

# THE US UNIVERSITY GOVERNANCE: CHALLENGES AND OPPORTUNITIES FOR THE BOARD OF DIRECTORS

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## Abstract

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This study investigated the differences between the distribution of international and non-international students across majors at a southern private American university located in the southeast United States as well as issues related to decisions and selection of majors by these two groups and the implications of those decisions on the U.S. educational system. For this purpose, a database that included 3001 full-time undergraduates at this southern American university was used. Chi-square tests and logit regressions were used to analyze the data. The results of the study showed that there was a major difference between international and non-international students regarding the selection of majors. International students were less likely to be in a major that requires certification as a condition of employment in the United States. This study can help U.S. colleges and universities understand the needs of both American and international students and their patterns of enrollment at the undergraduate level. An improved understanding of the students' patterns of enrollment will help American colleges and universities, educational leaders, educational board members, and policymakers, to better allocate their human, financial, and physical resources in order to meet students' needs. If we consider the income from foreign students as international trade, education can be regarded as a major export with great potential for growth. This article examines some of the factors which may affect the attractiveness that American education holds for international students. It is one of the first research studies to explore the fields of study by international and non-international students.

**Keywords:** Educational Governance, Board Members, Economics of Education, Business of Education, Majors of Study, Educational Export, International Education, U.S. Educational System, U.S. Economy

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## 1. INTRODUCTION

In a global economy, increasingly based on supply and demand across borders, American colleges and

universities compete with universities worldwide to attract foreign students. With more than one million international students on its campuses for the academic year 2017/18, the United States maintains

its position as the top host of international students worldwide. Since the turn of the century, the number of international students studying abroad worldwide has grown significantly, from 2.1 million students in 2001 to more than 5 million in 2016. The United States is the world leader in terms of attracting globally mobile students, and currently hosts 22 percent of all international students. On the national level, foreign students will keep America's education diverse and strong at home and abroad (Gold, 2016). On the state and local level, colleges and universities that attract and retain foreign students will remain competitive. In order to encourage the enrollment of foreign students from other cultures and educational systems, university boards must address their special individual needs (Silvanto, Ryan, & Gupta, 2017). The presence of foreign students in U.S. colleges and universities demand a great deal of understanding and support from the host institutions. A better understanding of the foreign students' needs can help university boards improve their strategic planning for increasing student enrollment and the bottom line. To remain competitive, boards of universities should follow successful examples from the private sector such as corporate governance (Ramírez, & Tejada, 2018) and set effective strategies that ultimately meets the needs and expectations of the customer.

Although previous research suggests numerous reasons for why students choose their majors, questions still remain (Kim, Markham, & Cangelosi, 2002). In particular, previous studies have not adequately examined the differences in the choice of majors between non-international and international students (Liao & Ji, 2015). This study will provide an examination of the pattern of enrollment of international and non-international students across majors, deciding on a major, and choosing a major that requires certification as a condition of employment in the United States. A thorough consideration of the appeal of various majors offered by the U.S. institutions and the educational programs sought by international students will help the governing boards of the U.S. colleges and universities to allocate their human and physical assets in an optimal and efficient manner. This study is important because it sheds light on the determinants of educational success from a board vantage point.

Presented next is the literature review, followed by the research methodology, results, discussion, and conclusion sections.

## 2. LITERATURE REVIEW

### 2.1. Historical background

A 1987 report prepared by the Institute of International Education (IIE) showed that a worldwide total of 1,037,000 students were attending institutions of higher education outside their countries of origin. The rapid and significant increase in the number of students attending institutions of higher learning in different regions of the world could be considered an important indicator of social progress in the twentieth century. Cummings (1984) expected that the number of students attending institutions of higher education outside their native countries would be about two

and a half million by the end of the twentieth century. Agarwal and Winkler (1985) wrote that U.S. colleges and universities must be aware that their proportion of the international student population was decreasing. In 1985, the Institute of International Education reported that the percentage of foreign students enrolled in the United States was 2.8 percent of the total student population. Herbert (1981) wrote that the needs and demands of foreign students were ignored by U.S. institutions of higher education. Colleges and universities have underestimated the impact of the presence of this human capital on their campuses. Brademas (1987) wrote that the presence of foreign students in the U.S. will help prepare Americans to work and compete in a global economy that extends beyond U.S. borders.

### 2.2. Description of international students

Huang (1977) has described international students as "unique in their difficulties, which include: 1) communication barriers, 2) shifting cultural gears, 3) replacing a support network, and 4) multiple accountability" (p. 216). According to Huang (1977), these symptoms need to be addressed in an effective and urgent manner. Rogers (1984) wrote that international students attending U.S. colleges and universities were educated shoppers who knew much about their educational investment and their needed field of study. Rogers also wrote that the United States was the largest provider of international education. But he warned that the United States could lose its competitive edge. He suggested that foreign students enrollment in the U.S. needs to be planned and studied carefully in order to meet foreign competition.

In 2018, 43.6% of international students were female whereas 56.4% were male. The leading country of origin of international students is China followed by India, followed by South Korea and Saudi Arabia (Appendix 1). California, New York, and Texas are the leading host of international students in the U.S. (Appendix 2).

As for the financial contribution in 2018, the top 10 financial contributions of international students to the U.S. States and territories are shown in Appendix 3.

### 2.3. Selection of institutions

The Institute of International Education reported that international students, compared to American students and resident alien students gave more value to academic quality when deciding on institutions. Another important factor that influenced the choice of the institution by international students was the type of financial aid provided by that institution.

Among all freshmen, a key factor in choosing an institution is the school's academic reputation. The recommendations of significant others play a role for all students, but families have the greatest degree of influence over the decisions that foreign students make (IIE, 2018).

International students are less likely to choose their schools based on tuition than are American students. International students usually pay out-of-state tuition in public institutions, and tuition is

only a small proportion of the total cost of attending U.S. colleges and universities. While 80 percent of American students were enrolled in public institutions, only 62.9 percent of international students were in these colleges and universities (IIE, 2018).

In previous studies, there has been no major emphasis on issues of certification, declaring a major of study to determine the patterns of enrollment of international and non-international students across majors.

#### 2.4. The costs of having foreign students

Educational institutions incur many costs due to the presence of foreign students on their campuses. Three extra costs are the result of having special services of a foreign-student office, immigration experts, and English as Second Language (ESL) instructors. In addition to that, foreign students can increase the administrative costs of many universities due to the need for more services and personnel in important areas such as registration, financial aid, and admission offices.

#### 2.5. The educational balance sheet

The educational balance sheet is divided primarily into two categories: first, arguments that describe the foreign student as a vehicle and instrument for improving and enriching the learning and educational experience; and second, the negatives that foreign students introduce in the educational processes (Goodwin & Nacht, 1983).

#### 2.6. Enriching the educational experience

Goodwin and Nacht (1983) reported that some people in the educational arena were convinced that foreign students contributed to the improvement of the educational experience.

Foreign students brought diverse values, perspectives, and bodies of knowledge to the U.S. educational system. However, the same study reported that some people in the U.S. educational arena believed that the English language proficiency of many foreign students was inadequate, and that may negatively affect the learning experience and the quality of education in American classrooms. Many researchers and scholars argued that U.S. colleges and universities had a responsibility to welcome foreign students because of the contribution their presence could make to the attainment of foreign-policy goals (Goodwin & Nacht, 1983).

These scholars list three main benefits that would be derived from having international students on U.S. campuses. First, the presence of international students in U.S. communities and educational institutions make U.S. students more open and compassionate when dealing with people coming from foreign countries. Second, the education of international students in the U.S. improves the expertise of foreign human capital and makes it available to the developing countries. Third, as the leader of the free world, the United States has the obligation to expand democracy beyond its borders. That goal could be achieved by educating foreign students in the U.S.

#### 2.7. Corporate governance and universities

Universities that fail to adapt to the changing contextual needs may face difficult challenges in surviving in today's environment. Ultimately, university boards should set clear priorities and objectives and determine appropriate strategies to meet their long-term objectives. Universities can learn from the private sector by following corporate governance principles that make universities more competitive (Henze, 2010). According to Ramírez and Tejada (2018), this corporate governance model can provide an effective tool so that university boards can implement stronger mechanisms of control and accountability, establish long-term business plans, identify their mission and strategic vision, develop key performance and effectiveness indicators, and set annual budgets and meet the interests of stakeholders. In the context of this study, building a strong knowledge of the student needs can help board members in making better-informed decisions and adapting their strategies accordingly. A quality board is one that is competent and has good knowledge about the customers, the firm's operations, and business models (Bruni-Bossio & Sheehan, 2013). Many scholars have pointed out the strong impact that boards have on firms (Cashman, Gillan, & Jun, 2012; Liu & Paul, 2015). Ramírez and Tejada (2018) point out that the implementation of corporate governance mechanisms is directed at improving the management of the university and serve as a driver for competitiveness as it facilitates control, advisory functions, management and effectiveness in setting strategies; ultimately, a corporate governance structure enables the university to meet new challenges, respond to the growing competition, and improve their ranking positions.

#### 2.8. Research questions

This study was designed to examine if there were any significant differences in the selection of majors between international and non-international students.

Two important research questions were designed to provide an understanding of the distribution of American and foreign students across majors, as well as, issues related to the choice of majors.

The first question focused on the patterns of enrollment of international and non-international students across different majors.

The second research question focused on majors that require local or national certification for employment in the U.S. (e.g., Elementary Education, Nursing, Adult Education, etc.)

Based on the above research questions, three research hypotheses were tested:

*H<sub>01</sub>: The probability of international students selecting any given major or area of study is equal to the probability of non-international students selecting that major.*

*H<sub>1</sub>: The probability of international students selecting any given major or area of study is different from the probability of non-international students selecting that major.*

*H<sub>02</sub>: The probability of international students, considering other related background and*

achievements variables, being in a given major that requires a certification for employment in the U.S. is equal to the probability of non-international students being in that same major.

$H_2$ : The probability of international students, considering other related background and achievement variables, being in a major that requires a certification for employment in the U.S. is different from the probability of non-international students being in the same major.

$H_{03}$ : The probability of international students being in a Declared major area of study is equal to the probability of non-international students being in a Declared major area, taking into consideration other related background and achievement variables.

$H_3$ : The probability of international students being in a Declared major area of study is different from the probability of non-international students being in that category, taking into consideration other related background and achievement variables.

### 3. METHODOLOGY

#### 3.1. The sample

The sample that was used for this study consisted of 3001 full-time undergraduate students who attended a private southern university located in the southeastern region of the U.S. This southern university is located in a cosmopolitan, metropolitan area. It has a diverse student population, and 54 undergraduate majors. The majority of students (2504) were U.S. citizens and resident aliens. Four hundred ninety-seven students were international students with different types of non-immigrant visas. International students composed 16.56 percent of the total student population at the university. The number of males in the sample constituted 36.5 percent of the sample. The number of Hispanics constituted 29.3 percent of the sample, the number of Blacks was 18.5 percent of the sample, people of others constituted 4.8 percent of the sample, and Whites constituted 47.4 percent of the total study.

The anonymity of students in this sample was preserved since the names of the students and their identifications were not provided by the university. This eliminated the element of bias and intrusion into the students' privacy. The sample in this study was collected from the university institutional database. This institutional database was developed from students' information (as stated on students' applications for admissions to the university) provided by the admissions office and the registrar's office at the university.

#### 3.2. Research design

For this study, two dependent variables were defined as dichotomous variables, meaning they can have a value of 0 or 1.

The two dependent variables were:

1. *Certified* (students who chose a major associated with careers that ordinarily require some certification in addition to a college degree in order to be eligible for employment in the U.S.). This group was labeled 1, and the other group (*Not Certified*) who chose majors, that are not

associated with careers that need certification for employment in the U.S., were labeled 0.

2. *Declared* (students who chose a major). This group was labeled 1, whereas the *Undeclared* (the group of students who was undecided or with a poor academic background) was labeled 0.

Besides the two dependent variables mentioned above, this study involved different independent variables. One independent variable which is very important for this study is also a dichotomous variable and represents the student's immigration status as International (1) or Non-International Student (0).

The other independent variables used for this study were:

1. Gender.
2. Ethnicity.
3. Nationality.
4. Previous GPA (Grade Point Average).
5. SAT (Scholastic Aptitude Test) scores.

#### 3.3. Chi-square test

The Chi-square test was used to determine whether two frequency distributions differ significantly from each other. The Chi-square test is commonly used when the research data are in the form of categories or dichotomies rather than continuous scores or ranks. Chi-square tests were calculated to determine if there was a significant difference in the patterns of enrollment between international students and non-international students across majors and areas of study. Chi-square tests were also used to determine if there was a significant difference between the international and non-international students on the following issues: Declared/Undeclared, and Certified/Not Certified.

#### 3.4. Logit regression

For the analysis of the determinant of a dichotomous variable, Ordinary Least Squares (OLS) regression is not appropriate (Hamilton, 1992). For this reason, logit regression was used in this study to investigate the predictors of the following dependent variables: *Certified* and *Declared*. Data was analyzed in this study using computer software "Systat" for the Chi-square and logit regression analyses.

### 4. RESULTS

#### 4.1. Results of the Chi-square analysis

The Chi-square of areas of study by the independent variable International showed the following results.

About 36.6 percent ( $n = 182$ ) of the international students were in Business related majors. Of the international students, 29.38 percent ( $n = 146$ ) were in Arts and Sciences majors, and 2.01 percent ( $n = 10$ ) of them were in Education-Related majors. About 12.90 percent ( $n = 324$ ) of non-international students were in Business majors, 20.726 percent ( $n = 519$ ) of them were in Arts and Sciences majors, 11.90 percent ( $n = 298$ ) of them were in Education, and 1.61 percent ( $n = 8$ ) of them were in Nursing;  $X^2 = 266.140$ ,  $p = 0.000$ . That meant

that the null hypothesis had to be rejected, and implied that there is a significant difference in the patterns of enrollment across majors between

international and non-international students (Table 1).

**Table 1.** Chi-square of areas of study (Rows) by International (Columns)

	<i>Non-International = 0</i>	<i>International = 1</i>	<i>Total</i>
Academic & Instructional	20.487% n = 513	18.51% n = 92	20.16% N = 605
Arts & Sciences	20.726% n = 519	29.38% n = 146	22.16% N = 665
Natural Health	13.338% n = 334	10.26% n = 51	12.83% N = 385
Business	12.939 % n = 324	36.62% n = 182	16.861% N = 506
Education	11.90% n = 298	2.01% n = 10	10.263% N = 308
Nursing	12.260% n = 307	1.61% n = 8	10.45% N = 315
Sports	8.35% n = 209	1.61% n = 8	7.23% N = 217
Total	100.00% N = 2504	100.00% N = 497	100.00% N = 3001
<i>Test Statistic</i>	<i>Value</i>	<i>DF</i>	<i>Prob.</i>
Pearson Chi-square	266.140	6	0.000

The second Chi-square was used to determine whether the patterns of enrollment of international students across majors and areas of study were different from those of non-international students, especially with respect to the dependent variables: *Certified* and *Declared*. The Chi-square analysis showed the following results.

With N = 3001 (sample size), 77 percent of the non-international students were declared, and 80 percent of the international students were declared,  $X^2 = 2.89$ ,  $p = 0.089$ . Since  $p > 0.05$ , that meant that there was no significant difference between international and non-international students in declaring a major (Table 2).

**Table 2.** Chi-square of *Declared* (Rows) by International (Columns) column percent

	<i>Non-International = 0</i>	<i>International = 1</i>	<i>Total</i>
Undeclared = 0	23.003% n = 576	19.517% n = 97	22.4% N = 673
Declared = 1	76.997% n = 1928	80.483% n = 400	77.6% N = 2328
Total	100.00% N = 2504	100.00% N = 497	100% N = 3001
<i>Test statistic</i>	<i>Value</i>	<i>DF</i>	<i>Prob.</i>
Pearson Chi-square	2.897	1.000	0.089
Yates corrected Chi-square	2.700	1.000	0.100

The third Chi-square showed that the proportion of non-international students in the majors that require certification in the U.S., 38 percent (n = 1545) was four times greater than the proportion of international students in that same category, 8.85 percent (n = 44);  $X^2 = 161.585$ ,  $p < 0.001$ .

The data analysis indicated that  $p < 0.05$ ; that meant there is a significant difference between the proportion of non-international students and the proportion of international students with respect to majors that require certification as a condition of employment in the U.S. (Table 3).

**Table 3.** Chi-square of *Certified* (Rows) by International (Columns) column percent

	<i>Non-International = 0</i>	<i>International = 1</i>	<i>Total</i>
Not Certified = 0	61.701% n = 1545	91.147% n = 453	66.578% N = 1998
Certified = 1	38.299% n = 959	8.853% n = 44	33.422% N = 1003
Total	100.000%	100.000%	100.000%
N	2504	497	3001
<i>Test statistic</i>	<i>Value</i>	<i>DF</i>	<i>Prob.</i>
Pearson Chi-square	161.585	1.000	< 0.001
Yates corrected Chi-square	160.264	1.000	< 0.001

#### 4.2. Results of the logit regression

The first logit regression analysis was carried out to study the relationship between the independent variable International combined with several background and achievement variables including

Gender, Ethnicity, Verbal, Aptitude, Math Aptitude, and Previous GPA and the dependent variable *Certified*. It is important to note that our sample of 3001 students included 1003 students who were in majors that require certification as a condition of employment in the United States. Nineteen hundred

and ninety-eight students were in majors that do not require certification.

A logit regression was conducted to study the relationship between the independent variable International combined with other related background and achievement variables, and the dependent variable *Certified* (Table 4). The estimated coefficient of the variable *International* was -1.517 with a p-value of 0.00001. Since  $p$  was less than 0.05, the null hypothesis had to be rejected. That implied that there were differences between international

students and non-international students with regard to majors that require certification. The Delta p-value of the variable International was -0.271. That meant that being an international student reduces the probability of being certified by 0.271 after taking into consideration other background and achievement variables. The results of this logit regression also showed that there was a gender gap with regard to the issue of certification. In fact, the results show that males are less likely than females to be certified.

**Table 4.** Logit regression on the dependent variable *Certified*

<i>Independent variables</i>	<i>Estimated Coefficient</i>	<i>Standard Error</i>	<i>Delta-p Statistic</i>
International	-1.517***	0.311	-0.2719
Gender	-1.256***	0.137	-0.2251
Hispanic	0.251*	0.124	0.0451
Black	-0.162	0.173	-0.0291
Other	0.125	0.324	0.0225
Verbal Aptitude	0.001*	0.0008	0.0003
Math Aptitude	-0.001	0.0007	0.0002
Previous GPA	0.146	0.113	0.0262

Notes: \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

When it came to the different ethnic groups (Hispanic, Black, others) the result showed that Hispanics were more likely to be in a certified major than the other ethnic groups.

The p-value of the variable Verbal Aptitude was  $0.029 < 0.05$ , meaning that the Verbal Aptitude had a predictive effect on the variable *Certified*. The Delta-p statistic of the independent variable Verbal Aptitude was 0.00031, which meant that higher Verbal Aptitude increases the probability of being certified by 0.03 percent. The Math Aptitude test and the previous GPA with a p-value greater than 0.05 had no effect on the act of being in certified majors.

When analyzing the relationship between the

independent variables International, Gender, Ethnicity, Verbal Aptitude, Math Aptitude, and the Previous GPA and the dependent variable *Declared* the following resulted from the logit regression.

The p-value of the independent variable International was 0.04. Since  $p < 0.005$ , the null hypothesis had to be rejected (the null hypothesis is that there is no difference between international students and non-international students when it comes to declared majors). The results showed that the estimated coefficient of the variable International is 0.57, which means that international students are more likely to be in declared majors. The Delta p-value of the variable International was 0.10.

**Table 5.** Logit regression of the dependent variable *Declared*

<i>Independent variables</i>	<i>Estimated Coefficient</i>	<i>Standard Error</i>	<i>Delta-p Statistic</i>
International	0.575**	0.201	0.105
Gender	-0.230*	0.117	-0.042
Hispanic	0.166	0.127	0.030
Black	0.043	0.160	0.007
Other	-0.135	0.302	-0.024
Verbal Aptitude	0.005***	0.000	0.001
Math Aptitude	0.002**	0.000	0.000
Previous GPA	0.798***	0.114	0.145

Notes: \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

That meant that the probability of an international student being in a declared major was increased by 0.1052. The results showed also that there was a gender gap regarding the choice of declared major. The p-value of the variable Male was 0.004. Since  $p$  was less than 0.05 and the estimated coefficient of a male was negative, that meant that males are less likely to be negative, which meant that males are less likely to be in declared majors than females. Ethnic groups showed no difference when it came to declaring a major.

The independent variable Verbal Aptitude had a p-value of 0.000. Since  $p$  was less than 0.05, Verbal Aptitude plays a role when it comes to declaring a major. The coefficient of this independent variable was positive. Its Delta p-value was 0.0010, meaning that it increased the likelihood of being declared.

There is a positive correlation between the two variables.

The Math Aptitude variable had a p-value of 0.00114; since that is less than 0.05, it means that this independent variable affected the dependent variable *Declared*. And the previous GPA also had a p-value of less than 0.05 with a positive estimated coefficient of 0.798. This means that these achievement variables are of great predictive importance when it comes to declaring a major (Table 5).

The results attained in this study represent a valuable part of the knowledge base for university board members in improving strategic making and responding better to the needs of the student and increasing the enrollment at the university level. The next section will provide a discussion of the results in more detail.

## 5. DISCUSSION

The results reported are important because they give a clear description of the type and the significance of relationships that exist between the independent variables International, Ethnicity, Gender, and achievement variables and the two dependent variables: *Declared* and *Certified*. The Chi-square analyses revealed that international students are equally likely to be in a declared major as their non-international counterparts and that there is no significant difference between these groups of students regarding their decisions about their majors of choice. However, the Chi-square analyses also showed that international students are less likely to be in a major that requires certification as a condition of employment in the United States. Only 8.9 percent of the international students studying at this private southern university chose a major that requires certification, whereas 38 percent of non-international students were in a major that requires certification.

The logit regression analysis using the dependent variable *Certified* as a function of the independent variable International and taking into consideration relevant background and achievement variables showed that:

1. Being an international student reduces the probability of being in a major that requires certification as a condition of employment in the U.S.
2. Hispanics are more likely than other students to be in a major that requires certification.
3. Verbal Aptitude scores are positively related to choosing a major that requires certification.

The logit regression using the dependent variable *Declared* is a function of the independent variable International and other relevant independent background and achievement variables produced by the following findings:

1. Being an international student increases the probability of being declared.
2. Being a male reduces the probability of being in a declared major.
3. Achievement variables such as Verbal Aptitude, Math Aptitude, and Previous GPA are positively related to the dependent variable *Declared*. The higher the scores of the students, the more likely that they will be in the *Declared* category.

The logit regression using the dependent variable *Certified* as a function of the independent variable Regions of the world and other relevant achievement and background independent variables showed that being from the Islands, Latin America, and other regions of the world reduces the probability of being in a major that requires certification. The regression also showed that being a male reduces the probability of being certified; and that Hispanics are more likely to be in a major that requires certification. Verbal Aptitude is positively related to being in major that requires certification as a condition for employment.

## 6. CONCLUSION

This study is very important in understanding the patterns of enrollment of both international and

non-international students in U.S. colleges and universities. This will help colleges and universities to allocate their resources in an optimal manner that gives them maximum return on their investment. Indeed, in this new global economy, any college or university that wants to survive the test of time and the challenges of the twenty-first century should have plans to accommodate a diverse student population. These plans must include, at the micro-level, a thorough formulation and implementation of programs and degrees' offerings, diversity and inclusion policies, and the creation of a kinder and gentler culture. At the macro-level, colleges and universities must be more proactive in reaching out to their potential international students. Memorandums of understanding with international reputable universities, aggressive marketing plans, social media, and coordination with U.S. embassies overseas could prove to be very helpful.

This study also helps explain the importance of having international students on U.S. campuses and their positive impact on the institution and on the national economy. Indeed, as the number of foreign students has grown, their contribution to the local, state and national economy has increased substantially. The financial contribution of international students to the U.S. economy in 2018 was \$39,000,586,325 (IIE, 2018). Their total number in 2018 was 1,094,792 in the U.S. That constitutes about 5.5% of 19,831,000, which is the total number of American students (IIE, 2018). It is important to mention here that in the academic year 1990/9, the total number of international students in the U.S. was 407,529 or 2.9% of 13,819,000, the total number of American students enrolled in U.S. colleges and universities.

U.S. colleges and universities should attract more international students not only for financial reasons but also because of their cultural effect. The presence of international students on U.S. campuses helps to promote diversity, harmony, and tolerance. In addition to that, foreign graduates are potential leaders in their home countries. That is why their education will be a catalyst for friendship and cooperation between the United States and foreign nations.

The sample used for this study is from a southern private university which is located in a metropolitan city with a very diverse population. This may affect the generalizability of the findings to other universities with different student populations and located in different regions of the country. Another limitation was that it did not include additional important information about the students (e.g., family's income, mother's education, etc.) which may have impacted the results of the study.

Future studies should be done using samples of students from different types of universities and colleges located in different regions of the nation. That would make the findings more generalizable, and have a better external validity. Future studies could include interviews and surveys with students and administrators giving a clearer idea of the needs and the enrollment patterns of international and non-international students on U.S. campuses. Future studies could examine the impact of variables such as mother's education and father's education and family income on the choice of major by students (both international and non-international).

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## APPENDIX 1

Table A.1. Top 10 places of origin of international students

	2016/2017	2017/2018
World Total	1,078,822	1,094,792
China	350,755	363,341
India	186,267	196,271
South Korea	58,663	54,555
Saudi Arabia	52,611	44,432
Canada	27,065	25,909
Vietnam	22,438	24,325
Taiwan	21,516	22,454
Japan	18,780	18,753
Mexico	16,835	15,468
Brazil	13,089	14,620

Source: IIE, 2018

## APPENDIX 2

Table A.2. Top 10 US States hosting international students, 2017/2018

	2016/2017	2017/2018	% of change
California	156,879	161,942	3.2
New York	118,424	121,260	2.4
Texas	85,116	84,348	-0.9
Massachusetts	62,926	68,192	8.4
Illinois	52,225	53,362	2.2
Pennsylvania	51,129	51,817	1.3
Florida	45,718	46,516	1.7
Ohio	38,680	37,583	-2.8
Michigan	34,296	34,049	-0.7
Indiana	30,600	29,994	-2.0

Source: IIE, 2018

## APPENDIX 3

Table A.3. Top 10 financial contributions of international students to US States and territories 2017/2018

	Total int'l students	Total Contribution \$
Alabama	9,300	287,709,487
Alaska	414	12,103,952
Arizona	23,203	717,210,762
Arkansas	5,376	148,010,555
California	161,942	6,559,063,116
Colorado	11,639	458,317,871
Connecticut	15,278	583,607,473
Delaware	7,542	176,689,847
D.C.	12,230	557,278,931
Florida	46,516	1,558,474,236

Source: IIE, 2018