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Fitting-in: Sociocultural Adaptation of International Graduate Students

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Abstract

The purpose of this study was to determine if there is a relationship between sociocultural adaptation of international graduate students and selected demographic characteristics, and to explore the students' perceptions of institutional support with regard to their adaptation. A three-phased, mixed methods approach was used to study international graduate students at a private, urban, mid-sized, Northeastern university. Preliminary discussion groups ($N = 42$), followed by a questionnaire ($N = 129$), and then follow-up focus groups ($N = 11$), resulted in 28 statistically significant findings and five major themes. These findings resulted in recommendations for: improving university communication with international students, expanding international orientation, including more Americans in international activities, expanding English language improvement activities, and continually assessing international programs.

INTRODUCTION

International students are important to the national economy, as they contributed almost $19 billion dollars in the 2009-10 academic year, with much of this money coming from abroad (Fischer, 2011). In addition to being a vital part of the economy, international students assist in promoting international understanding by adding cultural diversity to the classroom and by helping students develop better relations between their countries of origin and the U.S. (Sandhu & Asrabadi, 1994). It is important for both the U.S. economy and for globalization efforts to attract and retain international students. However, to retain international students, just as is true for domestic students, institutional commitment to student needs is important (Tinto, 1993).

Problem Statement

To be successful, international students must adapt socially and culturally to their host country and their new academic situations. The degree to which the international students adjust is key to minimizing their stress and helping them more readily adapt (Misra & Castillo, 2004). Higher educational institutions in the U.S. have not paid sufficient attention to international student adjustment (Mori, 2000; Sandhu & Asrabadi, 1994), even though institutional commitment is important to maximize student retention (Tinto, 1993). It is important, therefore, to understand how institutions of higher education can help international students to adapt better, both socially and culturally, in new settings.

The purpose of this study was to determine if there is a relationship between sociocultural adaptation of international graduate students and selected

demographic characteristics of those students, and to address what institutions

of higher education might be able to do better to support and to assist

international graduate students in adapting more easily, more quickly, and more

effectively.

Research Questions

Two research questions guided this mixed methods study: one was

addressed quantitatively and the other was addressed qualitatively (Creswell,

2009).

Quantitative

Is there a relationship between sociocultural adaptation of international graduate
students in the United States and selected demographic characteristics: gender,
age, time in country, region and country of origin, English language ability, having
family or friends already in the U.S., and having a student mentor or friendship
family?

Qualitative

What are international graduate students' perceptions of institutional support with
regard to their sociocultural adaptation?

LITERATURE REVIEW

International students are from different countries that may have different

religions and political systems, but they share common circumstances that allow

them to be identified as a group (Misra & Castillo, 2004). These characteristics

include being transient and having to adapt, socially and culturally, to their new

temporary situations. This adaptation experience causes international students to

experience more stress than domestic students and also more stress than other

international groups, such as immigrants and refugees (Misra & Castillo, 2004).

The added stress results from the fact that international students suffer from

student stress as well as sojourner stress. The stress they experience as students includes having to adapt to the U.S. academic system, which may be very different from the academic systems in their native countries (Misra & Castillo, 2004). Their sojourner stress is compounded by the fact that their stay is temporary and they have to learn quickly to adapt and fit-in to a different culture in order to succeed.

Culture Shock and Acculturation

Experiences in a new culture may result in *culture shock,* which is defined as the stress and conflict that occur when individuals come in contact with different cultures (Winkelman, 1994). It happens especially when individuals are totally immersed in the new culture, as is usually the case with international students. Culture shock often results in feelings of confusion and anxiety, which are associated with cultural and social rule changes (Oberg, 1960).

Winkelman (1994) identified culture shock as a normal part of being in a different cultural environment. He contended that individuals must first recognize they are in a state of culture shock, before the situation can be resolved. He described the phases of culture shock as follows: "1. The honeymoon or tourist phase. 2. The crisis or cultural shock phase. 3. The adjustment, reorientation, and gradual recovery phase. [and] 4. The adaptation, resolution, or acculturation phase." (Winkelman, 1994, p. 122). Adaptation to the local culture, through understanding and accommodation, not necessarily assimilation, is necessary to deal with the culture shock (Winkelman).

Sociocultural adaptation is defined "in terms of behavioral competence" and is "strongly influenced by factors underpinning culture learning and social skills acquisition" (Ward & Kennedy, 1999, p. 661). To measure the sociocultural adaptation of individuals in different cultures, Searle and Ward (1990) developed the Sociocultural Adaptation Scale (SCAS).

Some key factors have been identified as affecting sociocultural adaptation: gender, age, time in country, cultural distance, language fluency, and having a peer mentor or friendship family (Furnham & Bochner, 1982; Grant-Vallone & Ensher, 2000; Pedersen, 2010; Seo & Koro-Ljungberg, 2005; Wang, 2009; Ward, Okura, Kennedy, & Kojima, 1998; Ward & Searle, 1991; Zhang & Rentz, 1996). Considering these factors in relationship to graduate student adaptation would be helpful for tailoring university programs and support.

Factors Affecting Sociocultural Adaptation

Gender

A qualitative study at Western Oregon University of international graduate students ($N = 6$) showed that men were more confident and satisfied in a new culture, than were women; thus supporting the premise that sociocultural adaptation may differ by gender (Li, 2007). Wang (2009) studied international graduate students ($N = 207$) at a large southern U.S. university. His results supported other findings that women have more difficulty adapting than men and that men were more resilient in adapting than women. Another study showed that students ($N = 45$) studying in another country, especially women, who experienced cultural mentoring, demonstrated greater intercultural gains than did

those who were not mentored (Pedersen, 2010). This study raises the issue of what a support system can do to assist international students, especially women, in becoming acculturated.

Age

Different cultures have different timetables for when life events should happen or be achieved. These timetables, or social clocks, result in cross-cultural differences in developmental milestones of when life-changing events, such as; graduating from college, getting a first job, taking care of parents, getting married, and having children, should occur (Berk, 2003). The social clock phenomenon may help to explain why some studies have shown that older students have more trouble adjusting than younger students (Poyrazli, Arbona, Bullington, & Pisecco, 2001; Seo & Koro-Ljungberg, 2005).

A study of Turkish undergraduate and graduate students in the United States (N = 79) found a significant relationship between age and difficulty in adjustment: older students had more difficulty adjusting than did younger students (Poyrazli, Abona, Bullington, & Pisecco, 2001). It was suggested that "older students may be having more adjustment problems because their values, customs, and interests may have been set and they may have a hard time changing them" (Poyrazli, Abona, Bullington, & Pisecco, 2001, p. 59).

Time in the United States

Findings in the literature for length of time spent in the United States, as related to sociocultural adaptation, were mixed. While some studies found a decrease in difficulty, and acculturative stress, over time (Ward & Kennedy,

1996; Wilton & Constantine, 2003; Ying, 2005; Zhang & Rentz, 1996), others had

differing results. For example, some showed variance in difficulty to adapt with an

increase in difficulty over the first six months and then a decrease after that time

(Ward, Okura, Kennedy, & Kojima,1998), and others showed no significant

differences over time (Ye, 2005).

Cultural Distance

The term *cultural distance* refers to the degree of difference between the host

culture and the migrating person's culture (Redmond, 2000). Furnham and

Bochner (1982) classified international student participants studying in England

($N = 150$), the subset of a larger study ($N = 400$), into cultural distance categories

of near, intermediate, and far, compared to British culture. They based these

categories on religion, language, and climate. Using a 40-item Social Situations

Questionnaire, which was adapted from a similar scale (Trower, Bryant, & Argyle,

1978), the results showed a relationship between cultural distance and social

difficulty. The participants from the far group experienced more difficulty adapting

than did participants from the near group.

A study by Searle and Ward (1990) further supported findings of Furnham and

Bochner (1982) with respect to cultural distance and sociocultural adaptation.

Using Malaysian and Singaporean students in New Zealand ($N = 105$), Searle

and Ward (1990) found that, "the greater the degree of cultural distance, the

more likely an individual is to experience sociocultural adjustment problems" (p.

459). Sociocultural adaptation of sojourners has been shown to be related to the

cultural distance of the sojourner's culture to the host culture (Ward, Okura, Kennedy, & Kojima, 1998).

A study by Abe, Talbot, and Geelhoed (1998) showed that "Students from Asian countries particularly struggle with adjustment to U.S. college life" (p. 545). This finding about Asian students is especially important because five out of the top six places that send international students to the U.S. are Asian: India, China, South Korea, Japan, and Taiwan (IIE, 2009b).

Hofstede (2001) conducted an international employee attitude study, at IBM between 1967 and 1973, representing 72 countries ($N > 116,000$), in which country differences in employee values were analyzed and country culture dimensions were identified. These dimensions were: power distance index, degree of inequality of power and wealth between people; individualism, amount the society desires individuality versus collectivism; masculinity, degree the society reinforces male power and supports differentiation of treatment between the genders; uncertainty avoidance index, desire for structure in the society; and long-term orientation and respect for tradition. The dimensions were constructed to represent "patterns of thinking, feeling and of acting," but focus on comparing one culture to another, not on how individuals from different cultures adapt to the other cultures (Hofstede, 1997, p. 5). These cultural dimension scores have been used in different studies as a way of measuring cultural distance between cultures (Redmond, 2000).

Language Ability

Language skills and communication competence have also been shown to be related to sociocultural adaptation: the better the understanding of the host country language, the easier the sociocultural adaptation process (Ward & Kennedy 1999). Kim (1988), in his grounded theory of communication and cross-cultural adaptation, emphasized that effective social communication is key to successful adaptation in a new culture. Many international students are too reserved to admit they do not understand what is being said, and may nod their heads out of politeness (Palmer 2009). "Language skills are important because they affect the quality and quantity of intercultural interactions" (Ward, 2004, p. 190).

Yeh and Inose (2003) conducted a study of international undergraduate and graduate students in a large, urban university in the Northeast ($N = 372$). The results showed that a lack of English language fluency was a significant predictor of acculturative distress, with a lower level of self-reported English language ability resulting in more acculturative problems. Acculturative distress is a form of psychological stress and an increase in psychological stress has been shown to be related to more difficulty in adapting socioculturally (Ward & Kennedy, 1999).

The language ability of international students is related to their overall adaptation and academic success (Barratt & Huba, 1994; Lewthwaite, 1996). As ability with the host language increases, so do the academic performance and adaptation of students. A study of Turkish college students in the U.S. ($N = 79$) also found that international students with better English reading and writing

ability had less difficulty adapting (Poyrazli, Arbona, Bullington, & Pisecco, 2001).

Communication skills and language ability corresponding to the new environment

are keys to assimilating and adapting more quickly into the new culture (Ward &

Kennedy 1999).

Student Mentors or Friendship Families

Interactions between international students and host nationals, lessen the

difficulty they have in adaptation (Rajapaksa & Dundes, 2002/2003, Ward &

Kennedy, 1993; Ward & Searle, 1991). Ward and Searle (1991) conducted a

study of international students in New Zealand (N = 155) and found that an

increase in host cultural knowledge and identifying with the host culture resulted

in less difficulty adapting to the host country culture. Student mentors and

friendship families can help to increase host cultural knowledge and ease

adjustment difficulties.

Westwood and Barker (1990) conducted a four-year longitudinal study with

international students who participated in a peer mentoring program with

domestic students (N = 242: n = 50, n = 82, n = 62, n = 48). They found that

mentored students had higher academic achievement and lower dropout rates

than did non-mentored students. Another study, which consisted of international

undergraduate and graduate students in a mid-sized Midwestern university

(N = 101), showed that increased contact and talking with American students

aided in the sociocultural adaptation process (Zimmermann, 1995). As a result,

Zimmermann (1995) recommended the use of a "buddy" system between

American and international students. Ward, Okura, Kennedy, and Kojima (1998)

also found that adaptation is accelerated by increased contact with people native to the host country.

Grant-Vallone and Ensher (2000), supported the value of peer mentoring programs with findings from a study of graduate student pairs of peer mentors and protégés (N = 70). Their results indicated that peer mentors provided a higher level of psycho-social support than did traditional mentors, and that peer mentors could "provide social and emotional support, and encourage higher levels of social support" (Grant-Vallone & Ensher, 2000, p. 641). They made the following recommendations for peer mentor programs:

> (a) require a more extensive application procedure and training process for peer mentors to ensure dedication of peer mentors, (b) design a more extensive matching strategy or allow students to choose their own peer mentor to enhance the support provided, (c) provide a peer protégé orientation to clarify expectations, (d) reward peer mentors for their efforts, and (e) organize more formal events to ensure contact. (Grant-Vallone & Ensher, 2000, p. 641)

Paucity of Research

There has been a concerted effort in the United States to more thoroughly study and assess the area of study abroad. One major study aimed at determining the benefits of studying outside the U.S. was the Georgetown University consortium project that examined hundreds of U.S. students studying abroad (Vande Berg, Balkcum, Scheld, & Whalen, 2004). However, there is a paucity of research on how U.S. colleges and universities can aid the sociocultural adaptation of international students, particularly graduate students. This study adds to the knowledge in this area.

METHODOLOGY

This study used a three-phased sequential mixed methods exploratory approach to address the research questions. Quantitative data were collected using a questionnaire and qualitative data from group discussions and open-ended survey questions.

Participants

The population for this study was international graduate students, at a private, mid-sized, urban university in the Northeastern United States. The graduate student population at this university was primarily international, nearly 60% (Johnson & Wales University, 2010-2011). All international graduate students ($N \approx 522$), at this university, were asked by e-mail to respond to the web-linked questionnaire; a total of 144 students responded, resulting in a 28% return rate. However some questionnaires were incomplete, thus the responses from 129 students were used for the study.

For the preliminary discussion groups and follow-up focus groups, purposeful selection of graduate students was used (Krueger & Casey, 2009). The selection ensured a good cross-sample of participants, representative of the graduate school. In the four preliminary discussion groups, 42 participants, selected from newly arrived international graduate students, took part. For the two follow-up focus groups, 11 participants, selected from those close to completing their studies, were involved. Selection of these groups was made with the help of the graduate school academic coordinator. Incentives were offered to all international

graduate student participants, in the form of bookstore gift certificate raffles, to increase participation in the study.

Instrumentation

Three instruments were used to collect data: a preliminary discussion group guide, a questionnaire, and a follow-up focus group guide. The questionnaire was adapted from the Sociocultural Adaptation Scale (SCAS) (Searle & Ward, 1990; Ward & Kennedy, 1999). The final version of the questionnaire had 40 items: 29 SCAS items that used 5-point Likert-type response scales, nine items on demographic characteristics of the respondents, and two open-ended questions. A questionnaire was chosen for use because it is an effective data collection method that is inexpensive and can be used to obtain results in a timely manner (Creswell, 2009; Gall, Gall, & Borg, 2007).

However, more specific information was needed. Therefore, preliminary discussion groups and follow-up focus groups were held to explore the beliefs, experiences, and opinions of the international graduate students (Patton, 2002). Questions for the preliminary discussion groups and the follow-up focus group sessions were derived from the literature. The discussion guides and the questionnaire were piloted before use.

Data Collection

Preliminary Discussion Groups. Preliminary discussion groups were conducted to determine the specific areas that caused international students difficulty in adaptation. These discussion groups were composed of newly arrived graduate students and were initially led by the graduate school academic

coordinator and later by the researcher to ask questions specially related to the study.

Questionnaire. An e-mail was sent to all students explaining the study, detailing the instructions and the link to the Zoomerang© questionnaire, urging participation, and describing the incentives. One week later, a follow-up e-mail was sent urging participation by all international graduate students.

Follow-up Focus Groups. Participants were asked to validate the questionnaire results and to identify what the site university did to help them socioculturally adapt, and what could have been done better. Because the students in the follow-up focus groups were nearer the completion of their studies, they were assumed to have a more holistic view of adjustment issues than entering students.

Data Analysis

Content analysis was done on the data from the focus groups. The data were then sorted and coded. Emerging themes were identified by frequency, specificity, and emotionality of the responses (Krueger & Casey, 2009). As a result of analyzing the data from the focus groups, two questions were added to the questionnaire and five themes emerged.

Questionnaire data were downloaded into the Standard Package for Statistical Sciences (PAWS/SPSS 18.0). Descriptive statistics were used to create a profile of the respondents. A principal component analysis, a form of factor analysis, with an oblique rotation was run on the data and resulted in four dimensions. A series of *t*-tests and one-way analyses of variance (ANOVA), with

Scheffé tests as appropriate, were run to determine if significant differences existed among the mean scores, dimension scores, and item scores for difficulty adapting and the demographic characteristics of the respondents. Bonferroni adjustments were done for dimension and item level analysis; effect sizes were calculated for significant findings.

Data from the follow-up focus groups were coded and emerging themes were identified. These themes were used to classify the findings and to offer recommendations.

Factor Analysis

Factor analysis was run to determine the construct validity of the items on the questionnaire. Ward and Kennedy (1999) used a forced factor analysis on the SCAS to generate two factors: cultural empathy and relatedness, and impersonal endeavors and perils. For this study, a principal component analysis (i.e., a version of factor analysis) was run, followed by an oblique rotation on the 29 items from the modified SCAS questionnaire. As a result, six factors were generated that accounted for 59% of the total variance with four factors accounting for 51% of the total variance. These four factors were deemed conceptually meaningful, and the sets of items defining the respective factors were used to create dimension level means. The factors were named, described, and the "attributes of a person scoring highly on the factor" were explained (Gable & Wolf, 1993, p. 133). The four dimensions contain a total of 21 of the 29 modified SCAS items; statistics were only run on these 21 items and the other 8 items were eliminated from the remaining analyses (See Table 1).

Factor I – **Impersonal Endeavors and Perils**

As identified by Ward and Kennedy (1999), impersonal endeavors and perils "concerns the management of impersonal interactions (e.g., bureaucracy, authority) and/or awkward situations (e.g., unsatisfactory services)" (p. 670). Students who scored high in this area perceived themselves as having difficulty in coping with external factors they cannot control. Most of the five items constituting this factor were the same in this study and in the Ward and Kennedy study (1999).

Factor II – **Basic Needs and Transportation**

The five items defining this factor describe performing functions that involve being able to take care of basic essentials, such as food and clothing, and using the local transportation system. Students who scored high in this area perceive themselves as having difficulty in performing everyday tasks in their new environment.

Factor III – **Social Skills**

The six items defining this factor describe being able to understand and communicate well with others. Students who scored high in this area perceived themselves as having difficulty fitting-in socially in their new environment.

Factor IV – **Adapting to College and Living Environment**

The five items defining this factor described dealing with everyday life at the university and housing accommodations. Students who scored high in this area

perceived themselves as having difficulty adapting to the university and to their new living accommodations.

Independence of Factors

In order to determine the independence of the four factors, an oblique rotation was performed. There was a small level of inter-correlation between the factors, below .35 (See Table 2). Therefore, the factors were relatively independent.

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Reliability

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Cronbach's alpha was calculated to determine the reliability of the questionnaire data; internal consistency reliability is based on the extent to which the participants answered a given question one way and similar questions the same way (Gall, Gall, & Borg, 2007). Cronbach's alpha internal consistency reliability was generated for the 21-item questionnaire and resulted in excellent data reliability of .90. Additionally, Cronbach's alpha was then generated for the data from the items defining each factor. These reliabilities were high (See Table 3). Because the Cronbach's alpha levels for the four factors exceeded the minimum requirement of .70, the data were determined to be reliable. Dimension-level means were created for sets of items with data associated with reliabilities above .70, and a series of t-tests were run. A Bonferroni adjustment of the alpha levels to be used was done as a part of the dimension analysis and also for item-level analysis (Gall, Gall, & Borg, 2007). Overall significance was at the $p < .05$ level; dimension level significance for the four factors was at the $p < .01$ level; and because 21 items were used, significance at the item level was $p < .002$.

Independent *t*-tests were run with mean scores for item responses, for dimensions, and for the overall mean score to determine if significant differences existed for dual response choice demographic characteristics:

- ✓ gender

- ✓ family or friends already in the U.S.

- ✓ student mentor or friendship family
  - American student mentor
  - international student mentor
  - American friendship family
  - international friendship family
  - none.

One-way analyses of variance (ANOVA) were run with mean scores for item responses and for the overall mean score to determine if significant differences existed for multiple choice response demographic characteristics:

- ✓ age group

- ✓ countries of origin (for countries with $N \geq 6$ students)

- ✓ geographical region of origin

- ✓ length of time in U.S.

- ✓ English language ability

  - self-rated English language skill
  - self-acknowledged required English classes

Where appropriate, a Scheffé test was conducted to follow-up significant differences (Gall, Gall, & Borg, 2007). For all statistics with significant results, effect sizes were calculated.

FINDINGS

Demographics of Questionnaire Respondents

Questionnaire respondents were predominantly female (61%), with a mean age of 25 years. They had been in the United States an average of 20 months, represented 26 different countries and Taiwan, and more frequently than not, did not have a student mentor or friendship family (56%), or friends or family already in the U.S. (63%). The respondents estimated their English language ability by using two different measures: self-rating of English speaking skill and self-acknowledgment of placement in required English courses. Although most estimated their English language ability to be good or better (74%), most were required to take English as a second language or to take the effective communication course (84%). Respondents were asked whether they had an American or international student mentor and/or an American or international friendship family; most graduate student respondents had neither a student mentor nor a friendship family (56%).

Questionnaire Results

On the questionnaire, respondents were asked to rate their level of difficulty from (1) *no difficulty* to (5) *extreme difficulty* in performing a series of common tasks in their new environment. In some previous studies (Ward & Kennedy, 1999), a scale of 0 to 4 was used to rate the difficulty of tasks. Therefore, the means from this study should not be used in direct comparison with mean scores for other studies without determining the scale used.

Item Results

The response frequencies, means, and standard deviations of the 21 items

resulting from the principal component analysis are reported in Table 4. The table

is arranged in descending order from highest mean score to lowest mean score.

A dashed line separates high mean score group from medium mean score group,

and medium mean score group from low mean score group.

The means signify the amount of difficulty expressed by the international

graduate student respondents and ranged from a high of 3.01 (*making American*

friends) to a low of 1.34 (*going to coffee shops, restaurants, or fast food places*).

These results indicate that respondents had more difficulty with making personal

contacts than with going to places to eat.

A variable, named *total*, which represents the mean score of difficulty

adapting across all 21 items, was used to analyze overall difficulty adapting for

the different independent variables. The *total* mean score for adaptation, means

for the four factors of adaptation, and item means were used in addressing the

first research question.

Research Question Results

Research Question 1
Is there a relationship between sociocultural adaptation of international
graduate students in the United States and selected demographic
characteristics?

Gender. Women had more difficulty adapting than did men for; *total*

sociocultural adaptation, the *social skills factor*, and *going to social events or*

gatherings (See Table 5).

Age. The oldest age group (30-35 years) had more difficulty *dealing with the staff at the university* than the youngest age group (21-24 years) (See Table 6).

Length of Stay in the U.S. There were no significant findings with respect to length of stay in the United States and difficulty in adapting.

Region and Country of Origin. In terms of geographical region of origin, the findings showed that for *total* mean, students from Asia had more difficulty adapting overall than students from Europe. Students from Africa and Asia had more difficulty than those from Europe, and students from Asia had more difficulty than those from Europe or Africa, in adapting to *dealing with someone who is unpleasant or aggressive* (See Table 7).

In terms of country of origin, only countries and Taiwan with ($N \geq 6$) participants were examined further. Students from South Korea had more difficulty adapting overall than students from Morocco. For *dealing with the climate*, students from Taiwan had more difficulty adapting to the climate than did students from China (See Table 8). Taiwan has a more temperate climate than China, which experiences more variation in the four seasons and colder winters; thus, the climate in China is more like that of the Northeast region of the United States. Therefore, it would logically follow that students from Taiwan would have *more difficulty adapting to the climate* in the Northeastern United States, than would students from China.

English Language Ability. Two different variables were used to determine English language ability: self-rated English language skill and self-acknowledged placement in English courses. Students who rated their English speaking ability

as fair, or good, had greater difficulty adapting in many areas than did students who rated their English speaking ability as excellent, except for the items: *dealing with people in authority* and *understanding the accent and language*, where the significant finding was only for Fair > Excellent (See Table 9).

The English course requirement was separated into the following three categories: ESL required, Effective Communications required, or neither required. The students who were required to take ESL had more difficulty adapting than did students who were not required to take either ESL or Effective Communications (See Table 10).

Family or Friends Already in the U.S. International students who did not already have friends or family in the U.S. upon arrival, had more difficulty adapting with respect to; *total* sociocultural adaptation, the *social skills* factor, the *college and living environment* factor, and *understanding jokes and humor* (See Table 11).

Student Mentor or Friendship Family. Students who had international friendship families had less difficulty adapting with respect to; *total* sociocultural adaptation, the *social skills* factor, *communicating with people of a different ethnic group*, *going to social events or gatherings*, and *understanding the accents or language* (See Table 12).

Summary of Quantitative Findings. There were 28 statistically significant findings, including significant findings for the following variables, with respect to difficulty adapting: gender, age, region and country of origin, family or friends already in the U.S., and having an international student mentor. Only length of

stay in the U.S. did not result in any significant findings. The most significant

findings resulted for English language ability, specifically for self-rated English

language skill. For this variable there were nine significant findings; for the overall

total mean, for two factors, and for six items. These findings showed that

international graduate students who perceived they had a lower level of English

speaking skill also perceived they had a greater degree of difficulty adapting.

Statistically significant findings can be found in Tables 5 through 12.

Research Question 2
>What are international graduate students' perceptions of university
>support with regard to their sociocultural adaptation?

Data gathered from the preliminary discussion groups, the open-ended

questionnaire questions, and the follow-up focus groups were used to address

this research question. The findings were grouped under five themes that

emerged from the data: improving communication, conducting orientation,

making American friends, improving English language ability, and integrating into

the classroom and society. The findings were as follows:

- **Improving Communication.** More communication is desired. More

  information is needed from the university prior to, and after, arrival of the

  international graduate students. One follow-up focus group participant

  said, "I even haven't received any e-mails before I got here." Students

  would like more social media types of contact, as well as more

  explanatory hardcopy mail. They also expressed a desire to get point-of-

  contact information, so they could get questions answered prior to arrival.

- **Conducting Orientation.** Expanded orientation, and follow-up, is desired. Students said that they would be able to adapt better over time, if the university helped them project, and make progress towards, their long-term goals. They suggested that upon entry to the graduate school, they be asked what skills they wish to improve and what long-term goals they have, such as finding a job on campus or wanting to stay in the U.S. after graduation. Once their long-term goals are established, they should be closely followed and appropriate resources should be made available in order to help them reach their goals. One international student stated that, "People should have a vision of where they are going. That is a proactive thing, we are just reactive now."

- **Making American Friends.** Because international students have considerable difficulty in meeting and becoming friends with Americans, they would like the university to offer more opportunities for mixing with American students, both inside and outside the classroom. One international student even said that the university should "recruit less international students." Yet another participant emphasized the point that making American friends "is a very important part of being here."

- **Improving English language ability.** More help is needed in improving English language ability. One participant suggested that the university should "add some communication courses, not for grade but for practice." Many international graduate students come to the U.S. to study in order to improve their skills in using the English language. Accordingly, the study

participants wanted more and varied opportunities to practice their English.

- **Integrating Into the Classroom and Society.** More help is needed integrating into the classroom and society. One participant said that having the professors assign the American and international students to the same group projects would help them integrate better into the classroom, by "making sure there are American students in these groups." Students also said that they would have adapted better and sooner, if they had more help finding and using local resources, such as finding stores and restaurants that sell food that they like, locating the local post office, finding inexpensive academic books, securing on-campus jobs, using the local bus system, and obtaining a driver's license.

Recommendations for Improving University Support

Improve Communication

Pre-Arrival. The use of Facebook, Twitter, regular e-mails, and scheduled on-line chats for admitted students could improve the content, as well as the delivery, of the pre-arrival communication. A consolidated sheet of point-of-contact information, with names, e-mail addresses, and phone numbers, would help international graduate students know the persons to contact about questions in different areas.

On Arrival. The International Center could have international students put together a booklet of their favorite ethnic restaurants and grocery stores that sell different kinds of ethnic food. A list of university clubs and organizations should

be made available on arrival to international graduate students, along with points-of-contact for those activities.

Late Arrivals. It is important to ensure that orientation information gets to all new international graduate students, including late arrivals.

On-Going. Multiple ways should be used to get the word out on upcoming events. Events and club activities should be marketed to all students in order to get more participants and expand opportunities.

Expand Orientation

Expand orientation and make it more structured. Either extend the two days the international graduate students are currently in a local hotel, coordinate temporary home stays with local residents, or give them temporary space in the residence halls. Include more information and activities in the orientation sessions: such as a barbeque with American graduate students, visits to public services, the use of public transportation, and help setting long-term goals.

Visit Public Services. Orientation for international graduate students should be expanded to include actual tours to public places, such as the supermarket the post office, the bank, and the DMV.

Use of Public Transportation. The local bus system is not easy to use. Because many international students do not have a car or a U.S. driver's license, they must rely on the bus system to access essential items and services. To overcome this issue, "How to Ride the Bus" days could be offered, at which groups of international students are taken around the local area, by a knowledgeable guide, using the bus system.

Help with Long-term Goals. The university should provide long-range planning opportunities for international graduate students, starting at orientation. By having the students identify the skills they want to improve, such as English writing, conversational skills, and presentation skills, and their long range goals, such as internships or U.S. citizenship, their time in the program could be better spent.

Expand Opportunities to Interact with Americans

Student Mentor/Friendship Family Programs. Student mentor and friendship family programs should be broadened to include more Americans. Too many international graduate students would like to have an American student mentor or friendship family, but do not. The university should take the necessary steps to help them find one.

Include More Americans in International Center Activities. Too many of the activities sponsored by the International Center include mostly international students; more Americans should be encouraged to take part in these activities. For example, more Americans should be invited to join the weekly coffee groups at the International Center. International nights could be sponsored throughout the year, a Chinese night, a Moroccan night, and a Korean night. It is also important to actively market and encourage Americans to attend, and to make more international student friends.

Expand English Language Improvement Activities

The university should look for more ways to help international graduate students improve their English language speaking abilities. Having more tutors,

for English speaking as well as writing, offering debates or a debate club, and expanding effective communication discussion groups to include Americans would all be helpful to international students in improving their conversational English abilities.

Create More Opportunities for Financial Support

University leaders should look at ways to help provide international graduate students with more financial support. More scholarship aid for international graduate students would address this need. Most importantly, however, there should be more opportunities for international graduate students to secure on-campus jobs. International graduate students would also like to be able to take three courses a trimester and, thus, be able to save money by graduating sooner.

Assess International Graduate Student Programs

University leaders should continually assess the international graduate student program, from pre-arrival through graduation and beyond. This assessment should also include areas like professional development for staff and faculty on cultural awareness. Some program features may need to be revised over time; others may need to be marketed better; while others may need to be started. Model programs at other universities should be examined for best practices. By borrowing good ideas from other university programs, a framework for a stronger program at the site university can be built, the required resources assessed, and implementation, if feasible, accomplished.

Recommendations for Future Research

This study examined the sociocultural adaptation of international graduate students and, as a result of this study, there are several opportunities for further research. These areas for future study include: conducting a longitudinal study to examine the findings over time; expanding the study to include international undergraduate students; including psychological adaptation in the study; and replicating the study at other, different kinds of, higher education institutions.

Summary

Although, the U.S. has historically been the top destination of choice for international students (IIE, 2009a), increased competition from other countries to attract international students means that university leaders in the U.S. should be looking more closely at drawing and retaining these students. Sociocultural adaptation of international students is an important part of fitting-in to a new environment and to student retention. The findings from this study will be useful to institutional leaders in assisting international students to socioculturally adapt to the graduate school, to the university, and to the country.

Table 1

Factors of Adapation with Related Questionnaire Items (N = 129)

	Item Number	Stem	Loading
Factor I			
Impersonal	15	Dealing with the bureaucracy	.76
Endeavors	14	Dealing with people in authority	.73
and Perils	11	Dealing with someone who is unpleasant or aggressive	.62
	20	Dealing with the climate	.61
	21	Dealing with people staring at you	.61
Factor II			
Basic Needs	3	Using the transport system	.77
and Transportation	6	Going shopping	.77
	19	Finding your way around	.61
	23	Going to coffee shops, restaurants, or fast food places	.58
	17	Communicating with people of a different ethnic group	.56
Factor III			
Social Skills	2	Making American friends	.77
	7	Going to social events or gatherings	.74
	24	Understanding the accent or language	.67
	10	Understanding jokes and humor	.64
	5	Getting used to the pace of life	.59
	9	Talking about yourself with others	.59
Factor IV			
Adapting to College	27	Understanding what is required of you at the university	.78
and Living	28	Coping with academic work	.69
Environment	30	Expressing your ideas in class	.59
	29	Dealing with staff at the university	.58
	16	Adapting to housing accommodations	.57

Note: Factors derived from principal component analysis with oblique rotation

Table 2

Factors of Adaptation Intercorrelation Matrix with Oblique Rotation

Component	I	II	III	IV
Factor I	1.00			
Factor II	.19	1.00		
Factor III	.33	.23	1.00	
Factor IV	.31	.25	.35	1.00

Note. Factor I = Impersonal Endeavors and Perils, Factor II = Basic Needs and Transportation, Factor III = Social Skills, Factor IV = Adapting to College and Living Environment

Table 3

Cronbach's Alpha Reliability of Data on Adaptation by Total and Factors (*N*=129)

Component	Number of Items	Reliability
Total	21	.90
Factor I .	5	.78
Factor II	5	.75
Factor III	6	.82
Factor IV	5	.70

Note. Factor I = Impersonal Endeavors and Perils, Factor II = Basic Needs and Transportation, Factor III = Social Skills, Factor IV = Adapting to College and Living Environment

Table 4

Adaptation Difficulty by Item: Frequencies, Percents, Means, and SD (N = 129)

Items[a]	No Difficulty 1	Slight Difficulty 2	Moderate Difficulty 3	Great Difficulty 4	Extreme Difficulty 5	*M*	*SD*
2. Making American friends	13 (10%)	24 (18%)	50 (39%)	33 (26%)	9 (7%)	3.01	1.06
11. Dealing with someone who is unpleasant or aggressive	22 (17%)	37 (29%)	32 (25%)	27 (21%)	11 (8%)	2.75	1.21
10. Understanding jokes and humor	20 (16%)	45 (35%)	26 (20%)	26 (20%)	12 (9%)	2.73	1.22
7. Going to social events or gatherings	30 (23%)	40 (31%)	35 (27%)	19 (15%)	5 (4%)	2.45	1.12
24. Understanding the accent or language	24 (19%)	59 (46%)	31 (24%)	12 (9%)	3 (2%)	2.31	.96
15. Dealing with the bureaucracy	42 (33%)	47 (36%)	23 (18%)	12 (9%)	5 (4%)	2.16	1.10
30. Expressing your ideas in class	47 (36%)	41 (32%)	27 (21%)	10 (8%)	4 (3%)	2.09	1.08
16. Adapting to housing accommodations	53 (41%)	36 (28%)	26 (20%)	11 (9%)	3 (2%)	2.03	1.08
21. Dealing with people staring at you	47 (36%)	47 (36%)	23 (18%)	10 (8%)	2 (2%)	2.02	1.00
17. Communicating with people of a different ethnic group	41 (32%)	56 (43%)	24 (18%)	6 (5%)	2 (2%)	2.01	.91
20. Dealing with the climate	62 (48%)	33 (26%)	20 (15%)	11 (9%)	3 (2%)	1.91	1.09
3. Using the transport system	56 (43%)	47 (37%)	13 (10%)	9 (7%)	4 (3%)	1.90	1.04
14. Dealing with people in authority	56 (44%)	43 (33%)	24 (19%)	3 (2%)	3 (2%)	1.87	.96
28. Coping with academic work	53 (41%)	47 (36%)	23 (18%)	5 (4%)	1 (1%)	1.87	.90

(continued)

Table 4 (continued)

Adaptation Difficulty by Item: Frequencies, Percents, Means, and SD (N = 129)

Items[a]	No Difficulty 1	Slight Difficulty 2	Moderate Difficulty 3	Great Difficulty 4	Extreme Difficulty 5	*M*	*SD*
9. Talking about yourself with others	52 (40%)	55 (42%)	15 (12%)	6 (5%)	1 (1%)	1.83	.87
19. Finding your way around	54 (42%)	54 (42%)	18 (14%)	2 (1%)	1 (1%)	1.78	.80
5. Getting used to the pace of life	65 (50%)	39 (30%)	18 (14%)	6 (5%)	1 (1%)	1.75	.92
27. Understanding what is required of you at the university	78 (60%)	37 (29%)	11 (9%)	3 (2%)	0 (0%)	1.53	.75
29. Dealing with staff at the university	92 (71%)	26 (20%)	8 (6%)	2 (2%)	1 (1%)	1.40	.74
6. Going shopping	94 (73%)	24 (19%)	8 (6%)	0 (0%)	3 (2%)	1.40	.81
23. Going to coffee shops, restaurants, or fast food places	94 (73%)	27 (21%)	7 (5%)	1 (1%)	0 (0%)	1.34	.62

Note. [a]Item numbers correspond to question numbers from the questionnaire.

Table 5

Adaptation Difficulty: Factors and Items by Gender (*N* = 129)

Dimensions/ Items	Males (*n* = 50)		Females (*n* = 79)				
	M	*SD*	*M*	*SD*	*t*	*p*	*d*
What difficulty do you have adjusting to:							
Total	**1.86**	.53	**2.10**	.58	-2.30	.023*	.43
I Impersonal Endeavors and Perils	1.99	.78	2.24	.78	-1.73	.086	
11 Dealing with someone who is unpleasant or aggressive .	2.50	1.22	2.91	1.19	-1.90	.060	
14 Dealing with people in authority	1.66	.87	2.00	.99	-1.99	.048	
15 Dealing with the bureaucracy	2.10	1.09	2.19	1.11	-.45	.653	
20 Dealing with the climate	1.88	1.08	1.94	1.10	-.29	.775	
21 Dealing with people staring at you	1.82	.90	2.14	1.05	-1.78	.077	
II Basic Needs and Transportation	1.60	.48	1.74	.66	-1.28	.202	
3 Using the transport system	1.86	.95	1.92	1.11	-.34	.736	
6 Going shopping	1.36	.66	1.43	.89	-.48	.631	
17 Communicating with people of a different ethnic group	1.86	.78	2.10	.98	-1.47	.145	
19 Finding your way around	1.62	.67	1.87	.87	-1.76	.081	
23 Going to coffee shops, restaurants, or fast food places	1.30	.61	1.37	.62	-.60	.551	
III Social skills	**2.13**	.69	**2.48**	.75	-2.65	.009*	.49
2 Making American friends	2.72	1.01	3.19	1.06	-2.49	.014	
5 Getting used to the pace of life	1.72	.83	1.77	.97	-.31	.755	
7 Going to social events or gatherings	**2.08**	.97	**2.68**	1.15	-3.09	.002*	.57
9 Talking about yourself with others	1.70	.74	1.91	.94	-1.35	.178	
10 Understanding jokes and humor	2.38	1.21	2.95	1.18	-2.65	.009	
24 Understanding the accent or language	2.20	1.05	2.38	.90	-1.04	.301	
IV Adapting to College & Living Environment	1.68	.66	1.85	.60	-1.58	.117	
16 Adapting to housing accommodations	2.00	1.12	2.05	1.06	-.26	.797	
27 Understanding what is required of you at the university	1.52	.81	1.53	.71	-.09	.932	
28 Coping with academic work	1.66	.80	2.00	.93	-2.13	.035	
29 Dealing with staff at the university	1.36	.69	1.43	.78	-.52	.603	
30 Expressing your ideas in class	1.84	.98	2.25	1.11	-2.15	.033	

Note. *Using the Bonferroni adjustment, required significance at $p < .05$ level for the total, at $p < .01$ level for dimensions, and at $p < .002$ for items. Effect size guidelines: .20 = Small, .50 = Medium, .80 = Large
Responses: 1 = *No Difficulty,* 2 = *Slight Difficulty*, 3 = *Moderate Difficulty,* 4 = *Great Difficulty,*
5 = *Extreme Difficulty*

Table 6

Adaptation Difficulty: Factors and Items by Age Group (N = 129)

Dimensions/Items	21-24 (*n* = 49)		25-29 (*n* = 63)		30-35 (*n* = 17)		*F*	*p*	η^2	Summary of Significant Differences [a]
	M	*SD*	*M*	*SD*	*M*	*SD*				
Total	1.93	.48	2.02	.50	2.16	.94	1.12	.329		NSD
I Impersonal Endeavors and Perils	2.00	.56	2.19	.82	2.34	1.13	1.45	.238		NSD
11 Dealing with someone who is unpleasant or aggressive	2.76	1.11	2.71	1.22	2.88	1.50	.13	.881		NSD
14 Dealing with people in authority	1.67	.69	1.92	.99	2.24	1.35	2.42	.093		NSD
15 Dealing with the bureaucracy	1.96	.93	2.27	1.08	2.29	1.53	1.26	.287		NSD
20 Dealing with the climate	1.71	.94	2.06	1.18	1.94	1.14	1.43	.243		NSD
21 Dealing with people staring at you	1.92	.95	2.00	.92	2.35	1.37	1.21	.301		NSD
II Basic Needs and Transportation	1.67	.55	1.66	.53	1.84	.92	.61	.548		NSD
3 Using the transport system	1.92	1.00	1.89	1.08	1.89	1.11	.01	.987		NSD
6 Going shopping	1.47	.84	1.32	.69	1.53	1.07	.73	.485		NSD
17 Communicating with people of a different ethnic group	1.86	.87	2.05	.79	2.29	1.36	1.57	.212		NSD
19 Finding your way around	1.31	.71	1.70	.71	2.06	1.25	1.36	.261		NSD
23 Going to coffee shops, restaurants, or fast food places	1.37	.65	1.35	.60	1.41	.62	.19	.825		NSD

(continued)

Table 6 (continued)

Adaptation Difficulty: Factors and Items by Age Group (N = 129)

Dimensions/Items	21-24 (n = 49)		25-29 (n = 63)		30-35 (n = 17)		F	p	η^2	Summary of Significant Differences [a]
	M	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*		
III Social skills	2.32	.70	2.33	.66	2.49	1.10	.37	.694		NSD
2 Making American friends	3.10	1.01	2.98	1.02	2.82	1.38	.46	.633		NSD
5 Getting used to the pace of life	1.65	.90	1.68	.80	2.29	1.21	3.56	.031		NSD
7 Going to social events or gatherings	2.43	1.04	2.46	1.10	2.47	1.42	.01	.986		NSD
9 Talking about yourself with others	1.69	.65	1.87	.91	2.06	1.20	1.28	.282		NSD
10 Understanding jokes and humor	2.80	1.22	2.67	1.16	2.76	1.44	.16	.851		NSD
24 Understanding the accent or language	2.24	.99	2.30	.85	2.53	1.23	.56	.574		NSD
IV Adapting to College and Living Environment	1.65	.55	1.85	.60	1.92	.84	1.96	.145		NSD
16 Adapting to housing accommodations	1.90	1.05	2.13	1.08	2.06	1.20	.62	.540		NSD
27 Understanding what is required of you at the university	1.41	.70	1.59	.78	1.65	.79	1.04	.358		NSD
28 Coping with academic work	1.73	.76	2.00	.95	1.76	1.03	1.35	.264		NSD
29 Dealing with staff at the university	**1.20**	.50	**1.41**	.66	**1.94**	1.25	6.74	.002*	.10	30+>21-24,25-29
30 Expressing your ideas in class	2.00	1.04	2.14	1.09	2.18	1.19	.30	.743		NSD

[a] NSD = No Significant Difference.
Note. *Using the Bonferroni adjustment, required significance at *p* < .05 level for the total, at *p* < .01 level for dimensions, and at *p* < .002 for items.
Post-hoc Scheffé mean difference is significant at the *p* = .05 level. Effect size (η^2) guidelines indicate .01 = small; .09 = medium; .14 = large.
Responses: 1 = *No Difficulty*, 2 = *Slight Difficulty*, 3 = *Moderate Difficulty*, 4 = *Great Difficulty*, and 5 = *Extreme Difficulty*.

Table 7

Adaptation Difficulty: Factors and Items by Geographical Region (Asia, Europe, Africa) (n = 126)

Dimensions/Items	Asia (n = 95)		Europe (n = 18)		Africa (n = 13)		F	p	η^2	Summary of Significant Differences[a]
	M	SD	M	SD	M	SD				
Total	**2.10**	.58	**1.70**	.37	**1.84**	.53	4.60	.012*	.07	AS > E[b]
I Impersonal Endeavors and Perils	2.25	.78	1.69	.77	2.11	.69	4.02	.020		NSD
11 Dealing with someone who is unpleasant or aggressive	**2.92**	1.15	**1.89**	1.08	**3.00**	1.41	6.14	.002*	.09	AF, AS > E
14 Dealing with people in authority	**2.04**	.96	**1.44**	.98	**1.31**	.48	5.95	.002*	.09	AS > E, AF
15 Dealing with the bureaucracy	2.29	1.11	1.78	1.17	1.77	.73	2.68	.072		NSD
20 Dealing with the climate	1.85	1.04	1.72	.96	2.69	1.38	3.90	.023		NSD
21 Dealing with people staring at you	2.13	.98	1.61	.92	1.77	1.17	2.49	.087		NSD
II Basic Needs and Transportation	1.74	.62	1.54	.53	1.54	.60	1.27	.285		NSD
3 Using the transport system	1.86	1.00	2.11	1.32	1.85	1.07	.43	.652		NSD
6 Going shopping	1.49	.87	1.11	.47	1.23	.60	2.09	.129		NSD
17 Communicating with people of a different ethnic group	2.09	.92	1.89	.96	1.62	.65	1.81	.169		NSD
19 Finding your way around	1.88	.84	1.39	.50	1.62	.77	3.30	.040		NSD
23 Going to coffee shops, restaurants, or fast food places	1.37	.60	1.22	.55	1.38	.87	.435	.648		NSD

Table 7 (continued)

Adaptation Difficulty: Factors and Items by Geographical Area (Asia, Europe, Africa) (n = 126)

Dimensions/Items	Asia (n = 95)		Europe (n = 18)		Africa (n = 13)		F	p	η^2	Summary of Significant Differences [a]
	M	SD	M	SD	M	SD				
III Social Skills	2.46	.73	2.01	.60	2.12	.81	3.77	.026		NSD
2 Making American friends	3.11	1.08	2.67	1.08	3.01	1.07	1.65	.196		NSD
5 Getting used to the pace of life	1.77	.95	1.78	.81	1.69	.95	.04	.960		NSD
7 Going to social events or gatherings	2.62	1.11	2.00	1.08	1.92	.95	4.18	.017		NSD
9 Talking about yourself with others	1.91	.88	1.61	.85	1.62	.77	1.34	.265		NSD
10 Understanding jokes and humor	2.91	1.19	2.06	.87	2.69	1.44	3.94	.022		NSD
24 Understanding the accent or language	2.46	.98	1.94	.64	2.00	.91	3.32	.039		NSD
IV Adapting to College and Living Environment	1.88	.63	1.52	.40	1.55	.70	3.83	.024		NSD
16 Adapting to housing accommodations	2.05	1.04	2.06	1.16	2.00	1.41	.01	.986		NSD
27 Understanding what is required of you at the university	1.60	.78	1.28	.57	1.46	.78	1.47	.235		NSD
28 Coping with academic work	2.02	.95	1.50	.62	1.46	.52	4.44	.014		NSD
29 Dealing with staff at the university	1.48	.81	1.11	.32	1.31	.63	2.04	.134		NSD
30 Expressing your ideas in class	2.26	1.09	1.67	.84	1.54	.97	4.54	.013		NSD

[a] NSD = No Significant Difference. [b] E = Europe, AS = Asia, AF = Africa
Note. *Using the Bonferroni adjustment, required significance at *p* < .05 level for the total, at *p* < .01 level for dimensions, and at *p* < .002 for items.
Post-hoc Scheffé mean difference is significant at the *p* = .05 level.
Effect size (η^2) guidelines indicate .01 = small; .09 = medium; .14 = large.
Responses: 1 = *No Difficulty*, 2 = *Slight Difficulty*, 3 = *Moderate Difficulty*, 4 = *Great Difficulty*, and 5 = *Extreme Difficulty*.

Table 8

Adaptation Difficulty: Factors and Items by Country of Origin (and Taiwan) (n = 90)

Dimensions/Items	China (n = 59)		India (n = 11)		Taiwan (n = 8)		S. Korea (n = 6)		Morocco (n = 6)		F	p	η²	Summary of Sig. Diff. [a]
	M	SD	M	SD	M	SD	M	SD	M	SD				
Total	**2.03**	.48	**2.08**	.84	**2.23**	.42	**2.69**	1.05	**1.72**	.62	2.44	.050*	.72	S. Korea > Morocco
I Impersonal Endeavors and Perils	2.10	.66	2.33	1.06	2.73	.68	2.87	1.16	1.77	.50	3.03	.022		NSD
11 Dealing with someone who is unpleasant or aggressive	2.75	1.09	2.73	1.42	3.25	.89	3.50	1.38	3.00	1.41	1.02	.400		NSD
14 Dealing with people in authority	2.05	.82	1.64	1.21	2.38	1.06	1.33	.52	1.31	.48	2.31	.066		NSD
15 Dealing with the bureaucracy	2.15	1.00	2.55	1.29	2.88	1.13	2.83	1.60	1.50	.84	2.14	.083		NSD
20 Dealing with the climate	**1.56**	.93	**2.45**	1.04	**2.75**	1.16	**2.33**	1.21	**2.00**	1.10	4.30	.002*	.17	Taiwan > China
21 Dealing with people staring at you	1.98	.90	2.27	1.49	2.38	.52	3.00	1.10	1.50	.55	2.37	.059		NSD
II Basic Needs and Transportation	1.71	.56	1.93	.86	1.50	.47	2.30	.86	1.67	.89	1.73	.151		NSD
3 Using the transport system	1.81	.92	2.27	1.19	1.50	.53	2.67	1.51	2.17	1.33	1.78	.140		NSD
6 Going shopping	1.46	.86	2.18	1.25	1.13	.35	1.67	.82	1.50	.84	2.07	.093		NSD
17 Communicating with people of a different ethnic group	2.07	.83	2.09	1.14	2.00	1.07	2.83	1.47	1.50	.84	1.56	.194		NSD
19 Finding your way around	1.83	.72	1.91	1.14	1.75	1.04	2.50	1.05	1.50	.84	3.30	.040		NSD
23 Going to coffee shops, restaurants, or fast food places	1.37	.61	1.18	.40	1.13	.35	1.83	.75	1.67	1.21	1.21	.311		NSD

(continued)

Table 8 (continued)

Adaptation Difficulty: Factors and Items by Country of Origin (and Taiwan) (n = 90)

Dimensions/Items	China (n = 59)		India (n = 11)		Taiwan (n = 8)		S. Korea (n = 6)		Morocco (n = 6)					Summary of Sig. Diff. [a]
	M	SD	M	SD	M	SD	M	SD	M	SD	F	p	η^2	
III Social Skills	2.46	.67	2.30	.96	2.48	.51	3.03	1.28	1.89	.66	1.85	.126		NSD
2 Making American friends	3.29	1.05	2.55	1.21	3.00	.93	3.50	1.38	2.50	.84	1.86	.125		NSD
5 Getting used to the pace of life	1.66	.90	1.91	1.14	2.00	1.07	2.50	.84	1.50	.55	1.44	.226		NSD
7 Going to social events or gatherings	2.64	1.16	2.45	1.13	2.63	.92	2.83	1.47	1.83	.75	.81	.525		NSD
9 Talking about yourself with others	1.81	.73	2.09	.94	1.88	.99	2.83	1.72	1.33	.52	2.70	.036		NSD
10 Understanding jokes and humor	2.86	1.09	2.73	1.68	2.88	1.13	3.67	1.75	2.17	1.17	1.16	.335		NSD
24 Understanding the accent or language	2.47	.94	2.09	1.38	2.50	.76	2.83	1.17	2.00	1.10	.86	.491		NSD
IV **Adapting to College and Living Environment**	1.77	.54	1.73	.80	2.15	.51	2.50	1.02	1.53	.83	2.75	.033		NSD
16 Adapting to housing accommodations	2.00	1.00	2.00	1.18	2.50	1.20	2.50	1.22	2.00	1.55	.62	.650		NSD
27 Understanding what is req'd of you at the university	1.46	.68	1.64	.92	1.63	.74	2.17	.98	1.33	.82	1.43	.232		NSD
28 Coping with academic work	1.90	.92	1.73	1.10	2.50	.53	2.50	1.22	1.33	.52	2.11	.086		NSD
29 Dealing with staff at the university	1.42	.75	1.64	1.29	1.38	.74	2.00	.89	1.33	.52	.84	.505		NSD
30 Expressing your ideas in class	2.07	1.00	1.64	.81	2.75	.71	3.33	1.37	1.67	1.21	4.02	.005		NSD

[a] NSD = No Significant Difference.
Note. *Using the Bonferroni adjustment, required significance at *p* < .05 level for the total, at *p* < .01 level for dimensions, and at *p* < .002 for items.
Post-hoc Scheffé mean difference is significant at the *p* = .05 level. Effect size (η^2) guidelines indicate .01 = small; .09 = medium; .14 = large.
Responses: 1 = *No Difficulty*, 2 = *Slight Difficulty*, 3 = *Moderate Difficulty*, 4 = *Great Difficulty*, and 5 = *Extreme Difficulty*.

Table 9

Adaptation Difficulty: Factors and Items by Self-Rated English Speaking Skill (N = 129)

Dimensions/Items	Fair (n = 33)		Good (n = 67)		Excellent (n = 29)					Summary of Significant Differences [a]
	M	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*	η^2	
Total	**2.23**	.55	**2.05**	.50	**1.66**	.60	9.03	.001*	.13	Fair, Good > Excellent
I Impersonal Endeavors and Perils	2.36	.77	2.18	.69	1.81	.92	4.16	.018		NSD
11 Dealing with someone who is unpleasant or aggressive	3.06	1.17	2.87	1.06	2.14	1.41	5.44	.005		NSD
14 Dealing with people in authority	**2.27**	.88	**1.87**	.87	**1.41**	1.05	6.81	.002*	.10	Fair > Excellent
15 Dealing with the bureaucracy	2.52	1.09	2.19	1.03	1.66	1.11	5.11	.007		NSD
20 Dealing with the climate	1.79	.89	1.90	1.12	2.10	1.23	.67	.516		NSD
21 Dealing with people staring at you	2.15	1.15	2.07	.86	1.72	1.10	1.67	.192		NSD
II Basic Needs and Transportation	1.73	.51	1.71	.60	1.57	.71	.66	.519		NSD
3 Using the transport system	1.76	.83	1.93	1.06	2.00	1.22	.46	.635		NSD
6 Going shopping	1.30	.59	1.49	.88	1.31	.85	.86	.426		NSD
17 Communicating with people of a different ethnic group	2.24	.97	2.04	.81	1.66	1.01	3.42	.036		NSD
19 Finding your way around	1.88	.82	1.78	.76	1.66	.90	.60	.553		NSD
23 Going to coffee shops, restaurants, or fast food places	1.45	.79	1.33	.56	1.24	.51	.95	.391		NSD

Table 9 (continued)

Adaptation Difficulty Factors and Items by Self-Rated English Speaking Skill (N = 129)

Dimensions/Items	Fair (n = 33)		Good (n = 67)		Excellent (n = 29)		F	p	η²	Summary of Significant Differences [a]
	M	SD	M	SD	M	SD				
III Social skills	**2.68**	.64	**2.43**	.65	**1.77**	.74	15.33	.001*	.20	Fair, Good > Excellent
2 Making American friends	**3.52**	.83	**3.07**	1.02	**2.28**	1.03	12.70	.001*	.17	Fair, Good > Excellent
5 Getting used to the pace of life	1.88	.82	1.82	.98	1.45	.83	2.12	.124		NSD
7 Going to social events or gatherings	2.58	.90	2.58	1.16	2.00	1.16	3.13	.047		NSD
9 Talking about yourself with others	**2.12**	.96	**1.91**	.83	**1.31**	.60	8.18	.001*	.12	Fair, Good > Excellent
10 Understanding jokes and humor	**3.27**	1.13	**2.81**	1.13	**1.93**	1.13	11.21	.001*	.15	Fair, Good > Excellent
24 Understanding the accent or language	**2.73**	1.04	**2.39**	.82	**1.66**	.86	11.83	.001*	.16	Fair > Excellent
IV Adapting to College and Living Environment	**2.05**	.64	**1.79**	.61	**1.47**	.50	7.48	.001*	.11	Fair, Good > Excellent
16 Adapting to housing accommodations	2.24	1.12	1.97	.95	1.93	1.31	.86	.427		NSD
27 Understanding what is required of you at the university	1.82	.85	1.52	.70	1.21	.62	5.48	.005		NSD
28 Coping with academic work	2.09	.80	1.88	.90	1.59	.95	2.52	.084		NSD
29 Dealing with staff at the university	1.55	.71	1.37	.74	1.31	.81	.88	.417		NSD
30 Expressing your ideas in class	**2.58**	1.23	**2.19**	1.00	**1.31**	.54	13.42	.001*	.18	Fair, Good > Excellent

[a] NSD = No Significant Difference.
Note. *Using the Bonferroni adjustment, required significance at $p < .05$ level for the total, at $p < .01$ level for dimensions, and at $p < .002$ for items.
Post-hoc Scheffé mean difference is significant at the $p = .05$ level. Effect size (η²) guidelines indicate .01 = small; .09 = medium; .14 = large.
Responses: 1 = *No Difficulty*, 2 = *Slight Difficulty*, 3 = *Moderate Difficulty*, 4 = *Great Difficulty*, and 5 = *Extreme Difficulty*.

Table 10

Adaptation Difficulty: Factors and Items by English Course Requirement (N = 129)

Dimensions/Items	ESL (n = 47)		Eff. Comm. (n = 62)		No Class (n = 20)					Summary of Significant Differences [a]
	M	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*	η^2	
Total	2.15	.56	1.95	.50	1.84	.72	2.65	.075		NSD
I Impersonal Endeavors and Perils	2.28	.74	2.10	.78	1.95	.88	1.45	.239		NSD
11 Dealing with someone who is unpleasant or aggressive	2.91	1.04	2.73	1.24	2.45	1.47	1.06	.349		NSD
14 Dealing with people in authority	2.15	.96	1.76	.90	1.55	1.00	3.70	.027		NSD
15 Dealing with the bureaucracy	2.36	1.13	2.15	1.08	1.70	.98	2.61	.078		NSD
20 Dealing with the climate	1.85	1.00	1.92	1.14	2.05	1.19	.23	.793		NSD
21 Dealing with people staring at you	2.13	.95	1.94	.96	2.00	1.26	.49	.612		NSD
II Basic Needs and Transportation	1.70	.57	1.67	.53	1.70	.88	.03	.967		NSD
3 Using the transport system	1.77	.98	2.02	1.05	1.85	1.18	.79	.456		NSD
6 Going shopping	1.34	.56	1.39	.75	1.60	1.31	.75	.475		NSD
17 Communicating with people of a different ethnic group	2.19	.85	1.90	.88	1.90	1.12	1.51	.226		NSD
19 Finding your way around	1.79	.78	1.77	.76	1.75	1.02	.02	.985		NSD
23 Going to coffee shops, restaurants, or fast food places	1.40	.65	1.27	.58	1.40	.68	.70	.501		NSD

Table 10 *(continued)*

Adaptation Difficulty: Factors and Items by English Course Requirement (N = 129)

Dimensions/Items	ESL (n = 47)		Eff. Comm. (n = 62)		No Eng. Class (n = 20)		F	p	η^2	Summary of Significant Differences [a]
	M	SD	M	SD	M	SD				
III Social skills	2.56	.73	2.24	.63	2.17	.99	3.26	.042		NSD
2 Making American friends	3.32	1.00	2.79	1.03	2.95	1.19	3.46	.034		NSD
5 Getting used to the pace of life	1.87	.95	1.66	.87	1.75	1.02	.70	.498		NSD
7 Going to social events or gatherings	2.72	1.12	2.27	.96	2.35	1.46	2.30	.105		NSD
9 Talking about yourself with others	1.93	1.01	1.84	.79	1.55	.69	1.41	.249		NSD
10 Understanding jokes and humor	2.94	1.07	2.66	1.21	2.45	1.50	1.31	.274		NSD
24 Understanding the accent or language	2.58	.97	2.23	.88	1.95	1.05	3.58	.031		NSD
IV Adapting to College and Living Environment	**1.97**	.65	**1.75**	.60	**1.46**	.50	5.08	.008*	.08	ESL > No Eng.
16 Adapting to housing accommodations	2.23	1.11	1.97	1.07	1.75	1.02	1.62	.201		NSD
27 Understanding what is required of you at the university	1.66	.79	1.48	.74	1.35	.67	1.40	.251		NSD
28 Coping with academic work	2.00	.88	1.90	.94	1.45	.69	2.81	.064		NSD
29 Dealing with staff at the university	1.57	.85	1.31	.56	1.30	.92	1.99	.141		NSD
30 Expressing your ideas in class	2.36	1.05	2.10	1.11	1.45	.76	5.36	.006		NSD

[a] NSD = No Significant Difference.
Note. *Using the Bonferroni adjustment, required significance at *p* < .05 level for the total, at *p* < .01 level for dimensions, and at *p* < .002 for items.
Post-hoc Scheffé mean difference is significant at the *p* = .05 level. Effect size (η^2) guidelines indicate .01 = small; .09 = medium; .14 = large.
Responses: 1 = *No Difficulty*, 2 = *Slight Difficulty*, 3 = *Moderate Difficulty*, 4 = *Great Difficulty*, and 5 = *Extreme Difficulty*.

Table 11

Adaptation Difficulty: Factors and Items by Family or Friends in U.S. (*N* = 129)

Dimensions/Items	Family (*n* = 48)		No Family (*n* = 81)				
	M	*SD*	*M*	*SD*	*t*	*p*	*d*
What difficulty do you have adjusting to:							
Total	**1.82**	.48	**2.11**	.59	-2.85	.005*	.54
I Impersonal Endeavors and Perils	1.97	.67	2.24	.83	-1.97	.052	
11 Dealing with someone who is unpleasant or aggressive .	2.60	1.23	2.84	1.20	-1.07	.288	
14 Dealing with people in authority	1.69	.85	1.98	1.00	-1.67	.098	
15 Dealing with the bureaucracy	1.85	.99	2.33	1.13	-2.44	.016	
20 Dealing with the climate	1.81	1.08	1.98	1.10	-.82	.414	
21 Dealing with people staring at you	1.88	.82	2.10	1.09	-1.23	.221	
II Basic Needs and Transportation	1.60	.63	1.73	.59	-1.12	.265	
3 Using the transport system	1.83	1.00	1.94	1.08	-.55	.583	
6 Going shopping	1.40	.92	1.41	.74	-.08	.937	
17 Communicating with people of a different ethnic group	1.79	.80	2.14	.96	-2.09	.038	
19 Finding your way around	1.69	.72	1.83	.85	-.96	.341	
23 Going to coffee shops, restaurants, or fast food places	1.33	.69	1.35	.57	-.11	.913	
III Social skills	**2.08**	.66	**2.50**	.75	-3.25	.001*	.60
2 Making American friends	2.73	1.11	3.17	1.01	-2.33	.022	
5 Getting used to the pace of life	1.56	.85	1.86	.95	-1.82	.071	
7 Going to social events or gatherings	2.21	1.11	2.59	1.10	-1.91	.059	
9 Talking about yourself with others	1.67	.78	1.93	.91	-1.65	.101	
10 Understanding jokes and humor	**2.25**	1.12	**3.01**	1.19	-3.60	.001*	.66
24 Understanding the accent or language	2.06	.81	2.46	1.01	-2.30	.023	
IV Adapting to College & Living Environment	**1.60**	.54	**1.90**	.65	-2.71	.008*	.50
16 Adapting to housing accommodations	1.75	.96	2.20	1.12	-2.31	.023	
27 Understanding what is required of you at the university	1.42	.74	1.59	.75	-1.29	.199	
28 Coping with academic work	1.75	.84	1.94	.93	-1.16	.250	
29 Dealing with staff at the university	1.27	.61	1.48	.81	-1.56	.121	
30 Expressing your ideas in class	1.79	.97	2.27	1.11	-2.49	.014	

Note. *Using the Bonferroni adjustment, required significance at *p* < .05 level for the total, at *p* < .01 level for dimensions, and at *p* < .002 for items. Effect size guidelines: .20 = Small, .50 = Medium, .80 = Large
Responses: 1 = *No Difficulty,* 2 = *Slight Difficulty*, 3 = *Moderate Difficulty,* 4 = *Great Difficulty,*
5 = *Extreme Difficulty*

Table 12

Adaptation Difficulty: Factor and Items by International Friendship Family (*N* = 129)

Dimensions/ Items	IFamily (*n* =26)		No IFamily (*n* =103)				
	M	*SD*	*M*	*SD*	*t*	*p*	*d*
What difficulty do you have adjusting to:							
Total	**1.69**	.50	**2.09**	.56	3.26	.001*	.75
I Impersonal Endeavors and Perils	1.85	.78	2.21	.77	2.12	.036	
11 Dealing with someone who is unpleasant or aggressive .	2.27	1.22	2.87	1.19	2.31	.022	
14 Dealing with people in authority	1.69	.74	1.91	1.00	1.05	.295	
15 Dealing with the bureaucracy	1.77	.86	2.25	1.14	2.03	.045	
20 Dealing with the climate	1.88	1.07	1.92	1.10	.16	.875	
21 Dealing with people staring at you	1.65	.85	2.11	1.02	2.09	.039	
II Basic Needs and Transportation	1.42	.40	1.75	.63	2.54	.012	
3 Using the transport system	1.69	.68	1.95	1.11	1.13	.260	
6 Going shopping	1.23	.51	1.45	.86	1.22	.223	
17 Communicating with people of a different ethnic group	**1.42**	.70	**2.16**	.90	3.84	.001*	.93
19 Finding your way around	1.58	.76	1.83	.81	1.42	.160	
23 Going to coffee shops, restaurants, or fast food places	1.19	.49	1.38	.64	1.38	.171	
III Social skills	**1.90**	.67	**2.46**	.72	3.56	.001*	.81
2 Making American friends	2.58	1.17	3.12	1.01	2.35	.020	
5 Getting used to the pace of life	1.38	.57	1.84	.97	2.32	.022	
7 Going to social events or gatherings	**1.73**	.92	**2.63**	1.09	3.86	.001*	.90
9 Talking about yourself with others	1.54	.86	1.90	.86	1.94	.055	
10 Understanding jokes and humor	2.38	1.06	2.82	1.24	1.62	.107	
24 Understanding the accent or language	**1.81**	.80	**2.44**	.96	3.09	.002*	.72
IV Adapting to College & Living Environment	1.55	.53	1.84	.63	2.21	.029	
16 Adapting to housing accommodations	1.69	.93	2.12	1.11	1.80	.074	
27 Understanding what is required of you at the university	1.38	.64	1.56	.78	1.08	.280	
28 Coping with academic work	1.54	.81	1.95	.90	2.13	.035	
29 Dealing with staff at the university	1.23	.51	1.45	.79	1.32	.188	
30 Expressing your ideas in class	1.88	.99	2.15	1.10	1.10	.272	

Note. *Using the Bonferroni adjustment, required significance at *p* < .05 level for the total, at *p* < .01 level for dimensions, and at *p* < .002 for items. Effect size guidelines: .20 = Small, .50 = Medium, .80 = Large
Responses: 1 = *No Difficulty,* 2 = *Slight Difficulty*, 3 = *Moderate Difficulty,* 4 = *Great Difficulty,*
5 = *Extreme Difficulty*

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