

## An Exploratory Study on International Students' Study Anxiety

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### Abstract

This study examines international students' study anxiety in a mid-sized university in Southeast Texas comparing their existing study anxiety along lines of nationality, gender, age, major, degree, and stage of education. It focuses on the students' perceptions and the dominant goal of this research was to investigate whether there is a relationship among the study anxiety of international students and all of the listed factors. The participants consisted of a convenience sample of college students (n =85) during the Spring 2013 semester at a public four-year institution in Texas. The researcher collected pertinent demographic data and used a modified version of the Study Anxiety Questionnaire (SAQ) (Vitasari, Abdul Wahab, Othman & Awang, 2010). Statistical methods such as correlation analysis were used to analyze collected data and ascertain if there was a significant relationship between the response variable and set of independent variables listed above. The results demonstrated some differences among international students' study anxiety in US colleges.

**Key Words:** *study anxiety; international student*

The global setting of higher education is changing and providing more opportunities for students to study internationally (McLachlan & Justice, 2009). McLachlan & Justice (2009) found that access to high quality education in US and the chance of studying with scholarships are two of the several reasons that lead international students to this country. As a result of these opportunities, Fischer (2010) reported that there has been a renewed focus on attracting international students to U.S. colleges. However, there are many challenges that international students experience (Skinner, 2009) once they arrive.

To name a few, Skinner (2009) emphasized that the challenges of international students are: learning the English-language, adapting to differences in education systems, differentiating the philosophy/purpose of education, distinguishing learning styles, and coping with social, religious, and economic values. International students arrive with their own strategies for coping, studying, and socializing, which often do not fit the existing culture and must be modified. Moreover, Trice (2003) claimed that problems with English language proficiency can significantly affect international students' ability to succeed in academics and to communicate effectively with faculty and classmates.

In another study, Wang, Sun, and Liu (2010) reported that when Chinese students were interviewed by American advisors in a US college to find out what these international students' feelings and personal experiences were while speaking and participating in class discussions, the Chinese students stated their anxiety increased in class and was much greater than outside of a classroom setting. They admitted that their problem existed in communicating rather than language proficiency. Culturally, Chinese students learn to remain distant from their instructors. They consider it respectful and so the close contact expected of an American student-teacher relationship provides anxiety for these students.

Researchers provided studies on language anxiety, mathematics anxiety, presentation anxiety, and test anxiety to help students reduce their study anxiety (Horwitz, Horwitz & Cope, 1986; MacIntyre & Gardner, 1994; Vitasari, Abdul Wahab, Othman, and Awang, 2010). The majority of studies on anxiety have sought to reduce learners' anxiety in certain learning areas (Casado & Dereshiwsky, 2004; Kim, 2009; Marcos-Llinas & Garau, 2009; Sparks & Ganschow, 2007), whereas this study tends to explore the study anxiety of international students and seek for patterns relating this anxiety to the international students' nationality, gender, age, major, degree, and stage of education. There is a lack of empirical studies on these factors of study anxiety, such as these variables, for international students in the United States of America (USA).

### **Purpose Statement and Research Questions**

The purpose of this study is to explore whether there is a relationship between the level of study anxiety an international student experiences and demographic variables such as the student's nationality, gender, age, major, degree, and stage of education. Specific research questions include the following:

1. Do international students experience study anxiety in US colleges?
2. Is there a pattern to the international students' study anxiety when controlling for nationality?
3. Is there a pattern to the international students' study anxiety when controlling for gender?
4. Is there a pattern to the international students' study anxiety when controlling for age?
5. Is there a pattern to international students' study anxiety when controlling for major?
6. Is there a pattern to international students' study anxiety when controlling for degree?
7. Is there a pattern to international students' study anxiety when controlling for stage of education?

### **Rationale and Significance of the Study**

The purpose of this study was to provide a better understanding of how international students' circumstances relate to their study anxiety. The study addressed the differences in the

international students' study anxiety when controlling for variables such as nationality, gender, age, major, degree, and stage of education at a mid-sized regional university located in Southeast Texas.

Previous studies on anxiety have shown the existence of study anxiety among students (Kim, 2009; Marcos-Llinas & Garau, 2009; Sparks & Ganschow, 2007; Vitasari, Abdul Wahab, Othman, & Awang, 2010); other studies on teaching techniques and strategies have suggested the influence of active and collaborative techniques in learning (Bonwell & Eison, 1991; Nelson, 2010; Sutherland & Bonwell, 1996). Thus, this exploratory study aims to follow these previous studies by examining how to help international students confront study anxiety in class. This study seeks to explore how study anxiety impact international students' regarding their nationality, gender, age, major, degree, and stage of education. Then identify ways in which offer instructors help students in this task.

Coping with the new school environment is essential for international students (Jackson, Ray & Bybell, 2013). Researchers have taken interest in how they do so. Jackson, et al. (2013) found that international students from Asia, North America, South America, Central America, and Australia who attempted to cope and adapt individually. He stated that these students tried to imitate the national students and felt depressed and needed more social support. In their study, over 80% of the students' mother tongue was a language other than English. The international students came to the US to study, but when they came, they felt left out and struggled in their relationships. Providing a friendly student-professor relationship in class help international students reduce their stress and feel less depressed.

### **Literature Review**

According to Bell (2008), international students are more concerned about their studies and experience more stress than American students. There have also been reports on the existence of study anxiety among international students and its negative impact on their learning (Vitasari, Abdul Wahab, Othman, & Awang, 2010).

Horwitz (2001) defined anxiety as, "the subjective feeling of tension, apprehension, nervousness, and worry associated with an arousal of the autonomic nervous system" (p.113). Every single person in life experiences anxiety, but the anxious feeling is caused by different factors and issues (Rosen, 2008). As Rosen (2008) elaborated, anxiety is a "major source of energy" and can be considered a positive factor (p. 33). He admitted that no one could escape anxiety, since people live in an unpredictable society. Living in a community full of everyday changes leads to anxiety. Rosen affirmed people have to learn how to cope and overcome their anxiety levels throughout lifetime. He argued anxiety could be reduced when people changed their perspectives in life. Rosen concluded that "just enough anxiety creates the optimal condition for learning" (p. 36).

Studies show that anxiety is quite frequently seen in classes where students face problems throughout their learning process (Casado & Dereshiwsky, 2004; Chapell, Blanding, Silverstein, Takahashi, Newman, Gubi & McCann, 2005; Kim, 2009; Marcos-Llinas & Garau,

2009; Sparks & Ganschow, 2007; Vitasari, Abdul Wahab, Othman, & Awang, 2010). Kim (2009) noted that many studies are conducted to find solutions to identify anxiety which might prevent learners from learning, since anxiety among college students is also assumed to be a very important factor in learning. Kim found having awareness of student anxiety was crucial for an instructor and thus, important to react to, so as to lessen the existing anxiety among students. Since every living being experiences anxiety (Rosen, 2008) techniques should be applied by instructors to reduce any negative aspect of it during the student learning process (Kim, 2009).

Vitasari, Abdul Wahab, Othman, and Awang (2010) reported the existence of study anxiety among college students. They reported that it can negatively impact students' learning processes. It postpones the learning process and is considered a barrier in students' presentations and while giving tests. The majority of studies on study anxiety have sought to reduce learners' anxiety (Casado & Dereshiwsky, 2004; Kim, 2009; Marcos-Llinas & Garau, 2009; Sparks & Ganschow, 2007).

Viasari, Abdul Wahab, Othman, and Awang (2010) defined "Study anxiety" as the feelings, thoughts, and experiences that create a heightened anxiety level during the study process and negatively affect the students' academic performance. They claimed the higher the anxiety level, the lower the academic performance result would be. Viasari, et al. classified "Study Anxiety" into seven sources: Exam Anxiety (anxiety caused when taking an exam), Language Anxiety (anxiety caused by lack of language proficiency), Mathematics Anxiety (anxiety caused by mathematical problem-solving), Social Anxiety (anxiety caused by social life issues), Family Anxiety (anxiety caused by family factors), Presentation Anxiety (anxiety caused when giving a presentation or communicating with a group), and finally, Library Anxiety (anxiety related to library use).

According to Vitasari, Abdul Wahab, Othman, and Awang (2010), study anxiety impacts students' learning. Having awareness of student anxiety is crucial for an instructor and thus, it is important to react to and try to and lessen the existing study anxiety among students. Sizoo, Jozkowskia, Malhotra, and Shapero (2008) claimed that anxiety affects students' performances and makes them fall behind in class. For students, study anxiety becomes a real phenomenon; the sources that cause anxiety should be explored and once found these anxiety sources should be controlled (Vitasari, Abdul Wahab, Othman, Herawan, & Sinnadurai, 2010).

Ghafarian (1987) found that Iranian students accepted into U.S. colleges, once admitted, confronted problems such as acculturation and mental health issues such as anxiety. Iranian males accepted the American values and behaviors more than females. She found that Iranian females confronted more anxiety concerns than males and were more anxious. Ghafarian reported that this circumstance existed because "the men have been accustomed to freedom, self-determination, and exposure to the western world" (p.569). Further, Misra, Crist, and Burant (2003) reported that female international students in general revealed higher reactions to stressors than male international students.

In one U.S. university, Hsieh (2006) conducted a narrative study to investigate how seven female Chinese international students negotiate their identities. In the interviews they

claimed to prefer to be silent in class. In another similar study on international students, Abeyssekera (2008) compared international students with American students and studied their preference in listening to lectures in a traditional format rather than participating in group case study exercises. He found that the international students in his study who were mainly Asian and Middle-eastern preferred the professor's lectures and listened silently. This behavior appears to be a reflection of Asian and Middle-eastern culture where silence of students in class is a sign of respect especially when a professor is teaching and it is valued. Therefore, when students are in a classroom environment in which the professor allowed the "silent" behavior the student preferred to be silent in class.

A study on anxiety levels of graduate and undergraduate students showed that graduate students experience greater levels of anxiety than undergraduate students (Poyrazli & Kavanaugh, 2006). Chapell, et al. (2005) compared undergraduate and graduate students' test anxiety and gender and found that among the four groups of undergraduate females, undergraduate males, graduate females, and graduate males, female undergraduates had significantly higher test anxiety and higher GPAs than male undergraduates; while there was no significance among graduate students regarding test anxiety and gender.

## **Methodology**

### **Research Design**

This was a nonexperimental study that utilized correlational methods to investigate the relationships between the level of study anxiety and variables such as nationality, gender, age, major, degree, and stage of education among international students. Correlational studies are used to investigate the strength of linear relationships between variables (McMillan & Schumacher, 2010).

### **Participants**

This study was conducted at a mid-sized (10,000 - 20,000 students; see Texas Higher Education Coordinating Board, 2012) Texas public four-year institution, with a diverse student population of over 14,000 students, 589 from countries other than the United States. Initially, a power analysis was conducted a priori using a free power analysis tool, G\*Power (Faul, Erdfelder, Buchner, & Lang, 2009), to determine the needed sample size. McHugh (2008) stated:

"Statistical power is a measure of the likelihood that a researcher will find statistical significance in a sample if the effect exists in the full population.

Power is a function of three primary factors and one secondary factor: sample size, effect size, significance level, and the power of the statistic used" (p. 263).

Based upon the power analysis for a one-tailed small effect (.03) with a significance level of .05, a minimum sample of  $n=67$  was needed. To account for possible attrition, it was determined that a sample size of 85 international students would be selected to participate in the study. All participants were international college students (undergraduate and graduate) during the Spring 2013 semester. This study was a convenience sample. Table 1 shows the demographics of the

international student population at the university, as well as of the sample in the current study. About 87% of the students who took the survey were from Asia.

Table 1.

*Population and Sample Comparisons of International Student Characteristics*

Characteristics	Population (N = 589)	Sample (n = 85)
Education Status		
Freshman	62 (10.5)	4 (04.7)
Sophomore	18 (03.1)	5 (05.9)
Junior	28 (04.8)	2 (02.4)
Senior	46 (07.8)	2 (02.4)
Master	373 (63.3)	60 (70.6)
Doctoral	62 (10.5)	12 (14.1)
Gender		
Male	416 (70.6)	33 (38.8)
Female	173 (29.4)	52 (61.2)
Continent		
Africa	14 (2.4)	2 (02.4)
Americas	34 (5.8)	3 (03.5)
Asia	486 (82.3)	74 (87.1)
Australia	5 (0.8)	1 (01.2)
Europe	50 (0.8)	5 (05.9)
College/School of Study		
Arts & Sciences	190 (32.3)	24 (28.2)
Business	72 (12.2)	20 (23.5)
Education & Human Development	41 (7.0)	15 (17.6)
Engineering	274 (46.5)	24 (28.2)
Fine Arts & Communication	12 (02.0)	2 (02.4)

As can be seen from the Table 1, the sample modeled the population relatively well regarding the educational status. About 71% of the survey respondents were working on their master's degree while 14% of the students were working on their doctorate degree.

Regarding other characteristics, 61% of the respondents were females and 39% males. As will be elaborated in the Data Collection Procedures below, the survey was disseminated through the International Student Office to all international students. The population was the entire international student body registered at the university for the Fall semester. Respondents self chose to complete the survey. Moreover, reminders were sent out once a week. As soon as the required number of participants needed for this study was attained (the fourth week), email reminders ceased.

## **Instrumentation**

In addition to creating several questions about pertinent sample characteristics, the instrument was administered to the sample via an internet survey host site, OrgSync.com™. The instrument used was the Study Anxiety Questionnaire (SAQ) (Vitasari, Abdul Wahab, Othman, & Awang, 2010). The researcher was granted permission by the developers of the instrument to use and make minor modifications to meet the needs of the study.

**Student demographics.** Several student level characteristics were measured by demographic questions created by the researcher and included at the beginning of the electronic survey used for this study. The students answered multiple-choice questions regarding gender (male/female) and the students' education status (Freshman, Sophomore, Junior, Senior, Masters, or Doctorate). The question related to the country of origin was open-ended because the international students who participated in this study were from 20 different countries. This mid-sized university consists of six colleges: College of Arts and Sciences, College of Business, College of Education and Human Development, College of Engineering, and College of Fine Arts and Communication. The participants were enrolled in 22 different majors, and their ages ranged from 18 to 55. The majority of the participants were between 24 to 29 years of age. Regarding the international students' stage in their program, they chose one of the following: "I am taking courses," "I have finished all coursework requirements," "I am preparing for comprehensive exams and other requirements to meet additional requirements before dissertation," or "I passed my written and oral comprehensive exams and am writing my doctoral dissertation." All 6 variables were coded and the data was analyzed.

**Study Anxiety Questionnaire.** The Study Anxiety Questionnaire (SAQ) (Vitasari, Abdul Wahab, Othman, & Awang, 2010) was used in the current study to measure self-reported student study anxiety. The purpose of the Study Anxiety Questionnaire (SAQ) is to investigate students' study anxiety in courses in colleges or universities. It was originally designed to measure the seven sources of study anxiety among college students based on their feelings, experiences, and thoughts regarding anxiety during their study in college level courses.

The original Study Anxiety Questionnaire (SAQ) included 40 items that measured seven sources of Study Anxiety on a five-point Likert-scale with the response options of *Never* (1), *Almost Never* (2), *Rarely* (3), *Fairly Often* (4), or *Very Often* (5). The scores of the items are for each source, to provide a measure of each source of anxiety, and all scores can be added to provide a composite measure of study anxiety. The lower the score the lower the study anxiety.

In regard to the reliability of the instrument, the original Study Anxiety Questionnaire (SAQ) (Vitasari, Abdul Wahab, Othman, & Awang, 2010) had an overall Cronbach's  $\alpha = .93$  an indication of high reliability showing that the developers instrument has excellent internal consistency (Kline, 1999). Vitasari, Abdul Wahab, Herawan, Othman, and Sinnadurai (2011)

used a factor analysis to verify the validity of all items identifying the seven sources of study anxiety of the (SAQ).

For the current study, the researcher used a modified version of the SAQ; only 29 items from the original Study Anxiety Questionnaire (SAQ) (Vitasari, Abdul Wahab, Othman, & Awang, 2010) were used. Participants' responses to the items were added to provide a composite measure of student study anxiety. The modified instrument had an overall Cronbach's  $\alpha = .90$ , which was comparable to the original.

### **Data Collection Procedures**

The first step of the researcher in the data collection procedure was to obtain permission to use the modified SAQ (Vitasari, Abdul Wahab, Othman, & Awang, 2010) for this study and approval from the university's Institutional Review Board (IRB). Next, an electronic copy of the Demographic form was followed by the modified Study Anxiety Questionnaire (SAQ) and both were entered into an internet survey host site, OrgSync.com™. Orgsync provides an online community management system to higher education institutions in the United States and Canada. Finally, via email the researchers requested International Office collaboration in approaching the population needed for the study. Then, the International Office at the participating university sent the international students the request for survey email of the researchers to all international students along with an electronic link to the questionnaire. There was no time limitation for the students to respond to the items. All data were collected by the online survey system and kept confidential.

After the initial invitation was sent out to the participants, a weekly reminder was sent out to international students until 85 students had responded (four weeks). Participants had to respond to all the questions and submit their responses in order to be counted as a participant.

The respondents represented approximately a 14% response rate of the total population of the international students. There are three assumptions for this response rate. First, the number of items students had to answer might have been too many, even though there was no time limitation and students could have saved their information and continued at a later time. Second, it might have been because students had to reply to all three sections in order to be able to submit their answers. And third, a barrier might have been that some students did not use their university email. Response rates to online surveys (average rate of 33%) are generally much lower than those obtained when using paper surveys (average rate of 56%) (Nulty, 2008), but recent research suggests that despite the low response rate, findings are typically comparable to surveys with higher response rates (Holbrook, Krosnick, & Pfent, 2007; Keeter, Kennedy, Dimock, Best, & Craighill, 2006). Once the data collection period ended, the data was extracted from OrgSync.com™ and placed into Statistical Package for the Social Sciences (SPSS) 17.0 for analysis.



## Findings

This section includes a description of all the statistical procedures. It reviews details about the data analysis. An interpretation of the results is also provided.

### Evaluation and Transformation of Data

Prior to analysis, the data were evaluated for missing values and potential violations of assumptions associated with the analyses conducted in this study. There were no missing values for any of the respondents, and the observations for the variables were normally distributed and linear. Moreover, in this study normality was assessed through histograms and measures of skewness and kurtosis. Linearity was assessed with a scatterplot.

Statistical Package for the Social Sciences (SPSS) version 17.0 software was used to analyze the data. An alpha level of .05 was used for all statistical inference tests. As we notice from Tables 2 and 3, all questions and variables resulted in a significant effect at the 0.05 level of significance since  $p\text{-value} = 0 < 0.05$ . Confidence intervals for all of the variables have been provided in Tables 2 and 3.

Table 2.

#### *Descriptive statistics for the variables with T-test and Confidence Intervals*

<u>Variable</u>	<u>N</u>	<u>Mean</u>	<u>SD</u>	<u>SEM</u>	<u>T-test</u>	<u>p-value</u>	<u>95% CI</u>
Nationality	85	8.965	4.871	0.528	16.97	0.00	(7.914, 10.015)
Gender	85	9.718	4.644	0.504	19.29	0.00	(8.716, 10.719)
Age	85	12.259	7.498	0.813	15.07	0.00	(10.642, 13.876)
Major	85	1.388	0.490	0.053	26.11	0.00	(1.283, 1.494)
C Degree	85	4.706	1.213	0.132	35.76	0.00	(4.444, 4.968)
Stage of Education	85	1.423	0.918	0.099	14.30	0.00	(1.226, 1.622)

Tables 2 and 3 provide descriptive statistics for all questions and variables with *t*-test, confidence intervals, and their *p*-values at the 0.05 level of significance.

Table 3.

#### *Descriptive statistics for the survey questions with T-test and Confidence Intervals*

<u>Variable</u>	<u>N</u>	<u>Mean</u>	<u>SD</u>	<u>SEM</u>	<u>T-test</u>	<u>p-value</u>	<u>95% CI</u>
I feel anxiety while attending my classes.	85	2.059	1.169	0.127	1.761(0)	0	(1.807, 2.311)
I feel anxiety when speaking in class.	85	2.682	1.466	0.159	1.829(0)	0	(2.366, 2.998)
I feel nervous when my instructor interrupts to correct my speaking.	85	2.259	1.390	0.151	1.625(0)	0	(1.959, 2.559)
I feel anxious because of lack of confidence in class.	85	2.047	1.174	0.127	1.744(0)	0	(1.746, 2.300)
I feel anxiety when the subject of the class is difficult for me.	85	2.518	1.394	0.151	1.806(0)	0	(2.217, 2.818)

I study hard but am not successful in class.	85	2.682	1.521	0.165	1.763(0)	0	(2.354, 3.011)
I always write down everything during class.	85	2.294	1.495	0.162	1.534(0)	0	(1.972, 2.617)
I feel anxious when I do not understand the class subject.	85	2.882	1.499	0.163	1.922(0)	0	(2.559, 3.206)

This study answered the following research questions:

1. Do international students experience study anxiety in US colleges?
2. Is there a pattern to the international students' study anxiety when controlling for nationality?
3. Is there a pattern to the international students' study anxiety when controlling for gender?
4. Is there a pattern to the international students' study anxiety when controlling for age?
5. Is there a pattern to international students' study anxiety when controlling for major?
6. Is there a pattern to international students' study anxiety when controlling for degree?
7. Is there a pattern to international students' study anxiety when controlling for stage of education?

### Findings for Research Question 1

In research question one, the researcher explored whether international students experienced study anxiety in US colleges using the Pearson Product-Moment correlation. Total scores from the modified SAQ were the variables used in the analysis. The study confirms that international students experienced study anxiety ( $p$ -value= 0.00 < 0.05).

### Findings for Research Question 2

Research question two explored the study and found a pattern to the international students' study anxiety when controlling for nationality. The results showed that students from Saudi Arabia were the highest of those who experienced study anxiety compared to students from other nationalities. The results also showed that Australian students had the least study anxiety in class.

### Findings for Research Question 3

Research question three explored whether there is a pattern to the international students' study anxiety when controlling for gender. Gender was considered as a potential confounding variable because it was hypothesized that variation in anxiety might exist because of different gender expectations in countries of origin. Results shows gender has significant influence on study anxiety of the international students while attending class ( $t= - 10.72$ ,  $p$ -value= 0.000 <

0.05). The study confirms that there is a statistically significant evidence that males are less nervous compared to females when they are interrupted and corrected by their teacher ( $t = -3.31$  and  $p$ -value  $0.001 < 0.05$ ).

#### **Findings for Research Question 4**

Research question four explored whether there is a pattern to the international students' study anxiety when controlling for age. The finding showed that there is a statistical significant evidence and age effect the international students' anxiety ( $t = 38.18$ ,  $p$ -value= $0.00 < 0.05$ ). However, older students are less nervous compared to younger students.

#### **Findings for Research Question 5**

Research question five explored whether there is a pattern to the international students' study anxiety when controlling for major. The results showed that there is statistically significant evidence between majors and study anxiety ( $t = -11.44$ ,  $p$ -value= $0.000$ ). The Electrical Engineering international students reported to be more anxious and have less confidence than the Kinesiology students in class. The reason might lie in the fact that they have more practical applications in their course study which might lead to more confidence.

#### **Findings for Research Question 6**

Research question six explored whether there is a pattern to the international students' study anxiety when controlling for degree. The study showed study anxiety has a significant effect when controlling for degree ( $t = 7.33$ ,  $p$ -value = $0.00$ ).

#### **Findings for Research Question 7**

Research question seven explored whether there is a pattern to the international students' study anxiety when controlling for stage of education. There is statistically significant difference between the students stage of education and how they feel anxious when they do not understand the class subject ( $t = 9.21$  and  $p$ -value= $0.00$ ). Students will feel more anxious if they do not have good understanding of the class subject; however, that will gradually decrease as they proceed in their stage of education.

### **Conclusions and Discussion**

As shown in Wang, Sun, and Liu (2010) study, the student-professor relationship is very important in reducing the international students' anxiety in class. Professors should find learning techniques that help students in their learning process and, in addition, reduce their anxiety in class. Jackson, et al. (2013) supported the need for a friendly student-instructor relationship in class. International students need to cope with their new environment without pressuring themselves or descending into depression. This study shows evidence that international students experience anxiety. Several variables such as nationality, gender, age, major, degree and stage of education can contribute significantly to the study anxiety. Since, female students were more

anxious when their professor corrected and interrupted them in class presentations (Mahmood and Iqbal, 2010); the importance of student-professor relationship becomes evident and might reduce study anxiety among international student's especially female students.

As previous studies on anxiety have shown the existence of study anxiety among students (Kim, 2009; Marcos-Llinas & Garau, 2009; Sparks & Ganschow, 2007; Vitasari, Abdul Wahab, Othman, & Awang, 2010), the results of this study support a conclusion that the international students' study anxiety was affected especially by major and stage of education.

The findings from this study have theoretical and pedagogical significance. Theoretically, this study adds a component to the existing literature in study anxiety. The practical application is also noticeable. The result of this study suggests that focusing on particular areas can help reduce the international students' study anxiety in their classes. Colleges must try to meet the affective needs of their college students which also cause study anxiety (Vitasari, Abdul Wahab, Othman, & Awang, 2010).

The results of this research indicate that study anxiety of college students should continue to be examined to make sure colleges provide a beneficial way to offer a calm, peaceful, and enjoyable learning environment. This is consistent with the work of Ewald (2007) and Frantzen and Magnan (2005) who argued the need to help students, especially international students, confront and control their existing study anxiety throughout their course of studies in college.

Considerable studies have been seen during the past decade on students' anxiety in college (Casado & Dereshiwsky, 2004; Kim, 2009; Marcos-Llinas & Garau, 2009; Sparks & Ganschow, 2007; Vitasari, Abdul Wahab, Othman, Herawan, & Sinnadurai, 2010). By studying the study anxiety of international students and comparing their variables, this study constitutes a step forward in not only international students but all students to decrease study anxiety.

Overall, the study found a significant correlation analysis leading to the conclusion that a statistically significant relationship exists between study anxiety and variables such as degree and stage of education.

### **Implications for Educational Practice**

The following implications for practice are based on the findings of this exploratory research. These recommendations will be useful in and out of the college environment for education administrators.

One way to reduce international students' study anxiety is to set up social gatherings for the all students of different nationalities including natives. Moreover, encourage new students to mingle with the students who have been studying in college for several years and exchange their experiences about school. These events should be considered investments rather than expenses, because the students would be in a healthier environment and would become stronger and less stressed learners.

### **Recommendations for Future Research**

This study compared the international students' level of study anxiety regarding variables such as: nationality, gender, age, major, degree, and stage of education. Based on the results of this research, the investigators offered the following recommendations for future research:

The researchers first recommend that this study be replicated with a more representative sample. This would help researchers identify trends among subscales including gender, education status, nationality, and field of study (college). Moreover, larger samples from several colleges could be compared with each other.

A more advanced study could be a comparison between the seven anxiety sources among the international and native students. The researchers also recommend a comparison of native students with international students regarding their study anxiety levels when taught in the same class.

Another recommendation for future research is a qualitative examination of this study. Qualitative responses might unveil the problems of the international students within the programs and course services that help reduce international students' study anxiety. Institutions and faculty would have the ability to self-assess their classes and make adjustments as necessary. In a qualitative study, the researchers could employ class observations. A further suggestion is interviewing students in order to get a deeper understanding of the existing problems among international students including asking the students what they think would help reduce their study anxiety in class.

The researchers also suggest that a longitudinal study be conducted to identify trends of experiences or interactions throughout the students' collegiate experiences that directly impact the students' study anxiety. Following students from the freshman year through graduation would be a valuable research approach and might provide interesting, innovative results. Last but not least, the Language Anxiety variables could be compared among native students and international students as well.

The results of the descriptive analysis of this study showed that the field of study of the international students might be a determining factor of student anxiety. Even though the majority of international students were from the engineering department (48.5%) only 28.2% of the international engineering students have participated. A study examining the relationship of study anxiety to field of study might provide a better answer of whether a relationship exists or not. For further study, this study can be replicated with a larger sample size and compare several colleges.

Finally, in addition to the considerations described above, the current study should be replicated not only in larger and more diverse colleges and universities but also in high schools. International students entering high school confront similar problems as college students such as high school dropout rates. Such a study might help lower the percentage of high school dropouts.

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