better if their spouses were with them. Six students mostly blacks felt discriminated against because of their nationality and skin color. Lastly for this category one student say that the education system in Taiwan does not provide encouragement for individual growth; the system encourages students to be too dependent on each other and on the professors.

### *Category V*

The final category for Table 4.4 'Culture' shows that eight of the students find it hard to adapt to Taiwan because of the difference between their culture and Taiwan's. This may be because of the lack of or insufficient provision of means for students to learn about Taiwan's culture when they just arrive.

Table 4.15. Respondents dissatisfaction comments from Student Satisfaction Questionnaire (n = 102)

Category	Descriptions	Frequency
<b>Communication</b>	Communication Barrier	20
	Announcements in English	18
	Insufficient Time to Learn Mandarin	12
<b>School</b>	Input in Class Not Appreciated	10
	Untrained Professors	12
	Education Quality is Poor	6
	Poor Grading Systems	4
	Courses not at Level (PhD Students)	4
	Exams not Testing Appropriate Competence	2
	Limited Scholarship Money	12
<b>Accommodations</b>	Poor Dorm Rooms – Small and Overcrowded	6
	Provide Funds for Research in Home Country	6
	Spouses to Accompany Students	12
<b>Personal</b>	Discrimination by Nationality and/or Skin Color	6
	No Encouragement for Individual Growth	1
	Hard to Adapt because of Difference in Culture	8
<b>Culture</b>	More Assistance for New Students	8

#### *Satisfaction comments*

In Table 4.5 below, it is evident that there are more complaints than compliments; however, the few compliments are very significant.

#### *Category I*

The first category ‘Taiwan’ has the most responses. Twenty of the students wrote that they love Taiwan. Another six add that Taiwan is a safe, clean, and nice place to live.

#### *Category II*

In the category ‘Scholarship’, only four students view their scholarship as an excellent offer to them. Two Students are satisfied being given the opportunity to advance their studies. Lastly, two like that their scholarship provide incentives such as monetary compensations, for excellent academic performance.

*Category III*

In the third and final category 'School', two of the students love their school facilities such as the gymnasium, indoor courts, swimming pool, and track. Also two like that their school is technologically advanced providing them with better equipment for learning. Another two just say Taiwan is a good country to study because of their institutions. Finally two more like their experience in Taiwan because of the diversity which they believe is beneficial for fostering education by learning about new cultures and creating a love of their own culture.

Table 4.16: Respondents satisfaction comments from Student Satisfaction Questionnaire  
(n = 102)

<b>Category</b>	<b>Descriptions</b>	<b>Frequency</b>
<b>Taiwan</b>	Love Taiwan	20
	Safe, Clean, Nice Place to Live	6
<b>Scholarship</b>	Excellent Scholarship Offers	4
	Satisfied with Opportunity to Study	2
	Good Scholarship Incentives for Performance	2
<b>School</b>	Great School Facilities	2
	Great Technology to Assist with Learning	2
	Great Country to Study	2
	Diversity in Institutions is Good for Fostering Education	2

## Discussions

### *Descriptive results discussions*

Hypothesis one assumes that students are dissatisfied while studying in Taiwan; however, the majority are satisfied. The results seem to be consistent with many researchers' conclusions (Devos, 2003; Edgeworth & Eiseman, 2007; Jones, 1999 among others) that in spite of the difficulties those international students may face during their sojourn, they still adapt very well and are satisfied. Lyakhovetska (2004) findings show that international students have better academic performance when they are satisfied with the conditions they are facing or have adjusted. This study shows that only a minority of the international students could be classified as dissatisfied. These results are favorable to the MOE of Taiwan and the scholarship organizations that bring international students here to study. There are a few discrepancies but none too major that these organizations could not handle to make the international students adjust and adapt thereby increasing their satisfaction level which ultimately results in better academic performance.

When looking at the specific questions, there are five that show high degrees of dissatisfaction. Students are concerned that there are no forums for them to voice their concerns of their sojourn. This falls under communication. Edgeworth & Eiseman, 2007 pointed out that through communication, international students may come to better understand social practices and cultural patterns of the host society. If this is stifled, adaptation becomes difficult. Some students seem dissatisfied with the type of counseling and psychological services offered in English. This also falls under communication where according to Bochner, Hutnik, & Furnham, (1985) and Furnham & Alibhai, (1985) contact among international students seems limited by their language proficiency level. But, this finding also corresponds with that of Rutter & Tienda, (2005) that students feel threats to their cultural identity, powerlessness, feelings of marginality, sense of inferiority, loneliness, hostility, and perceived alienation and discrimination which they may need some sort of psychological service for. Students show dissatisfaction with the cafeteria food. Alazzi and Chiodo (2006), Dillard and Chisolm, (1983), Edgeworth & Eiseman, (2007) among others in their research found that students had conflicting norms and expectation of the food. The living conditions are not

appropriate likewise. Researchers Edgeworth & Eiseman (2007) and Lyakhovetska, (2004) also finds that the absence appropriate housing creates adaptation hardships for foreign students. Lastly students want to socialize, and complained about not being informed of students' activities. Beaver and Tuck (1998) found that overseas students' desired interaction with local students, were concerned about social isolation, and believed heterogeneous classes facilitate the achievement of their personal learning goals.

There are also five specific questions that show high degree of satisfaction. Unlike Heikinheimo and Shute (1986) and Spencer-Rogers (2001) among others, the international students in Taiwan feel much respected from both classmates and professors. Likewise they do not feel much too racially discriminated against as most of the students do not suffer racial discrimination from classmates nor professors. The international students also are quite satisfied that they can freely express their opinions in class. This probably gives them a sense of contribution and comprehension of the subject matter. Unlike their Taiwanese classmates who by culture were taught to be passive and just listen, the international students feel more comfortable interacting and participating in class discussions. Finally most of the students feel safe and enjoy the healthy facilities of their campuses. These issues are important because they all contribute psychologically to the development and adaptation of the students which also consequently affects their performance.

#### *Empirical results discussions*

While hypothesis 1 shows the levels so satisfaction, the other hypotheses test these satisfaction level relationships to students' academic performance. For Power Distance, unlike Taiwan and most of Asia where students are taught to be passive in class, the international students want to express their views and opinions and are happy they are given the chance to do so. They are more comfortable in a student-centered class setting where they can voice their opinion on class topics, ask questions, and have more class interactions than a teacher-centered one. This is in opposition to Hofstede's 2002 descriptions of expected behaviors at school as a function of culture and environment. That is because majority of the respondents come from high power distance countries that

should prefer the opposite, a teacher-centered education. Huxur et al (1996) conclude that the interactive classroom discussions are necessary for both international and domestic students. Likewise, international students are quite satisfied that their efforts in their performance and contribution to their institutions are being recognized. Again this is decentralized from the teacher as the all knowing, to the student who shows that their democracy in the classroom develops their academic abilities. The conclusion drawn here is that international students' academic preferences no longer fit the norm when it comes to their power distance in the classroom setting. Being in a new society, a new cultural milieu, international students' reaction to the unfamiliar can influence their openness to new ideas and new ways of doing things. The institutions and the professors that are already practicing such methodologies have seen the result and others need to incorporate such a system if not done yet.

The descriptions given by Hofstede 2002 table show that students with strong Uncertainty Avoidance at school would hate unstructured learning situations, vague objectives and such; however, they believe that the teachers should have all the answers and things should be strict, detailed, and precise. Most of the respondents come from countries that have medium to high uncertainty avoidance. Thus this finding of the research corresponds with Hofstede's descriptions of the behavior of students from high uncertainty avoidance countries. The result however is not favorable because it means that students performance decrease when their satisfaction of their professors' instructional background increases. This may be a result of complacency whereby the students would no longer practice independence and development in their academic potential but instead rely on the teachers' potential and knowledge for having all the answers. Certainly these respondents prefer active learning and class interactions in discussions, presentations and class analysis, not sitting and soaking up information like in the Confucius model of the all-knowing teacher.

According to that same description by Hofstede in 2002, a masculine society is more assertive, decisive, and relies on recognition and rewards. Again, this corresponds for the results because majority of the students come from masculine countries. In result Q19, the students are satisfied with cultural activities that will make them show assertiveness and that will provide rewards. In result Q25, they accept any means that

will assist in their careers and performance like the selection of food in this case; a good diet is important. Increase in both of these lead to increase in their academic performance. The third Q16 means an increase in the students' satisfaction of the international affairs office in trying to make their lives more adaptive would lead to a poorer performance. The assumption here is that if the students adapt, they will deflect more to femininity, like Taiwan, and may lose that assertive decisive character that reaps good academic performance. The ideal is to adjust just enough to function psychologically, academically, and socially. In fact the students prefer diversity in which to exchange cultural perspectives and the like through interactions and socialization but not adapt fully thereby losing their own culture to Taiwan.

For the dimension Individualism, it is baffling that students' academic performance would decline if they become more active in their school activities, clubs, etc. knowing that majority come from collectivist societies. This likewise differs from Hofstede's 2002 description that the collectivist person more relies on group and find obligation to group and relationship prevail over work. Instead it seems the students prefer the opposite. Any group interaction would only be in academic activities; socializing in school clubs and the like are out. This can only suggest that students may take up too much time with socializing and participating in different activities and less time on studies. For these international students in Taiwan, the academic life is more prevalent. It certainly contradicts researchers like Kagan and Cohen (1990) and Klineberg and Hull (1979).among others who have found that international students who made satisfactory social contacts with local people during their overseas sojourn reported more general satisfaction with their academic experience and overall adaptation. For this result, it must be that that social contact has to be kept at a certain degree or else it may impede students' performance.

Gender and age are perhaps the two most studied areas regarding demographic factors bearing on international students' adaptation. These studies generally suggest that younger students adapt more easily than older ones (Ying and Liese, 1994), and female international students tend to be less adapted than their male counterparts while pursuing academic goals. The findings of this research say the opposite to these researchers' conclusions since both variables are insignificant. However, looking at the negative



parameter for Gender - since the negative or positive signs will not change from Eq.1 to Eq. 36 - indicates that males are performing better than females academically. Also looking on the negative parameter for Age tells that younger students performance will be better, which is similar to the findings of Ying and Liese (1994), but irrelevant since insignificant.

Using regional dummy variables and students from Central America as the baseline group we see that only two regions are performing better than Central America and the other geographic regions. This is suggesting that the MOE of Taiwan and the scholarship organizations should give more concentrated efforts to European and South American students. If we look at Equation 1 we can determine if the other regions are performing better than Central America too since the parameter sign would not have changed. From Equation 1 we see that both Africa, and Australia and Oceania have negative parameters which indicate that students from Central America would have a better performance than these two regions if they were significant in the regression. The students from Asia, though not significant, were positive indicating better performance than Central America. Certainly the results are useful to show how the regions are performing in relation to each other.

In determining the significance of students' Status (ICDF, Non-ICDF) the results indicate that there are not statistically significant to student's performance. Likewise, the Crosstab and Chi-square tests shows no significant difference between the two groups. The scholarship organizations are on par with the opportunities and benefits offered to the scholarship students. Any disparity that arises is too small to make a difference between the two groups' performances.

The Degree pursued by students, however, shows difference and that difference is of importance to the scholarship organizations, the Ministry of Education of Taiwan, the education institutions and other affiliated entities. The test reveals that Graduate students have better performance. In fact the Undergraduates performance is substandard. It is difficult to determine what are the factors leading to this outcome since there is very little to no research focusing on international students' education level. The students come with different learning styles, and that along with age, Taiwan's methodologies,

instructors' teaching styles, and a mélange of other factors could be the determinants of this outcome.

#### *Comments discussions*

Finally for the comments made by the students, there are more discrepancies than credits pointed out by them. In questionnaires, it is customary that only the respondents having a problem will be the ones to comment. Then there are those who wish not to write seeing questionnaires as burdens. Still yet the comments are noteworthy because respondents would not answer this section if they are not facing some kind of problem.

The discrepancies show similarities to other researchers' conclusions. Communication is a major problem for international students to adapt and function. Devos (2003) and Jones (1999) pointed out the inability to communicate affect students academic life. Bochner, Hutnik, & Furnham, (1985) and Furnham & Alibhai, (1985) discussed international students limitations to communicate due to their language deficiency of host country's language. In fact some students in this research want to have more time to learn the language to better their communications with Taiwan nationals and others who speak Mandarin.

There are very few research conclusions on School and its methodologies. However, Edgeworth & Eiseman (2007) conclusions highlighted students' suppression of voice in the classroom. The researcher is unaware of any research that pointed out poor quality of teachers, exams, and courses but the comments from the respondents are noteworthy. These views may be result of difference in grading systems and methodologies. Akpan-Iqout, (1980) and Alazzi & Chiodo, (2006) among others did discuss adjustment to the new education systems and methodologies as a main problem for international students. Maybe this is the problems for these few students in this study.

'Accommodations' is a factor mentioned by other researchers. This study has students who claim to have problems with their accommodations financially and with their living conditions. Lyakhovetska, (2004) and Walker (1999) and others pointed the students' insecurity financially having limited financial aid; they are restricted in seeking employment in most cases and have limited access to employment, factors which create

additional financial hardships. Likewise other researchers found discrepancies in living conditions (Cunningham, 1991; Edgeworth & Eiseman, 2007).

While it seems that no research mentions of students preferring their spouses with them, there are studies that found students unable to adapt because of loneliness (Ishii's, 1997). Discrimination however is thoroughly researched and like this study, many researchers found discriminations to be a determinant of students' satisfaction and performance (Sodowsky & Plake, 1992; Spencer-Rogers, 2001).

Numerous researches have tirelessly discussed the difference in culture, cultural activities, behavior mannerisms and such that international students find hard to adapt to in host countries. It would not be likely that such concerns would be less frequent in Taiwan where the culture is totally different especially for students who have first time exposure to Asian culture. The improvement in assistance and programs when students first arrive (as mentioned by a couple of respondents) is very important. Kim (1988) suggested that to facilitate newcomers' adaptation to the new cultural environment, relational networks such as informational and emotional support, provide newcomers a sense of security and well-being as well as various types of knowledge about the host culture.

The compliments are few but very important. It is important to know that the students love Taiwan's safe and clean environment. Farrokh's (1988) study spoke of security as a personal need for international students. Of greater importance to the scholarship organizations is some students' credit to the scholarship offered to them and the incentives the scholarship comes with. There are scholarships that are partial or do not cover traveling nor housing, so ones that do so are very much appreciated. Likewise Taiwan universities have advancement in technology to assist learning. Also, the diversity is very beneficial as the goal of any country in internationalizing higher education is to create a rich diverse interaction of cultures where we learn from each other through learning each others culture.

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# **CHAPTER V. CONCLUSIONS AND RECOMMENDATIONS**

## **Chapter Overview**

This chapter contains two major sections. Section I provides a conclusion of the thesis by highlighting the areas that are favorable and areas of concern so that the necessary measures can be taken by the organizations that are involved in international higher education in Taiwan. Section II provides recommendations to scholarship institutions, educational institutions, international students, and the MOE of Taiwan that may assist in making students' satisfaction and subsequently their academic lives better. Lastly there is a recommendation for future research in Taiwan on this topic.

## **Conclusions**

Generally, the international scholarship students who take courses in English and who have spent at least a year or more in Taiwan are satisfied. When looking at the issues that cause dissatisfaction, there is none that cannot be addressed easily and that does not require time. Those that cause satisfaction just needs to be encouraged and increased. This is encouraging when taking into consideration that foreign students have to adjust socially and culturally to a different academic system. However, when their satisfaction level is looked at as a determinant of their academic success, the results show that international students face similar issues in Taiwan when compared to those studied in other countries. These issues can lead to academic difficulties if not addressed. More favorable to Taiwan and the affiliated organizations is that students' academic performance is not affected too greatly and only a couple factors may cause decrease in the GPA. In the research the focus is not on individual variables; instead, it is important to study the relationship or interaction of these variables designated to be important, because in reality the variables do not exist or exert their influence independently.

The students want more openness and class interaction, more recognition for their academic contribution to each other and host nationals, more intercultural activities and a better diet. However, they do not wish to assimilate Taiwan's culture or partake too much in activities that will take away from their studies; the participation is moderate but not enough to assimilate. Lastly, from the results it is inferred that students do not want to rely too much on teachers and their instructions; they prefer to be more independent and learn through exploration.

Unlike research findings in other countries, there is no indication of gender or age determining student's performance. There is concern for those regions that are having lower performance than others. All scholarship students are performing at similar levels but there is great difference between graduates and undergraduates. This calls for greater attention to investigate the low performance of undergraduates.

The comments gathered deal with language and communication, loneliness, appreciation, accommodation and financing, and most importantly the school systems. The academic problem is the difference in class curriculum and the teaching methods of the professors. The education system varies across different countries, where the structure of the class and teaching methods shapes and thus distinguishes an individual's thinking processes. The responses also indicate that a principal concern of the students is the major cultural difference. International students not only have to adjust to a whole new environment, they also have to become accustomed to a completely different culture. The students are quite satisfied with Taiwan's environment and many appreciate their scholarship and the opportunity to come to Taiwan to study. The technological advancement in Taiwan and in Taiwan's education institutions contribute greatly to their success.

In conclusion, the international student in Taiwan is not merely faced with cultural and environmental diversities, but also academic dissimilarities. As an international student himself, the researcher too had to learn how to live in a society with totally different ideologies, religions, and customs. But I was overzealous to succeed. I had to adjust to the academic requirements of my university. It was not an easy task; however, this experience allowed my self-awareness to emerge and my self-reflection to develop. I was rendered with the opportunity to concurrently review, analyze, challenge,

and develop my skills, my knowledge, my abilities, my maturity, and my common sense in order to succeed academically. I believe that most if not all international students have the same ethic I have. Therefore, there is no issue too great that the parties concerned cannot address and make situations in Taiwan better; Taiwan does not want reach high negative levels of dissatisfied international students like other countries. In fact, this study is part of an effort to understand how student satisfaction and student demographics impact on their academic life. The results of this study are encouraging as they lay the ground work for future research. The recommendations below should assist.

## **Recommendations**

### *Recommendations for Ministry of Education in Taiwan*

While attracting foreign students as a means to encourage social friendship between Taiwan and other nations and to educate foreign students will develop Taiwan's international goals and competitiveness, the MOE of Taiwan needs to ensure that the policies and procedures in place will help foreign students to cope. Maybe they can develop a Policies and Procedures Handbook for international students that institutions should follow.

The MOE cannot just recruit a mass of international students without arranging and implementing the necessary resources to accommodate these students. There need to be programs and services in the universities that will induce the students learning and interactive experiences to a positive degree with the ultimate goal of academic success. Such programs can be two weeks to a month of cultural workshops that will provide students with the culture of Taiwan. Such workshops could include field trips. They may also be programs to highlight to international students the expectation of them while they are in Taiwan.

The MOE of Taiwan should assess how institutions internationalize programs and how they deal with international students. This can be done through annual or bi-annual surveys of the institutions' systems in making the international students sojourn more conducive to learning. By attending to the needs of international students and building on their strengths, the institutions and the MOE will be improving experiences for all students and enhancing the process of internationalization.

Since some students question the ability of professors and their grading systems, MOE needs to delve deeper into the matter. To increase the accountability of teachers, the MOE needs to establish a teaching evaluation system for better teaching quality that will raise their level since that quality will influence the students' learning attitude and ability.

### *Recommendations for scholarship organizations*

While the scholarship organizations do not have control over the institutions operations, they are responsible for the international students and thus should: ensure that universities facilitate smooth and successful transitions of the students; check that housing arrangements (dorms) are conducive to learning and satisfactory for easy adjustment; form a liaison with universities on students academic life and such on a regular basis; assist the



schools in formulating programs and/or workshops that will help their transition to Taiwan more easily.

Likewise, the scholarship programs could increase efforts with educational institutions to develop campus-based employment opportunities for international students and provide for more of their needs especially when it comes to research even if students must go home to conduct their research. Maybe this can be done as a merit or incentive whereby the best performing international student would get this privilege. Finally the scholarship organizations could become an integral part of the circle of separate but complimentary parties' – department heads, professors, international affairs office etc – roles in facilitating the transition of international students physically, emotionally, psychologically and most importantly, academically. Thus a committee can be formed which includes a member of the mentioned sections and a student representative that can meet monthly and discuss and implement ways to make better the foreign students' academic lives.

#### *Recommendations for education institutions*

International students need more encouragement to participate in extra-curricular academic and social activities. They need to be taught to use student services. Service areas also need to have personnel that can speak English. More department and faculty orientations should be designed specifically for international students especially for newcomers and should include information about services available on campus and explanation of benefits of using them. Of special interest is that there need to be more student services provided in English. Any documentation given on bulletin boards etc on Campus and in the dorms need to have English versions as well. Library and other department handouts need to be in English as well.

The universities should facilitate the sharing of cultures on campus: there should be more opportunities for participation in class discussions; there should be more efforts to attend to the needs of people from different cultures; and there needs to be more integration of international materials and perspectives in the curriculum.

Given that the international student may not be familiar with Taiwan's education methodologies, institution should encourage teachers to use a style that will bridge

learning and not be a barrier. Students have complained about teacher's competencies and grading systems and examination techniques. Seeing that students are more open to discussions, presentations and the like teachers methodologies can adapt to suit these needs. Local students likewise have to be kept in mind so the onus on professors is to employ methodologies that will suit different learning styles. This is an element for maximum student participation and success.

While it is necessary for teachers to keep abreast with information and develop their potential, they should be very cautious that students do not become too dependent. Methodologies should be in place to promote students learning development. Teacher's competence will not come to be questioned if at higher levels professors are required to have some kind of teacher training and not just hired to teach because of having a PhD.

#### *Recommendations for international students*

Try as best as possible to grapple with the linguistic and socio-cultural differences between Taiwan and your home country. It does not mean you assimilate Taiwan's culture and forget your own. In fact it means finding a balance between the two; while you get to learn and adapt to Taiwan, you still keep your own culture and practice. It will make dealing with daily demands in order to survive in this new environment easier. This will develop your independence, courage, confidence and perseverance all in the effort to make your academic lives more successful and fulfilling. This is for all students regardless of age, gender or nationality; undergraduate and graduate students may share the same personal outcomes.

There will be trial times but the idea you need to embed in your mind is that you are here to achieve academic excellence. That ultimate goal will maintain your courage and motivation. One way to do this is to create social circles where you can assist each other in times of needs. Also you are given a great opportunity to experience a whole new culture and system of education, so the more you learn about other cultures and systems of life, the more you come to appreciate your own.

### *Recommendations for further research*

First, the institutions and other interested parties who share responsibility for monitoring the quality of student life should determine the extent to which the international student experiences on their campus are similar to, or differ from, these findings. Different mixture of students, different curricular requirements and methodologies, and different campus cultures and activities would produce varying patterns of engagement that may add or deviate from the results of this study.

Despite the many researches on international students, there is very little research on the impact of international students on domestic students, the community, the teachers and the educational process in their move towards internationalization of education. As a result if researchers interested in pursuing an even stronger understanding of international students' studying in Taiwan may want to investigate the role of local classmates, teachers, and the community. The following list specifies the type of research.

1. Research with host national students investigating their attitude, perceptions and interactions with international students.
2. Research with the community gathering their attitudes, perception and interactions of international students.
3. Research with teachers that will establish the extent of change (if any) that has occurred in the educational process and content.
4. Research on the effects of communication and language barrier to the performance of international students. This can be done by individual countries.
5. Research on the effects of Taiwan's culture (norms, rules, regulations) on international students.
6. Research on international students by countries. That is because international students are not homogeneous. They only have common experience of change when coming to Taiwan and the need to try to fit in to complete their academic goal.
7. Research on the learning experience of the students by country. Each country's grading criteria and requirement differs. The research may compare their academic performance from host country to their performance in Taiwan.

8. Coupled to this a research can also be done on time series whereby the students' academic performance may be compared through long term and short term orientations like Hofstede's fifth dimension.

Finally the researcher recommends that this research be extended to all higher education international students since this research focuses primarily on scholarship students who take classes in English.

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## APPENDIX A: PILOT TEST LETTER

Denroy Tillett  
Graduate Student  
National Taiwan Normal University  
Taipei, Taiwan ROC

Dear International Student:

I am a current M.Ed. student in International Workforce Education and Development at National Taiwan Normal University. I am writing my thesis on the satisfaction and performance of international higher education students in Taiwan and I need your help in making this study a thorough and significant piece of research. The topic of the thesis is International Higher Education: A Study on the Effect of Satisfaction on Foreign Students' Performance in Taiwan. The letter serves as a request your participation in a pilot study.

The purpose of the pilot study is to test the reliability and validity of the 'Student Satisfaction Questionnaire', a questionnaire I developed that will measure foreign students' satisfaction in Taiwan and how that satisfaction affect their performance. The procedure is very simple and straightforward. You are asked to provide the demographic data of age, gender, nationality; educational level; estimated Grade Point Average; answer 35 questions in Likert Scale format; provide additional comment if desired.

The data gathered from the questionnaire will be highly confidential. There are no risks and the benefits will depend on your participation to see if my instrument is effective in determining students' performance in relation to their satisfaction. If the instrument proves to be valid and reliable, the study will provide valuable information about international students' lives in Taiwan that will assist present and future students. Participation is voluntary but your participation is invaluable and appreciated.

Thank you in advance for your consideration and participation. If you have any questions about the study, you may contact me at 0936065321 or at [trenkee@hotmail.com](mailto:trenkee@hotmail.com).

Sincerely,

Denroy Tillett  
M.Ed. Student, NTNU

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on Foreign Students' Performance in Taiwan

## APPENDIX B: INTERNATIONAL STUDENTS LETTER

Denroy Tillett  
Graduate Student  
National Taiwan Normal University  
Taipei, Taiwan ROC

Dear International Student:

I am a current M.Ed. student in International Workforce Education and Development at National Taiwan Normal University. I am writing my thesis on the satisfaction and performance of international higher education students in Taiwan and I need your help in making this study a thorough and significant piece of research. The topic of the thesis is International Higher Education: A Study on the Effect of Satisfaction on Foreign Students' Performance in Taiwan.

The purpose of the research is to identify foreign students' satisfaction level and how that level affects their academic performance. Satisfaction will be measured by the attached questionnaire. The procedure is very simple and straightforward. You are asked to provide the demographic data of age, gender, nationality; educational level; estimated Grade Point Average; answer 35 questions in Likert Scale format; provide additional comment if desired.

The data gathered from the questionnaire will be published but anonymity is guaranteed. There are no risks but the benefits are very rewarding to all international students since the results will provide suggestions that may assist in making their stay in Taiwan more conducive. The study will provide valuable information about international students' lives in Taiwan that will assist present and future students. Participation is voluntary but your participation is invaluable and appreciated.

Thank you in advance for your consideration and participation. If you have any questions about the study, you may contact me at 0936065321 or at [trenkee@hotmail.com](mailto:trenkee@hotmail.com).

Merry Christmas, Happy New Year, and God Bless.

Sincerely,

Denroy Tillett  
M.Ed. Student, NTNU

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## APPENDIX C: LETTER TO INSTITUTIONS

Denroy Tillett  
Graduate Student  
National Taiwan Normal University  
Taipei, Taiwan ROC

Dear Sir/Madam:

My name is Denroy Bernard Tillett. I am a current M.Ed. student in International Workforce Education and Development at National Taiwan Normal University. I am writing my thesis on the satisfaction and performance of international higher education students (bachelors, masters, and doctorate) in Taiwan and I need your help in making this study a thorough and significant piece of research. I am hereby writing to seek permission to administer a questionnaire at your institution. The topic of the thesis is International Higher Education: A Study on the Effect of Satisfaction on Foreign Students' Performance in Taiwan.

The questionnaire is very simple and short. The procedure is straightforward. I am asking you to forward the attached questionnaire via email to the higher education international students who have spent at least one year or more of study in Taiwan.

There are no risks involved and institutions names are not included. The input of the international students is all I am interested in. All information gathered is anonymous and confidential. The greatest benefits are that if international students are dissatisfied, we can identify the area(s) of dissatisfaction and offer recommendations and/or solutions to making their lives better academically and for the greater benefit of Taiwan's international higher education policy.

Your institution's participation is very invaluable. If you have any questions about the study, you may contact me, Denroy Tillett, at 0936065321 or at [trenkee@hotmail.com](mailto:trenkee@hotmail.com).

Sincerely,

Denroy Tillett  
M.Ed. Student, NTNU

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## APPENDIX D: STUDENT SATISFACTION QUESTIONNAIRE

**Please provide the following demographic data:**

Age: \_\_\_\_\_

Gender: \_\_\_\_\_

Nationality: \_\_\_\_\_

**Please indicate your level of satisfaction to the following statements using this scale:**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Very Dissatisfying</b>	<b>Dissatisfying</b>	<b>Neutral</b>	<b>Satisfying</b>	<b>Very Satisfying</b>

**Please circle on a number from 1 to 5 for each of the statements below.**

I am satisfied with the opportunity to freely express my opinion in class	1	2	3	4	5
In general I feel that my instructors have a genuine interest in my learning	1	2	3	4	5
I am satisfied that the institution (foreign affairs, department, etc) tries to motivate me as a foreign student	1	2	3	4	5
I am satisfied with the opportunity to freely express my opinions to teachers, administration etc.	1	2	3	4	5
I believe that I have good working relationship with the local classmates	1	2	3	4	5
I am satisfied that the institution provide information in English	1	2	3	4	5
I am satisfied with the level of equitable respect I receive from my professors	1	2	3	4	5
I am satisfied that the international affairs office of the school efficiently address my needs and concerns as an international student	1	2	3	4	5
I am satisfied with the financial assistance I receive (school, self, family, scholarship) to avoid dependency on others	1	2	3	4	5
I am satisfied with the level of equitable respect for my culture by my classmates	1	2	3	4	5
I am satisfied that I have equal opportunity to participate in campus activities, clubs, and organizations and social activities	1	2	3	4	5
I am satisfied that my instructors have sufficient background knowledge for their assigned classes	1	2	3	4	5
I am satisfied that there are forums for me to express my ideas and concerns	1	2	3	4	5
I am satisfied with the grading systems of my instructors	1	2	3	4	5

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<b>1</b> <b>Very Dissatisfying</b>	<b>2</b> <b>Dissatisfying</b>	<b>3</b> <b>Neutral</b>	<b>4</b> <b>Satisfying</b>	<b>5</b> <b>Very Satisfying</b>	
I am satisfied that I can have informal and personal contacts with my professors	1	2	3	4	5
I am satisfied with the international affairs office actions to making my life at this institution more adaptive	1	2	3	4	5
I am satisfied that I am given adequate opportunities to demonstrate my understanding of the course materials	1	2	3	4	5
I feel that I am being recognized for my performance and contribution as a student at this institution	1	2	3	4	5
I am satisfied with the selection of cultural activities offered at my institution	1	2	3	4	5
I feel that I fit well as part of my university's environment	1	2	3	4	5
I am satisfied that I am treated as a student free of racial discrimination towards me being a foreigner from my classmates	1	2	3	4	5
I am satisfied with the counseling and psychological services in English offered to me as an international student	1	2	3	4	5
I am satisfied with my sense of belonging, or being part of the campus community	1	2	3	4	5
I am satisfied that I am treated as a student free of racial discrimination towards me being a foreigner from my professors	1	2	3	4	5
I am satisfied with the diverse selection of food at the cafeteria	1	2	3	4	5
I am satisfied with my health and safety on campus	1	2	3	4	5
I feel that I am kept informed and updated of student activities at my university	1	2	3	4	5
I am satisfied with the living conditions (dorms, housing) I have	1	2	3	4	5
I feel that the quality of the school facilities (classroom, library, etc) assists me with my learning	1	2	3	4	5
I am satisfied that I am treated as a student free of racial discrimination towards me being a foreigner while on campus	1	2	3	4	5
I am satisfied with the quality and caliber of courses available at college	1	2	3	4	5
I am satisfied that the volume of the school work assists me to develop academically	1	2	3	4	5
I am satisfied that I am able to adjust well at my university	1	2	3	4	5
I am satisfied that I am treated as an individual free of racial discrimination towards me being a foreigner off campus	1	2	3	4	5
I feel that there is concern from school for my health and wellbeing	1	2	3	4	5

**Please indicate your academic level:**

Undergraduate\_\_\_\_\_

Graduate (Masters or Doctorate)\_\_\_\_\_

**Please indicate your Grade Point Average level using the scale A – C:**

A: Average is from 90 – 100

B: Average is from 80 – 89

C: Average is from 70 – 79

**Please indicate if you are an ICDF scholarship recipient or not.**

ICDF \_\_\_\_\_

Non ICDF \_\_\_\_\_

**If you have any additional comments on the subject of satisfaction as a foreign student in Taiwan please indicate below.**

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## APPENDIX E: BACKWARD ELIMINATION PROCEDURE

Table E1. Multiple regression backward elimination procedure for equations 1 to 6

Variables	Eq1	Eq2	Eq3	Eq4	Eq5	Eq6	
	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	
Power Distance	Q1	<b>.167***</b> <b>(3.492)</b>	<b>.167***</b> <b>(3.500)</b>	<b>.167***</b> <b>(3.508)</b>	<b>.166***</b> <b>(3.590)</b>	<b>.166***</b> <b>(3.607)</b>	<b>.166***</b> <b>(3.628)</b>
	Q4	-0.070 (-1.441)	-0.070 (-1.444)	-0.070 (-1.448)	-0.070 (-1.451)	-0.068 (-1.465)	-0.069 (-1.494)
	Q7	-0.022 (-.447)	-0.022 (-.455)	-0.022 (-.453)	-0.022 (-.457)	-0.022 (-.478)	-0.022 (-.466)
	Q10	-0.058 (-1.139)	-0.058 (-1.148)	-0.058 (-1.166)	-0.058 (-1.167)	-0.058 (-1.167)	-0.059 (-1.202)
	Q13	-0.013 (-.275)	-0.013 (-.276)	-0.012 (-.274)	-0.012 (-.270)	-0.012 (-.273)	-0.012 (-.270)
	Q15	<b>.088*</b> <b>(1.673)</b>	<b>.088*</b> <b>(1.679)</b>	<b>.088*</b> <b>(1.706)</b>	<b>.088*</b> <b>(1.711)</b>	<b>.088*</b> <b>(1.712)</b>	<b>.087*</b> <b>(1.711)</b>
	Q18	.067 (1.287)	.067 (1.292)	.067 (1.306)	.067 (1.307)	.067 (1.320)	.068 (1.332)
	Q12	<b>-.090*</b> <b>(-1.690)</b>	<b>-.089*</b> <b>(-1.727)</b>	<b>-.090*</b> <b>(-1.761)</b>	<b>-.089*</b> <b>(-1.764)</b>	<b>-.090*</b> <b>(-1.793)</b>	<b>-.090*</b> <b>(-1.807)</b>
Uncertainty Avoidance	Q14	.008 (.167)	.007 (.163)	.007 (.162)	.007 (.161)	.007 (.159)	.007 (.161)
	Q17	.037 (.650)	.037 (.653)	.037 (.653)	.036 (.651)	.037 (.665)	.038 (.709)
	Q20	.078 (1.485)	.078 (1.488)	.079 (1.531)	.079 (1.574)	.080 (1.588)	.079 (1.587)
	Q21	.047 (.811)	.046 (.849)	.046 (.857)	.047 (.868)	.047 (.886)	.046 (.878)
	Q23	-0.019 (-.333)	-0.019 (-.335)	-0.019 (-.347)	-0.019 (-.351)	-0.020 (-.362)	-0.019 (-.349)
	Q24	.061 (1.168)	.062 (1.197)	.062 (1.211)	.062 (1.219)	.062 (1.224)	.062 (1.220)
	Q26	.008 (.175)	.008 (.177)	.008 (.175)	.008 (.175)	.008 (.191)	.007 (.163)
	Q30	-0.031 (-.565)	-0.031 (-.565)	-0.031 (-.574)	-0.031 (-.577)	-0.032 (-.602)	-0.032 (-.590)
	Q31	.012 (.227)	.012 (.226)	.012 (.230)	.012 (.238)	.012 (.228)	.012 (.230)
	Q34	-0.006 (-.123)	-0.007 (-.129)	-0.007 (-.130)	-0.007 (-.132)	-0.007 (-.144)	-0.007 (-.164)

Table E1. (Continued)

Variables	Eq1	Eq2	Eq3	Eq4	Eq5	Eq6	
	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	
Masculinity	Q3	.042 (.893)	.042 (.895)	.042 (.898)	.041 (.901)	.041 (.898)	.042 (.917)
	Q6	.048 (1.123)	.048 (1.125)	.048 (1.127)	.048 (1.128)	.048 (1.135)	.048 (1.158)
	Q9	-.036 (-.867)	-.036 (-.868)	-.036 (-.872)	-.036 (-.881)	-.037 (-.913)	-.037 (-.951)
	Q16	-.049 (-.920)	-.050 (-.934)	-.049 (-.935)	-.049 (-.935)	-.048 (-.932)	-.050 (-1.006)
	Q19	.040 (.899)	.040 (.901)	.041 (.915)	.041 (.927)	.041 (.939)	.040 (.943)
	Q22	-.045 (-1.114)	-.045 (-1.116)	-.046 (-1.132)	-.046 (-1.142)	-.046 (-1.141)	-.045 (-1.138)
	Q25	.046 (1.289)	.046 (1.292)	.046 (1.300)	.046 (1.316)	.046 (1.340)	.046 (1.340)
	Q28	<b>.071**</b> <b>(2.069)</b>	<b>.071**</b> <b>(2.074)</b>	<b>.071**</b> <b>(2.081)</b>	<b>.072**</b> <b>(2.089)</b>	<b>.072**</b> <b>(2.095)</b>	<b>.072**</b> <b>(2.116)</b>
	Q35	-.006 (-.119)	-.006 (-.114)	-.006 (-.120)	-.007 (-.137)	-.007 (-.133)	
Individualism	Q2	.053 (1.037)	.053 (1.039)	.053 (1.053)	.053 (1.060)	.053 (1.060)	.053 (1.056)
	Q5	-.002 (-.041)					
	Q8	-.041 (-.916)	-.041 (-.922)	-.041 (-.926)	-.040 (-.927)	-.040 (-.926)	-.040 (-.923)
	Q11	<b>-.102**</b> <b>(-2.245)</b>	<b>-.103**</b> <b>(-2.312)</b>	<b>-.103**</b> <b>(-2.318)</b>	<b>-.102**</b> <b>(-2.362)</b>	<b>-.103**</b> <b>(-2.368)</b>	<b>-.103**</b> <b>(-2.388)</b>
	Q27	-.038 (-1.026)	-.038 (-1.028)	-.038 (-1.028)	-.039 (-1.047)	-.039 (-1.056)	-.039 (-1.078)
	Q29	-.048 (-1.063)	-.048 (-1.066)	-.048 (-1.074)	-.048 (-1.080)	-.048 (-1.097)	-.049 (-1.112)
	Q32	.059 (.985)	.058 (.998)	.058 (1.001)	.057 (1.019)	.057 (1.030)	.056 (1.024)
	Q33	-.050 (-1.100)	-.050 (-1.102)	-.050 (-1.104)	-.050 (-1.113)	-.050 (-1.120)	-.050 (-1.119)

Table E1. (Continued)

Variables	Eq1	Eq2	Eq3	Eq4	Eq5	Eq6	
	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	
Demographics	Age	-.001 (-.075)	-.001 (-.076)	.000 (-.069)			
	Gender	-.009 (-.105)	-.009 (-.105)	-.009 (-.107)	-.009 (-.105)		
	Asia	.009 (.064)	.009 (.062)				
	NAmerica	.150 (.885)	.150 (.887)	.146 (.952)	.145 (.951)	.145 (.950)	.149 (1.000)
	SAmerica	<b>.303*</b> <b>(1.756)</b>	<b>.303*</b> <b>(1.760)</b>	<b>.299*</b> <b>(1.884)</b>	<b>.300*</b> <b>(1.902)</b>	<b>.301*</b> <b>(1.922)</b>	<b>.300*</b> <b>(1.922)</b>
	Europe	<b>.388**</b> <b>(2.192)</b>	<b>.387**</b> <b>(2.197)</b>	<b>.382**</b> <b>(2.492)</b>	<b>.383**</b> <b>(2.509)</b>	<b>.382**</b> <b>(2.512)</b>	<b>.382***</b> <b>(2.516)</b>
	Africa	-.131 (-.885)	-.131 (-.888)	-.134 (-.961)	-.135 (-.981)	-.135 (-.981)	-.137 (-.998)
	AOceania	-.143 (-.881)	-.144 (-.827)	-.148 (-.919)	-.151 (-.955)	-.151 (-.961)	-.149 (-.955)
	Status	ICDF/ Non-ICDF	-.032 (-.297)	-.032 (-.301)	-.028 (-.327)	-.029 (-.344)	-.031 (-.373)
Degree		Grads/ Undergrads	<b>.467***</b> <b>(4.623)</b>	<b>.467***</b> <b>(4.648)</b>	<b>.469***</b> <b>(5.030)</b>	<b>.466***</b> <b>(5.695)</b>	<b>.466***</b> <b>(5.712)</b>
<b>R<sup>2</sup></b>		<b>.822</b>	<b>.822</b>	<b>.822</b>	<b>.822</b>	<b>.822</b>	<b>.822</b>

Note: \* =  $p < .1$ ; \*\* =  $p < .05$ ; \*\*\* =  $p < .01$

<sup>1</sup> The value of the beta here is from the Unstandardized Coefficients.

Table E2. Multiple regression backward elimination procedure for equations 7 to 12

Variables	Eq7	Eq8	Eq9	Eq10	Eq11	Eq12	
	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	
Power Distance	Q1	<b>.167***</b> (3.664)	<b>.167***</b> (3.679)	<b>.168***</b> (3.747)	<b>.168***</b> (3.755)	<b>.166***</b> (3.777)	<b>.168***</b> (3.874)
	Q4	-0.069 (-1.501)	-0.069 (-1.507)	-0.070 (-1.536)	-0.072 (-1.609)	-0.070 (-1.586)	-0.068 (-1.562)
	Q7	-0.022 (-.486)	-0.021 (-.468)	-0.021 (-.464)	-0.020 (-.448)	-0.019 (-.431)	-0.020 (-.448)
	Q10	-0.058 (-1.194)	-0.058 (-1.194)	-0.058 (-1.216)	-0.060 (-1.251)	-0.061 (-1.287)	-0.061 (-1.298)
	Q13	-0.011 (-.255)	-0.011 (-.247)	-0.011 (-.248)			
	Q15	<b>.086*</b> (1.707)	<b>.087*</b> (1.746)	<b>.087*</b> (1.748)	<b>.088*</b> (1.770)	<b>.089*</b> (1.804)	<b>.089*</b> (1.796)
	Q18	.070 (1.405)	.070 (1.408)	.071 (1.447)	.068 (1.430)	.067 (1.416)	.067 (1.424)
	Q12	<b>-.088*</b> (-1.879)	<b>-.088*</b> (-1.883)	<b>-.088*</b> (-1.892)	<b>-.088*</b> (-1.897)	<b>-.086*</b> (-1.879)	<b>-.083*</b> (-1.853)
Uncertainty Avoidance	Q14						
	Q17	.039 (.931)	.038 (.721)	.039 (.724)	.040 (.757)	.043 (.823)	.042 (.806)
	Q20	.080 (1.643)	.079 (1.643)	.078 (1.644)	.078 (1.648)	<b>.078*</b> (1.664)	<b>.072*</b> (1.663)
	Q21	.045 (.869)	.046 (.876)	.044 (.864)	.045 (.892)	.044 (.880)	.042 (.840)
	Q23	-0.020 (-.363)	-0.019 (-.357)	-0.019 (-.356)	-0.017 (-.314)	-0.018 (-.334)	
	Q24	.063 (1.245)	.063 (1.262)	.061 (1.265)	.061 (1.262)	.062 (1.277)	.060 (1.249)
	Q26	.007 (.165)					
	Q30	-0.033 (-.645)	-0.032 (-.628)	-0.034 (-.720)	-0.034 (-.725)	-0.035 (-.745)	-0.034 (-.718)
Q31	.013 (.256)	.014 (.285)	.015 (.298)	.014 (.287)			
Q34	-0.008 (-.173)	-0.008 (-.156)					



Table E2. (Continued)

Variables	Eq7	Eq8	Eq9	Eq10	Eq11	Eq12	
	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	
Masculinity	Q3	.041 (.910)	.040 (.897)	.039 (.887)	.040 (.909)	.040 (.907)	.040 (.906)
	Q6	.050 (1.218)	.050 (1.215)	.049 (1.214)	.051 (1.263)	.050 (1.247)	.050 (1.254)
	Q9	-.039 (-1.000)	-.039 (-1.000)	-.030 (-1.005)	-.037 (-.979)	-.038 (-.998)	-.036 (-.972)
	Q16	-.050 (-1.012)	-.050 (-1.007)	-.049 (-1.000)	-.052 (-1.095)	-.052 (-1.086)	-.055 (-1.170)
	Q19	.039 (.931)	.039 (.936)	.038 (.926)	.036 (.900)	.038 (.953)	.036 (.919)
	Q22	-.044 (-1.130)	-.044 (-1.131)	-.044 (-1.133)	-.046 (-1.225)	-.046 (-1.211)	-.046 (-1.233)
	Q25	.046 (1.349)	.047 (1.388)	.047 (1.393)	.046 (1.375)	.047 (1.419)	.048 (1.449)
	Q28	<b>.073**</b> <b>(2.161)</b>	<b>.072**</b> <b>(2.160)</b>	<b>.073**</b> <b>(2.208)</b>	<b>.074**</b> <b>(2.225)</b>	<b>.073**</b> <b>(2.213)</b>	<b>.073**</b> <b>(2.230)</b>
	Q35						
Individualism	Q2	.054 (1.094)	.054 (1.100)	.054 (1.095)	.053 (1.082)	.056 (1.181)	.054 (1.145)
	Q5						
	Q8	-.040 (-.924)	-.040 (-.925)	-.039 (-.918)	-.042 (-1.023)	-.043 (-1.041)	-.044 (-1.085)
	Q11	<b>-.104**</b> <b>(-2.408)</b>	<b>-.104**</b> <b>(-2.422)</b>	<b>-.104**</b> <b>(-2.433)</b>	<b>-.105**</b> <b>(-2.480)</b>	<b>-.105**</b> <b>(-2.487)</b>	<b>-.107**</b> <b>(-2.569)</b>
	Q27	-.039 (-1.072)	-.039 (-1.090)	-.039 (-1.087)	-.039 (-1.102)	-.038 (-1.079)	-.038 (-1.0829)
	Q29	-.049 (-1.110)	-.047 (-1.113)	-.046 (-1.114)	-.046 (-1.098)	-.045 (-1.100)	-.048 (-1.167)
	Q32	.056 (1.028)	.056 (1.033)	.057 (1.045)	.055 (1.024)	.058 (1.116)	.058 (1.105)
	Q33	-.050 (-1.128)	-.050 (-1.140)	-.051 (-1.157)	-.051 (-1.167)	-.049 (-1.134)	-.048 (-1.122)

Table E2. (Continued)

Variables	Eq7	Eq8	Eq9	Eq10	Eq11	Eq12
	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)
Age						
Gender						
Demographics						
Asia						
NAmerica	.150 (1.013)	.152 (1.037)	.152 (1.040)	.153 (1.048)	.154 (1.054)	.157 (1.078)
SAmerica	<b>.302*</b> <b>(1.948)</b>	<b>.298*</b> <b>(1.951)</b>	<b>.298*</b> <b>(1.953)</b>	<b>.305**</b> <b>(2.050)</b>	<b>.300**</b> <b>(2.034)</b>	<b>.303**</b> <b>(2.065)</b>
Europe	<b>.382**</b> <b>(2.521)</b>	<b>.382**</b> <b>(2.527)</b>	<b>.383**</b> <b>(2.542)</b>	<b>.391**</b> <b>(2.658)</b>	<b>.391***</b> <b>(2.666)</b>	<b>.400***</b> <b>(2.775)</b>
Africa	-.137 (-1.002)	-.135 (-.995)	-.135 (-.994)	-.134 (-.992)	-.134 (-.993)	-.141 (-1.065)
AOceania	-.152 (-.974)	-.150 (-.969)	-.150 (-.973)	-.152 (-.983)	-.153 (-.996)	-.155 (-1.008)
Status						
ICDF/	-.028	-.027	-.027	-.030	-.029	-.034
Non-ICDF	(-.352)	(-.336)	(-.337)	(-.383)	(-.374)	(-.442)
Degree						
Grads/	<b>.463***</b>	<b>.466***</b>	<b>.465***</b>	<b>.466***</b>	<b>.462***</b>	<b>.463***</b>
Undergrads	<b>(5.778)</b>	<b>(5.975)</b>	<b>(5.996)</b>	<b>(6.038)</b>	<b>(6.128)</b>	<b>(6.154)</b>
<b>R<sup>2</sup></b>	<b>.822</b>	<b>.822</b>	<b>.822</b>	<b>.822</b>	<b>.822</b>	<b>.821</b>

Note: \* =  $p < .1$ ; \*\* =  $p < .05$ ; \*\*\* =  $p < .01$

<sup>1</sup> The value of the beta here is from the Unstandardized Coefficients.

Table E3. Multiple regression backward elimination procedure for equations 13 to 18

Variables	Eq13	Eq14	Eq15	Eq16	Eq17	Eq18	
	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	
Power Distance	Q1	<b>.167***</b> (3.871)	<b>.168***</b> (3.890)	<b>.166***</b> (3.867)	<b>.168***</b> (3.906)	<b>.170***</b> (3.961)	<b>.172***</b> (4.021)
	Q4	-.070 (-1.599)	<b>-.075*</b> (-1.803)	<b>-.074*</b> (-1.786)	<b>-.073*</b> (-1.769)	-.067 (-1.646)	-.071* (-1.753)
	Q7	-.018 (-.398)					
	Q10	-.061 (-1.300)	-.062 (-1.319)	-.070 (-1.528)	-.057 (-1.362)	-.051 (-1.232)	-.051 (-1.228)
	Q13						
	Q15	<b>.087*</b> (1.774)	<b>.086*</b> (1.754)	<b>.086*</b> (1.768)	<b>.085*</b> (1.736)	.078 (1.616)	.075 (1.569)
	Q18	.068 (1.431)	.068 (1.434)	.065 (1.378)	<b>.074*</b> (1.666)	.072 (1.617)	.070 (1.572)
Uncertainty Avoidance	Q12	<b>-.085*</b> (-1.898)	<b>-.090**</b> (-2.136)	<b>-.094**</b> (-2.243)	<b>-.093**</b> (-2.228)	<b>-.087**</b> (-2.114)	<b>-.082**</b> (-2.013)
	Q14						
	Q17	.044 (.864)	.044 (.859)	.047 (.919)	.047 (.919)	.044 (.868)	.049 (.981)
	Q20	<b>.073*</b> (1.682)	<b>.072*</b> (1.659)	<b>.068</b> (1.589)	<b>.071*</b> (1.665)	.066 (1.561)	.064 (1.526)
	Q21	.043 (.859)	.041 (.828)	.034 (.704)			
	Q23						
	Q24	.059 (1.231)	.056 (1.190)	.050 (1.085)	.063 (1.488)	.058 (1.378)	.055 (1.307)
	Q26						
	Q30	-.035 (-.756)	-.035 (-.749)				
	Q31						
Q34							

Table E3. (Continued)

Variables	Eq13	Eq14	Eq15	Eq16	Eq17	Eq18	
	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	
Masculinity	Q3	.040 (.927)	.043 (.988)	.040 (.927)	.039 (.899)		
	Q6	.052 (1.328)	.050 (1.289)	.051 (1.297)	.052 (1.330)	.051 (1.321)	.054 (1.398)
	Q9	-.037 (-.998)	-.037 (-1.002)	-.041 (-1.102)	-.045 (-1.229)	-.045 (-1.248)	-.050 (-1.389)
	Q16	-.054 (-1.157)	-.054 (-1.166)	-.056 (-1.203)	-.062 (-1.365)	-.050 (-1.153)	<b>-.067*</b> <b>(-1.760)</b>
	Q19	.037 (.936)	.038 (.985)	.035 (.915)	.035 (.913)	.042 (1.100)	.041 (1.092)
	Q22	-.046 (-1.233)	-.046 (-1.245)	-.047 (-1.248)	-.042 (-1.139)	-.038 (-1.050)	-.042 (-1.156)
	Q25	.047 (1.421)	.048 (1.466)	.049 (1.508)	.051 (1.553)	.052 (1.588)	.051 (1.557)
	Q28	<b>.072**</b> <b>(2.218)</b>	<b>.071**</b> <b>(2.192)</b>	<b>.076**</b> <b>(2.390)</b>	<b>.074**</b> <b>(2.346)</b>	<b>.076**</b> <b>(2.406)</b>	<b>.076**</b> <b>(2.415)</b>
	Q35						
Individualism	Q2	.054 (1.148)	.054 (1.149)	.055 (1.177)	.056 (1.199)	.068 (1.528)	.062 (1.414)
	Q5						
	Q8	-.044 (-1.074)	-.045 (-1.099)	-.045 (-1.097)	-.041 (-1.011)	-.031 (-.803)	
	Q11	<b>-.108**</b> <b>(-2.586)</b>	<b>-.109**</b> <b>(-2.620)</b>	<b>-.110***</b> <b>(-2.651)</b>	<b>-.112***</b> <b>(-2.725)</b>	<b>-.112***</b> <b>(-2.712)</b>	<b>-.114***</b> <b>(-2.767)</b>
	Q27	-.040 (-1.130)	-.039 (-1.107)	-.040 (-1.141)	-.038 (-1.080)	-.037 (-1.071)	-.038 (-1.082)
	Q29	-.047 (-1.157)	-.047 (-1.164)	-.046 (-1.128)	-.045 (-1.105)	-.048 (-1.190)	-.047 (-1.166)
	Q32	.054 (1.049)	.053 (1.028)	.052 (1.014)	.049 (.959)	.049 (.965)	.050 (.983)
	Q33	-.048 (-1.131)	-.046 (-1.094)	-.048 (-1.132)	-.050 (-1.195)	-.053 (-1.277)	-.056 (-1.337)

Table E3. (Continued)

Variables	Eq13	Eq14	Eq15	Eq16	Eq17	Eq18	
	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	
Age							
Gender							
Asia							
Demographics	NAmerica	.139 (.997)	.140 (1.008)	.119 (.875)	.122 (.900)	.140 (1.041)	.134 (.998)
	SAmerica	<b>.290**</b> <b>(2.021)</b>	<b>.284**</b> <b>(1.993)</b>	<b>.282**</b> <b>(1.983)</b>	<b>.298**</b> <b>(2.122)</b>	<b>.303**</b> <b>(2.165)</b>	<b>.299**</b> <b>(2.139)</b>
	Europe	<b>.379***</b> <b>(2.787)</b>	<b>.381***</b> <b>(2.805)</b>	<b>.376***</b> <b>(2.779)</b>	<b>.386***</b> <b>(2.866)</b>	<b>.385***</b> <b>(2.860)</b>	<b>.384***</b> <b>(2.853)</b>
	Africa	-.140 (-1.057)	-.143 (-1.085)	-.150 (-1.144)	-.161 (-1.229)	-.154 (-1.180)	-.153 (-1.173)
	AOceania	-.166 (-1.100)	-.171 (-1.141)	-.180 (-1.206)	-.165 (-1.118)	-.163 (-1.104)	-.155 (-1.051)
	Status	ICDF/ Non-ICDF					
Degree	Grads/ Undergrads	<b>.462***</b> <b>(6.163)</b>	<b>.461***</b> <b>(6.164)</b>	<b>.460***</b> <b>(6.150)</b>	<b>.462***</b> <b>(6.204)</b>	<b>.453***</b> <b>(6.141)</b>	<b>.450***</b> <b>(6.112)</b>
	<b>R<sup>2</sup></b>	<b>.822</b>	<b>.821</b>	<b>.821</b>	<b>.820</b>	<b>.820</b>	<b>.819</b>

Note: \* =  $p < .1$ ; \*\* =  $p < .05$ ; \*\*\* =  $p < .01$

<sup>1</sup> The value of the beta here is from the Unstandardized Coefficients.

Table E4. Multiple regression backward elimination procedure for equations 19 to 24

Variables	Eq19	Eq20	Eq21	Eq22	Eq23	Eq24	
	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	
Power Distance	Q1	<b>.172***</b> (4.023)	<b>.171***</b> (4.009)	<b>.166***</b> (3.916)	<b>.165***</b> (3.905)	<b>.173***</b> (4.135)	<b>.180***</b> (4.372)
	Q4	<b>-.072*</b> (-1.789)	<b>-.070*</b> (-1.731)	<b>-.069*</b> (-1.708)	<b>-.069*</b> (-1.707)	<b>-.072*</b> (-1.788)	<b>-.073*</b> (-1.811)
	Q7						
	Q10	-.047 (-1.150)	-.045 (-1.105)	-.038 (-.947)			
	Q13						
	Q15	<b>.087*</b> (1.869)	<b>.079*</b> (1.719)	<b>.077*</b> (1.686)	.073 (1.612)	.072 (1.579)	.071 (1.562)
	Q18	<b>.079*</b> (1.807)	<b>.080*</b> (1.831)	<b>.080*</b> (1.831)	<b>.077*</b> (1.771)	<b>.079*</b> (1.811)	<b>.080*</b> (1.836)
Uncertainty Avoidance	Q12	<b>-.081**</b> (-1.996)	<b>-.082**</b> (-2.022)	<b>-.084**</b> (-2.059)	<b>-.083**</b> (-2.040)	<b>-.085**</b> (-2.084)	<b>-.089**</b> (-2.210)
	Q14						
	Q17						
	Q20	.069 (1.636)	.068 (1.632)	<b>.070*</b> (1.675)	.065 (1.572)	.061 (1.467)	.058 (1.397)
	Q21						
	Q23						
	Q24	.065 (1.602)	<b>.069*</b> (1.697)	.065 (1.606)	.053 (1.379)	.054 (1.426)	.057 (1.498)
	Q26						
	Q30						
	Q31						
Q34							

Table E4. (Continued)

Variables	Eq19	Eq20	Eq21	Eq22	Eq23	Eq24
	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)
Q3						
Q6	.049 (1.281)	.049 (1.288)	.047 (1.233)	.042 (1.116)	.040 (1.055)	
Q9	-.045 (-1.272)	-.046 (-1.293)	-.041 (-1.168)	-.050 (-1.451)	-.047 (-1.369)	-.043 (-1.268)
Q16	<b>-.066*</b> <b>(-1.731)</b>	<b>-.067*</b> <b>(-1.749)</b>	-.060 (-1.592)	-.061 (-1.625)	<b>-.068*</b> <b>(-1.866)</b>	<b>-.065*</b> <b>(-1.790)</b>
Q19	.050 (1.360)	.054 (1.486)	.051 (1.400)	.052 (1.431)	.045 (1.260)	.048 (1.370)
Q22	-.044 (-1.228)	-.046 (-1.267)	-.044 (-1.237)	-.046 (-1.290)	-.050 (-1.406)	-.047 (-1.325)
Q25	.049 (1.518)	.047 (1.455)	.043 (1.332)	.045 (1.416)	.045 (1.420)	<b>.052*</b> <b>(1.666)</b>
Q28	<b>.077**</b> <b>(2.452)</b>	<b>.078**</b> <b>(2.492)</b>	<b>.079**</b> <b>(2.505)</b>	<b>.071**</b> <b>(2.336)</b>	<b>.064**</b> <b>(2.167)</b>	<b>.059**</b> <b>(2.026)</b>
Q35						
Q2	.066 (1.507)	.067 (1.526)	.063 (1.451)	.068 (1.567)	.065 (1.513)	.065 (1.502)
Q5						
Q8						
Q11	<b>-.117***</b> <b>(-2.858)</b>	<b>-.115***</b> <b>(-2.820)</b>	<b>-.115***</b> <b>(-2.813)</b>	<b>-.118***</b> <b>(-2.896)</b>	<b>-.123***</b> <b>(-3.048)</b>	<b>-.116***</b> <b>(-2.907)</b>
Q27	-.036 (-1.036)	-.036 (-1.048)	-.039 (-1.127)	-.034 (-1.005)		
Q29	-.050 (-1.248)	-.053 (-1.319)	-.053 (-1.319)	-.052 (-1.302)	-.050 (-1.251)	-.051 (-1.271)
Q32	.057 (1.132)	.060 (1.187)	.062 (1.247)	.061 (1.217)	.058 (1.169)	.073 (1.518)
Q33	-.059 (-1.426)	-.066 (-1.599)	<b>-.068*</b> <b>(-1.656)</b>	<b>-.070*</b> <b>(-1.714)</b>	<b>-.071*</b> <b>(-1.731)</b>	-.066 (-1.627)

Table E4. (Continued)

Variables	Eq19	Eq20	Eq21	Eq22	Eq23	Eq24
	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)
Age						
Gender						
Demographics						
Asia						
NAmerica	.139 (1.036)	.146 (1.089)	.161 (1.210)	.142 (1.082)	.159 (1.218)	.152 (1.166)
SAmerica	<b>.295**</b> <b>(2.107)</b>	<b>.312**</b> <b>(2.243)</b>	<b>.329**</b> <b>(2.386)</b>	<b>.324**</b> <b>(2.358)</b>	<b>.320**</b> <b>(2.325)</b>	<b>.278**</b> <b>(2.110)</b>
Europe	<b>.374***</b> <b>(2.791)</b>	<b>.385***</b> <b>(2.883)</b>	<b>.403***</b> <b>(3.041)</b>	<b>.400***</b> <b>(3.025)</b>	<b>.401***</b> <b>(3.029)</b>	<b>.394***</b> <b>(2.980)</b>
Africa	-.138 (-1.065)	-.123 (-.955)				
AOceania	-.147 (-.998)					
Status						
ICDF/ Non-ICDF						
Degree						
Grads/ Undergrads	<b>.451***</b> <b>(6.125)</b>	<b>.451***</b> <b>(6.121)</b>	<b>.443***</b> <b>(6.054)</b>	<b>.442***</b> <b>(6.042)</b>	<b>.439***</b> <b>(6.011)</b>	<b>.422***</b> <b>(5.922)</b>
<b>R<sup>2</sup></b>	<b>.818</b>	<b>.818</b>	<b>.817</b>	<b>.816</b>	<b>.815</b>	<b>.814</b>

Note: \* =  $p < .1$ ; \*\* =  $p < .05$ ; \*\*\* =  $p < .01$

<sup>1</sup> The value of the beta here is from the Unstandardized Coefficients.



Table E5. Multiple regression backward elimination procedure for equations 25 to 30

Variables	Eq25	Eq26	Eq27	Eq28	Eq29	Eq30	
	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	
Power Distance	Q1	<b>.184***</b> (4.480)	<b>.182***</b> (4.433)	<b>.181***</b> (4.419)	<b>.181***</b> (4.411)	<b>.186***</b> (4.545)	<b>.181***</b> (4.422)
	Q4	<b>-.070*</b> (-1.743)	<b>-.074*</b> (-1.857)	<b>-.073*</b> (-1.824)	<b>-.069*</b> (-1.724)	-.057 (-1.475)	<b>-.064*</b> (-1.650)
	Q7						
	Q10						
	Q13						
	Q15	.065 (1.437)	.058 (1.289)	.062 (1.379)	.053 (1.203)		
	Q18	<b>.072*</b> (1.683)	<b>.074*</b> (1.717)	<b>.079*</b> (1.855)	<b>.075*</b> (1.756)	<b>.083*</b> (1.957)	<b>.086**</b> (2.046)
	Q12	<b>-.088**</b> (-2.183)	<b>-.103***</b> (-2.679)	<b>-.106***</b> (-2.754)	<b>-.109***</b> (-2.849)	<b>-.102**</b> (-2.687)	<b>-.093**</b> (-2.489)
	Q14						
	Q17						
Uncertainty Avoidance	Q20	.052 (1.278)	.041 (1.032)				
	Q21						
	Q23						
	Q24	.061 (1.612)	.058 (1.540)	.061 (1.617)	.057 (1.519)	.057 (1.511)	.046 (1.245)
	Q26						
	Q30						
	Q31						
	Q34						

Table E5. (Continued)

Variables	Eq25	Eq26	Eq27	Eq28	Eq29	Eq30
	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)
Q3						
Q6						
Q9	-.044 (-1.299)	-.049 (-1.450)	-.049 (-1.454)	-.049 (-1.447)	-.046 (-1.369)	
Q16	<b>-.067*</b> <b>(-1.836)</b>	<b>-.061*</b> <b>(-1.680)</b>	<b>-.062*</b> <b>(-1.711)</b>	<b>-.067*</b> <b>(-1.857)</b>	-.056 (-1.597)	<b>-.060*</b> <b>(-1.731)</b>
Q19	.053 (1.499)	.052 (1.485)	<b>.058*</b> <b>(1.684)</b>	.049 (1.449)	.052 (1.532)	.044 (1.321)
Q22	-.054 (-1.523)	-.049 (-1.412)	-.046 (-1.325)			
Q25	<b>.052*</b> <b>(1.653)</b>	.051 (1.620)	<b>.055*</b> <b>(1.789)</b>	<b>.055*</b> <b>(1.773)</b>	<b>.057*</b> <b>(1.851)</b>	<b>.054*</b> <b>(1.760)</b>
Q28	<b>.058**</b> <b>(1.992)</b>	<b>.056*</b> <b>(1.912)</b>	<b>.054*</b> <b>(1.861)</b>	<b>.052*</b> <b>(1.794)</b>	<b>.049*</b> <b>(1.695)</b>	.038 (1.364)
Q35						
Q2	.061 (1.424)	.064 (1.481)	.066 (1.544)	.063 (1.474)	.063 (1.470)	.061 (1.406)
Q5						
Q8						
Q11	<b>-.113***</b> <b>(-2.836)</b>	<b>-.112***</b> <b>(-2.824)</b>	<b>-.101***</b> <b>(-2.639)</b>	<b>-.108***</b> <b>(-2.854)</b>	<b>-.109***</b> <b>(-2.876)</b>	<b>-.108***</b> <b>(-2.850)</b>
Q27						
Q29	-.049 (-1.218)					
Q32	.077 (1.601)	.070 (1.476)	.071 (1.480)	.072 (1.502)	<b>.079*</b> <b>(1.662)</b>	.069 (1.472)
Q33	-.059 (-1.466)	<b>-.069*</b> <b>(-1.748)</b>	-.062 (-1.599)	-.058 (-1.501)	-.059 (-1.508)	-.061 (-1.560)

Table E5. (Continued)

Variables	Eq25	Eq26	Eq27	Eq28	Eq29	Eq30
	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)
Age						
Gender						
Asia						
NAmerica						
SAmerica	<b>.258**</b> (1.974)	<b>.249*</b> (1.905)	<b>.233*</b> (1.796)	<b>.261**</b> (2.034)	<b>.278**</b> (2.185)	<b>.278**</b> (2.175)
Europe	<b>.376***</b> (2.859)	<b>.364***</b> (2.778)	<b>.356***</b> (2.719)	<b>.376***</b> (2.890)	<b>.385***</b> (2.954)	<b>.387***</b> (2.970)
Africa						
AOceania						
ICDF/ Non-ICDF						
Grads/ Undergrads	<b>.436***</b> (6.193)	<b>.447***</b> (6.394)	<b>.444***</b> (6.357)	<b>.435***</b> (6.245)	<b>.439***</b> (6.311)	<b>.450***</b> (6.505)
<b>R<sup>2</sup></b>	<b>.813</b>	<b>.812</b>	<b>.811</b>	<b>.810</b>	<b>.809</b>	<b>.807</b>

Note: \* =  $p < .1$ ; \*\* =  $p < .05$ ; \*\*\* =  $p < .01$

<sup>1</sup> The value of the beta here is from the Unstandardized Coefficients.

Table E6. Multiple regression backward elimination procedure for equations 31 to 36

Variables	Eq31	Eq32	Eq33	Eq34	Eq35	Eq36	
	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	
<b>Power Distance</b>	Q1	<b>.188***</b> (4.653)	<b>.190***</b> (4.690)	<b>.204***</b> (5.235)	<b>.204***</b> (5.237)	<b>.183***</b> (5.109)	<b>.201***</b> (6.025)
	Q4	<b>-.064*</b> (-1.662)	-.057 (-1.494)	-.051 (-1.338)	-.052 (-1.360)		
	Q7						
	Q10						
	Q13						
	Q15						
<b>Uncertainty Avoidance</b>	Q18	<b>.094**</b> (2.255)	<b>.093**</b> (2.233)	<b>.096**</b> (2.292)	<b>.087**</b> (2.102)	<b>.076*</b> (1.878)	<b>.085**</b> (2.127)
	Q12	<b>-.085**</b> (-2.304)	<b>-.080**</b> (-2.178)	<b>-.066*</b> (-1.880)	<b>-.066*</b> (-1.876)	<b>-.077**</b> (-2.248)	<b>-.066**</b> (-1.975)
	Q14						
	Q17						
	Q20						
	Q21						
	Q23						
	Q24						
	Q26						
	Q30						
Q31							
Q34							

Table E6. (Continued)

Variables	Eq31	Eq32	Eq33	Eq34	Eq35	Eq36	
	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	
Q3							
Q6							
Q9							
Masculinity	Q16	-.056 (-1.624)	-.054 (-1.548)	-.052 (-1.492)	-.054 (-1.556)	<b>-.062*</b> <b>(-1.797)</b>	<b>-.060*</b> <b>(-1.739)</b>
	Q19	.045 (1.339)	.052 (1.547)	<b>.057*</b> <b>(1.723)</b>	.052 (1.584)	.051 (1.544)	<b>.059*</b> <b>(1.824)</b>
	Q22						
	Q25	<b>.054*</b> <b>(1.740)</b>	<b>.065**</b> <b>(2.189)</b>	<b>.066**</b> <b>(2.227)</b>	<b>.064**</b> <b>(2.159)</b>	<b>.059**</b> <b>(1.993)</b>	<b>.059**</b> <b>(2.007)</b>
	Q28	.036 (1.296)					
	Q35						
	Q2	.059 (1.372)	.054 (1.252)				
	Individualism	Q5					
Q8							
Q11		<b>-.100***</b> <b>(-2.671)</b>	<b>-.100***</b> <b>(-2.657)</b>	<b>-.106***</b> <b>(-2.850)</b>	<b>-.111***</b> <b>(-3.002)</b>	<b>-.097***</b> <b>(-2.730)</b>	<b>-.087**</b> <b>(-2.493)</b>
Q27							
Q29							
Q32		<b>.080*</b> <b>(1.738)</b>	<b>.083*</b> <b>(1.788)</b>	<b>.089*</b> <b>(1.936)</b>	.071 (1.625)	.060 (1.394)	
Q33		-.055 (-1.432)	-.054 (-1.401)	-.049 (-1.270)			

Table E6. (Continued)

Variables	Eq31	Eq32	Eq33	Eq34	Eq35	Eq36
	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)	$\beta$ value <sup>1</sup> (t-value)
Age						
Gender						
Asia						
NAmerica						
SAmerica	<b>.278**</b> (2.178)	<b>.283**</b> (2.212)	<b>.287**</b> (2.242)	<b>.267**</b> (2.097)	<b>.290**</b> (2.301)	<b>.292**</b> (2.309)
Europe	<b>.424***</b> (3.328)	<b>.422***</b> (3.313)	<b>.412***</b> (3.237)	<b>.410***</b> (3.218)	<b>.409***</b> (3.201)	<b>.411***</b> (3.209)
Africa						
AOceania						
<b>Demographics</b>						
<b>Status</b>						
ICDF/ Non-ICDF						
<b>Degree</b>						
Grads/ Undergrads	<b>.456***</b> (6.601)	<b>.463***</b> (6.703)	<b>.466***</b> (6.748)	<b>.459***</b> (6.661)	<b>.470***</b> (6.855)	<b>.477***</b> (6.951)
<b>R<sup>2</sup></b>	<b>.806</b>	<b>.805</b>	<b>.803</b>	<b>.802</b>	<b>.801</b>	<b>.799</b>

Note: \* =  $p < .1$ ; \*\* =  $p < .05$ ; \*\*\* =  $p < .01$

<sup>1</sup> The value of the beta here is from the Unstandardized Coefficients.