An Analysis of Acculturative Stress, Sociocultural Adaptation, and Satisfaction among International Students at a Non-Metropolitan University

Hajara Mahmood

Western Kentucky University, hajara.mahmood@wku.edu

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AN ANALYSIS OF ACCULTURATIVE STRESS, SOCIOCULTURAL
ADAPTATION, AND SATISFACTION AMONG INTERNATIONAL STUDENTS
AT A NON-METROPOLITAN UNIVERSITY

A Dissertation
Presented to
The Faculty of the Educational Leadership Doctoral Program
Western Kentucky University
Bowling Green, Kentucky

In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Education

By
Hajara Mahmood

May 2014
AN ANALYSIS OF ACCULTURATIVE STRESS, SOCIOCULTURAL ADAPTATION, AND SATISFACTION AMONG INTERNATIONAL STUDENTS AT A NON-METROPOLITAN UNIVERSITY

Date Recommended April 14, 2014
Monica Galloway Burke, Director of Dissertation
Aaron Hughey
Martin Stone

Dean, Graduate Studies and Research Date
This dissertation is dedicated to my dear family. I am blessed to have such supportive and loving parents Munawar and Mohammed Mahmood, you both have been amazing examples and have instilled such great values in me. Faith, family, hard work, passion, perseverance, and kindness. As immigrants to the U.S., my parents faced many hardships and made many sacrifices to provide endless opportunities for their daughters. I am forever grateful and will always remain close to my roots. To my elder sister Azra Mahmood, you are my person; I am blessed to have such a great role model, sister, and friend. I am thankful for her perfect timing in always calling to offer her sincere compassion, wisdom, and motivating words. Azra shines her light on others, not knowing what an impact she has on people and I admire her for that. To my younger sister Khadija Mahmood, I hope I can be an example to you in following your dreams and passions in life and thank you for always being patient with me. To my brother in-law Rafiqur Rahman, thank you for always keeping me laughing and for being the brother I never I had. And of course, my two little nieces Azizah and Razia, their endless smiles and laughs made all those hard days full of brightness, which continues to remind me about the most simple and important things in life. And my late grandparents, especially Mir Muzaffer Sultan, even though I never met him, from all the stories that were shared, I admire what an amazing soul he was and part of him continues to live with me and the generations to come. I am humbly blessed!
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This quantitative descriptive study was designed to analyze levels of acculturative stress and sociocultural adaptation among international students at a non-metropolitan university in the U.S. in relation to college satisfaction and certain demographic characteristics. Surveys were used to measure international students’ levels of acculturative stress, sociocultural adaptation, including five subscales of sociocultural adaptation, and college satisfaction ($N = 413$). Demographic questions included gender, age, country of origin, length of stay in the U.S., degree level, and English language comfort. Results indicated a negative correlation between students’ levels of sociocultural adaptation and acculturative stress. In particular, increased competency among the five sociocultural adaptation subscales (interpersonal communication, academic/work performance, personal interests and community involvement, ecological adaptation, and language proficiency) decreased levels of acculturative stress among the students. In addition, increased sociocultural adaptation related to higher levels of college satisfaction, while higher levels of acculturative stress related to decreased levels of college satisfaction. Interestingly, social interaction among faculty, staff, peers, and community, as well as the importance of academic success, appear to be important factors that influence international students’ satisfaction with their experiences at the university. In terms of demographics, differences were evident among students’ English language comfort, specifically between students with lower levels of English language
comfort and those with higher comfort with the English language. In addition female, non-traditional, and graduate students exhibited higher levels of sociocultural adaptation and higher levels of college satisfaction, while male, traditional, and undergraduate international students indicated higher amounts of acculturative stress and lower levels of college satisfaction. In light of these findings, universities should expand their outreach efforts in improving international students’ wellbeing and adjustment to U.S. college campuses as well as promote more diversity, cultural sensitivity, and multicultural competency for all individuals across campus by expanding intercultural contact. More studies are needed to further enhance understandings of international student experiences at U.S. colleges and universities.
CHAPTER I: INTRODUCTION

Globalization is reshaping economic, educational, political, social, and cultural aspects of everyday life (Halsey, Lauder, Brown, & Wells, 1997; Lauder, Brown, Dillabough, & Halsey, 2006). One of the most distinctive outcomes of globalization today is the access to educational services worldwide, which in turn creates a highly competitive market for international higher education (Cole, 2013; Freeman, 2010; Marginson, 2006; Verbik & Lasanowski, 2007; Wildavsky, 2010). As postsecondary educational opportunities continue to expand, and with the advancement of globalization, a small group of developed countries, which includes the United States (U.S.), has become preferred destinations for students to seek a higher education abroad (Han, 2010; Institute of International Education, 2013; Poyrazli, Kavanaugh, Baker, & Al-Timimi, 2004). International students are drawn to pursuing their higher education in the U.S., which includes undergraduate and graduate degrees as well as English-language training due to the high quality programs and wide range of academic offerings (Council for the Advancement of Standards in Higher Education, 2012). In addition, factors such as limited access to quality education, research, employment opportunities, as well as the demand for a U.S. degree in their home countries are a few influences that drive international students to pursue a higher education degree in the U.S. (Khatiwada, 2010).

In an effort to become more globalized, colleges and universities continuously recruit and accept international students at their educational institutions (Cudmore, 2005; Geoffrey, 2005; Guo & Chase 2011; Stromquist, 2007; Wildavsky, 2010). Universities recognize the long-term benefits in globalizing higher education, as well as recruiting international students to their campuses, as this can lead to an increase in economic
growth and innovation (Adnett, 2010; NAFSA 2013; Wildavsky, 2010) and cultural
diversity on campuses (Burbules & Torres, 2000; La Spada, 2010; Peterson, Briggs,
Dreasher, Horner, & Nelson, 1999). Also, the value of education is so great for an
international student that they are willing to face the challenges in moving to a new
country and new environment to pursue a degree for better educational and employment
opportunities (Kaczmareck, Matlock, Merta, Ames, & Ross, 1994).

According to the 2013 Open Door report, the number of international students in
the U.S. increased by 7.2% to a record high of 819,644 during the 2012-2013 academic
year; these students contributed over 24 billion dollars to the U.S. economy (Institute of
International Education; IIE, 2013). It is imperative for higher education institutions in
the U.S. to respond to the rapidly growing numbers of international students by aiding
these individuals in their transition to college, as trends indicate that the number of
globally mobile students is expected to triple to eight million by 2025 (Altbach & Basset,
2004).

Although international students come from diverse cultural backgrounds and have
differences in language, these individuals experience similar acculturation challenges;
therefore, “being an international student” represents a common minority identity in the
international students arrive in the U.S., their expectations often are not easily met
(Eustace, 2007). At American college campuses, many international students face
various challenges in adapting to the academic and social environment, which may
include difficulty with the English language and communication, developing friendships,
and a lack of knowledge of the American culture (Johnson & Sandhu, 2007), along with
changes in food, finances, housing, and social support (Eustace, 2007). In addition, international students often experience higher levels of discrimination and homesickness in comparison to students from the host country (Poyrazli & Lopez, 2007). These experiences relate to the challenges and stresses involved during the acculturation process and in adapting to a new culture (Eustace, 2007).

Trimble (2003) remarked that globalization is resulting in “more intense culture and ethnic contact than ever before in history” and, as a result, sociocultural change has become the “progenitor of acculturation” (p.3). Berry (2005) defined acculturation as the process of adapting to a new culture, which includes, “cultural and psychological change that takes place as a result of contact between two or more cultural groups and their individual members (p. 698). International students greatly influence globalization at U.S. colleges and universities and gain benefits in obtaining a U.S. higher education degree; however, they often encounter challenges when adapting to a new culture, leading to difficulties and stresses during their acculturation process, which ultimately influences their student experience.

**Statement of the Problem**

Higher education institutions in the U.S. recognize the importance in providing international student services on their campuses (Mamiseishvili, 2012). This occurrence has produced various research studies targeted at examining general international student experiences at college campuses (Poyrazli et al., 2004). In particular, a substantive amount of studies have been conducted on meeting the needs for international students (Allameh, 1989; Butcher & McGrath, 2004; Mamiseishvili, 2012; Roberts & Dunworth, 2012; Thiuri, 2011); the challenges faced by international students (Gaw, 2000; Lee &
Rice, 2007; Popov et al., 2012); understanding the psychological and social wellbeing of international students (Hayes & Lin, 1994; Jung, Hecht, & Wadsworth, 2007; Mehta, 2011; O’Reilly, Ryan, & Hickey, 2010; Sakurai, McCall-Wolf, & Kashima, 2010; Sobrè-Denton, 2011); as well as international students’ adjustments while studying abroad (Andrade, 2006; Khatiwada, 2010; Swami, 2009; Ward & Kennedy, 1993a, 1993b). In terms of acculturation, very few studies have compared the factors of sociocultural adaptation and acculturative stress among international students in the U.S. This study will fill the gap in acculturation research, as the aspects of sociocultural adaptation and acculturative stress among international students will be compared to their levels of student satisfaction at a non-metropolitan university environment in the U.S. in order to gain a comprehensive perspective of the international student experience.

The desire to understand the current status of our international students’ acculturation experiences at U.S. universities is imperative to determine whether institutions are meeting their needs and, ultimately, ensuring that these students have a positive educational experience to support their academic persistence. Thus, the question remains: What are the acculturation experiences of international students at a four-year public postsecondary institution in the south central region of the United States, and how might this influence their student satisfaction with the college experience and university selection?

In defining the variables, sociocultural adaptation analyzes one’s acquisition of culture learning and social skills (Berry & Sam, 1997; Ward & Kennedy, 1999), while acculturative stress indicates the negative consequences that result from contact between two distinctive cultural groups (Berry, Kim, Minde, & Mok, 1987). In terms of college
satisfaction levels, this study will focus on international students’ overall academic and social experience, along with their overall satisfaction with institutional choice. Furthermore, exploring the role of demographic factors on levels of sociocultural adaptation and acculturative stress among this student population also may provide a considerable understanding in efforts to improve international student services on campuses. The theoretical perspective guiding this current study is the acculturation framework developed by Berry and his associates (Berry 1990, 1992, 1997, 2005; Berry & Annis, 1974; Berry et al., 1987; Berry, Kim, Power, Young, & Bujaki, 1989; Berry & Sam, 1997).

**Purpose of the Study**

The purpose of this study was to analyze levels of sociocultural adaptation and acculturative stress among international students at a non-metropolitan university in the U.S. in relation to college satisfaction levels and demographic factors. In this investigation, a quantitative research design was used to gain a better perspective on key factors influencing acculturation and adaptation of international students. Attaining knowledge on the factors of sociocultural adaptation and acculturative stress of international students in relation to their satisfaction with the experience at the university, can help in determining students’ overall acculturation experiences, as well as provide insight on whether the university is providing a positive educational experience for these students. As the numbers of international students increase on campuses, and as this minority group faces similar challenges during their initial arrival to the U.S., it is important to increase perceptions on how these students are adapting and the stresses they
face in a new culture and campus climate in order that universities can initiate and make improvements to the services and resources they provide.

**Research Questions and Hypotheses**

The purpose of this research was to gain a better understanding of international students’ acculturation experiences while studying at a non-metropolitan university in the U.S., and how this influences their satisfaction with the university and college experience. This study will consider the levels of sociocultural adaptation, acculturative stress, and college satisfaction among the international students at a non-metropolitan institution and will identify any differences that are evident among specific demographic characteristics among this student population.

The research incorporates several aspects, which include a sociocultural adaptation questionnaire comprised of five subscales (interpersonal communication, academic/work performance, personal interests and community involvement, ecological adaptation, and language proficiency); acculturative stress questionnaire; a brief college satisfaction survey to determine overall satisfaction levels; and a demographics survey to examine whether certain factors influence sociocultural adaptation and acculturative stress levels. These instruments will be administered to all international students enrolled at a public postsecondary institution in the south central region of the United States. The following research questions guided this quantitative study of international students at a non-metropolitan university, and the hypotheses are as follows:

*Research Question 1*: How does the level of acculturative stress relate to the levels of overall sociocultural adaptation and the five subscales of sociocultural adaptation (interpersonal communication, academic/work performance, personal interests
and community involvement, ecological adaptation, and language proficiency) among international students at a non-metropolitan university in the United States?

_Hypothesis 1:_ A significant relationship exists between the levels of acculturative stress and overall sociocultural adaptation, as well as the five subscales of sociocultural adaptation (interpersonal communication, academic/work performance, personal interests and community involvement, ecological adaptation, and language proficiency) among international students studying at a non-metropolitan university in the United States.

_Research Question 2:_ Do significant differences exist between international students’ selected demographic variables (gender, age, degree level, and English language comfort) and the dependent variables of levels of acculturative stress, overall sociocultural adaptation, five subscales of sociocultural adaptation, satisfaction with the overall college experience, and satisfaction with the university?

_Hypothesis 2:_ A significant difference exists between international students’ demographic variables (gender, age, degree level, and English language comfort) and the dependent variables of acculturative stress, overall sociocultural adaptation, five subscales of sociocultural adaptation, satisfaction with the overall college experience, and satisfaction with the university. The following will be tested in regard to this hypothesis:

*RQ2a:* Do significant differences exist between international students’ gender and all dependent variables listed in RQ2?

_Hypothesis 2a:_ A significant difference will be found between gender and all dependent variables listed in RQ2.
**RQ2b:** Do significant differences exist between international students’ age (traditional and non-traditional students) and all dependent variables listed in RQ2?

*Hypothesis 2b:* A significant difference will be found between age (traditional and non-traditional students) and all dependent variables listed in RQ2.

**RQ2c:** Do significant differences exist between international students’ degree level (undergraduate and graduate students) and all dependent variables listed in RQ2?

*Hypothesis 2c:* A significant difference will be found between international students’ degree level (undergraduate and graduate students) and all dependent variables listed in RQ2.

**RQ2d:** Do significant differences exist between international students’ English language comfort and all dependent variables listed in RQ2?

*Hypothesis 2d:* A significant difference will be found between international students’ English language comfort and all dependent variables listed in RQ2.

*Research Question 3:* How do levels of overall sociocultural adaptation and acculturative stress relate to levels of satisfaction with the overall college experience and satisfaction with the university among international students studying at a non-metropolitan university in the United States?

*Hypothesis 3:* A significant relationship exists between the levels of overall sociocultural adaptation and acculturative stress with satisfaction with the overall college experience and with the university among international students studying at a non-metropolitan university in the United States.
Significance of the Study

As international student population growth is evident at U.S. colleges and universities (IIE, 2012; Witherel & Pittman, 2012), it is critical to better understand how to ease the adjustment of international students at their campuses (Al-Sharideh & Goe, 1998). Ultimately, adjusting to a college campus will positively influence students’ experience and satisfaction with the academic and social environment (Hsu, 2011). Also, international students who adjust are more likely to be retained, as student retention is a critical goal for universities (Al-Sharideh & Goe, 1998; Mamiseishvili, 2012).

The significance of this study lies in the fact that not all international students adapt easily to college campuses in the U.S. Higher education institutions often focus their initiatives and services toward domestic college students, as they make up the larger student population; however, as international student numbers continue to increase and these students generate large revenue as well as increase diversity and internationalization at American colleges and universities, it is imperative that higher education institutions also meet the needs for this student population, particularly as foreign students face greater adverse affects to living in a new culture. The quantitative analysis of this research evaluated international students’ levels of sociocultural adaptation, acculturative stress, and student satisfaction, as well as identified any differences among certain demographic characteristics. This study was intentionally limited to international students studying at a non-metropolitan university located in the south central part of the U.S. to gain perspectives on how foreign students’ adapt socioculturally and the acculturative stresses they face in this particular university environment.
The results from this study will provide a more conclusive overview of the acculturation experiences of international students and the possible implications that impact this view. In addition, the researcher can utilize this data to implement initiatives at higher education institutions to enhance services and resources for international students. These services and resources can help them to attain a positive educational outcome through the reduction of the challenges and consequences of acculturative stress, improving levels of adaptation among these students, and meeting their educational needs, which leads to the promotion of a positive educational experience as well as enhanced psychological and social wellbeing for these students. Limited literature exists on international students’ acculturative stress and sociocultural adaptation levels in the U.S., particularly related to its role in satisfaction with the college experience, this study provides insightful information to higher education institutions regarding factors that are important for the retention and recruitment efforts of international students.

**Limitations**

All participants in this study were international students from one institution located in the south central region of the United States with a population of approximately 21,100 students; therefore, generalization of the results of this study is difficult. Other higher education institutions located in varying geographical areas may have different international student representation, campus culture, and university initiatives. International student experiences at this particular institution may vary in comparison to others; for this reason, applicability to other colleges and universities and geographical areas is limited. In addition, as English was a second language to the
majority of international students, a language barrier with English language fluency could have varied the interpretation of survey items which could have impacted the results.

**Definition of Terms**

*Acculturation:* “The process of adapting to a new culture that includes behavioral, cultural, and psychological change that occurs as a result of contact between two or more cultural groups and their individual members” (Berry, 2005, p. 698).

*Acculturation Strategies:* A person’s attitudes or preference toward acculturating, as well as his or her behaviors. Four acculturation strategies have been identified: integration, assimilation, separation, and marginalization (Berry, 2006).

*Acculturative Stress:* Stress related to the struggle in adapting to a new culture, as well as negative consequences that result from contact between two distinctive cultural groups, often leading to the reduction of physiological, psychological, and social wellbeing, which may cause a struggle in adapting to a new culture (Berry et al., 1987; Poyrazli et al., 2004).

*Adaptation:* Long-term dynamic and interactive process that takes place between the person and the environment and is directed toward an achievement of fit between the two (Anderson, 1994).

*Adjustment:* Short-term dynamic and interactive process that takes occurs between the person and the environment (Anderson, 1994) in terms of the extent to which students meet the demands of college (Feldt, Graham, Dew, 2011).

*Assimilation:* A person not wishing to maintain his or her cultural identity who assumes the cultural identity of the dominant society (Berry, 2006).
**Bi-dimensional Model of Acculturation:** A process in which an immigrant can maintain ethnic identity, as well as develop a positive identification with the dominant society (Castro, 2003)

**College and University:** An institution of higher learning that provides a general or liberal arts education and a program of graduate studies authorized to confer both undergraduate and graduate degrees.

**Culture-shock:** The anxiety and emotional disturbance experienced by an individual when traveling to a new cultural setting (Oberg, 1960).

**Discrimination:** The unjust or prejudicial treatment of different categories of individuals, particularly on the grounds of race, culture, age, or gender.

**Integration:** Immigrant’s preference to maintain both ethnic identity while interacting with other groups (Berry, 2006).

**International Student:** One who is a citizen of another country and is temporarily residing in the United States with the purpose and express intention of earning a postsecondary degree (Erisman & Looney, 2007). The term “foreign student” may be used in reference to international students in this study.

**Marginalization:** When an individual who has little interest in keeping his or her own cultural heritage assumes the dominant cultural identity (Berry, 2006).

**Metropolitan:** A region consisting of a densely populated urban core, including one or more urban areas, as well as satellite cities and intervening rural areas that are socio-economically tied to the urban core.

**Prejudice:** Preconceived opinion that is not based on reason or actual experience.
Psychological Acculturation: Psychological changes that occur within an individual due to the direct influence of the host culture (Graves, 1967).

Psychological Adaptation: One’s self-esteem, identity consolidation, wellbeing, and satisfaction (Berry, 1997; Berry & Sam, 1997).

Separation: When an individual does not become involved in the dominant culture and, instead, focuses on his or her own cultural heritage (Berry, 2006).

Sociocultural Adaptation: One’s culture learning and social skills acquisition that includes interpersonal and intergroup relations (Berry & Sam, 1997; Ward & Kennedy, 1999).

Student Satisfaction: “The favorability of a student’s subjective evaluation of the various outcomes and experiences associated with education. Student satisfaction is being shaped continually by repeated experiences in campus life” (Elliott & Shin, 2002, p. 198).

Uni-dimensional Model of Acculturation: Process in which immigrating individuals are absorbed into the dominant culture by changing their values, attitudes, and behaviors to fit more with the dominant culture than their own group of reference. Assimilation is seen as the goal for the linear model of acculturation (Castro, 2003).

Assumptions

This study is based on the following assumptions common to basic research.

(1) Participants comprehended the questions asked in the instruments.

(2) Participants truthfully answered the questions in the instruments.
Organization of the Dissertation

This dissertation is divided into five chapters. Chapter I presents the purpose of the study, the research questions, significance, limitations, and assumptions. Chapter II is a review of literature that illustrates the theoretical backgrounds, framework, and pertinent information on acculturation for this study. Chapter III provides an explanation of the methodology, and the results from the data analyses are described in Chapter IV. Last, Chapter V indicates the findings, implications, and recommendations for future research.
CHAPTER II: REVIEW OF THE LITERATURE

Literature on international students is ample; however, studies are sparse related to the acculturation stress and sociocultural adaptation of international students. The purpose of this study is to fill the gap in this area of research by focusing on levels of sociocultural adaptation and acculturative stress among international students in the United States (U.S.) in relation to college satisfaction levels and specific demographic factors. This chapter outlines relevant literature and research on the importance in understanding international students’ experiences at U.S. higher education institutions that are relevant to this study. First, previous research and findings are highlighted on the impact of international students on globalization, economic gains, and diversity for the U.S. and American colleges and universities, followed by general information about the representation of this student population and factors that influence international students’ decisions to study abroad in the U.S. Next, a theoretical foundation of acculturation is provided. Last, a review of literature is presented relating to international students’ acculturative stresses, sociocultural adaptation, and college satisfaction in order to gain background knowledge on international student acculturation experiences at U.S. higher education institutions.

International Students in the United States

The international higher education market has become competitive, especially among developed countries, as a large number of students are going abroad to earn higher education degrees (Hemsley-Brown & Oplatka, 2006; Rust & Kim, 2012; Scott, 2007). Worldwide, international students have a significant impact on globalization, as over three million sojourners are currently pursuing an education overseas (Wildavsky, 2010). At this time, the U.S. continues to lead in hosting the largest number of international
students in comparison to other nations (Chow, 2011; Poyrazli et al., 2004). According to the 2013 Open Doors Report, there are now 40% more international students studying at higher education institutions in the U.S. compared to 10 years ago, which coincides with the seven consecutive years of significant growth in international students at colleges and universities in the U.S. (IIE, 2013). The American higher education system stands out throughout the world due to its collective diversity of institutions (i.e., public and private institutions, larger urban universities, two-year community colleges, small rural campuses) that strive for equity, excellence, and the provision of a means of education for diverse populations (Bowden, Kurzwell, Tobin, & Pichler, 2005).

Therefore, U.S. higher education institutions (HEIs) continue to attract diverse student populations, including international students, due to their wide-ranging higher education system and diverse degree programs offered (Chow, 2011; Obst & Forster, 2004), along with their internationalization initiatives (Hayward, 2000; Healey, 2008; Johnson, 2011; Stromquist, 2007).

As the number of international students in the U.S. continues to grow, it is important that American higher education institutions understand how to better serve and retain these students, as well as recognize their value, talent, and impact on the global market. For example, a large number of international students pursuing degrees in science, technology, engineering, and mathematics (STEM) have been evident in the U.S. (Ashby, 2006). As this trend continues, international students have been perceived as driving forces for America’s innovation and technological advancement due to their contributions to scientific research and the number of international students who remain
in the U.S. to pursue careers after graduation (Chellaraj, Maskus, & Mattoo, 2005; NAFSA, 2013).

One of the influential factors driving the large growth of this student population toward STEM related programs is the 17-month optional practical training (OPT) extension granted for international students who graduate with STEM degrees from a U.S. college or university, therefore allowing foreign students to remain in the U.S. longer to gain work or training experience in their STEM field (U.S. Department of Homeland Security, 2013). The U.S. government and President Barack Obama have influenced these initiatives as a method to increase STEM graduates to expand innovation and job creation in America (U.S. Department of Homeland Security, 2013), therefore, recognizing the role of international students at HEIs in industry, and in helping the U.S. remain competitive in the global higher education market, which is critical (Obst & Forster, 2004).

International students are considered to be huge economic resources because of the revenue they generate for HEIs and the U.S. economy (Straubhaar, 2000). According to the U.S. Department of Commerce, international students, along with many of their dependents including spouses and children across 50 states, have contributed approximately 24 billion dollars to the U.S. economy in the form of tuition, housing costs, and other expenditures (Institute of International Education, 2013). Many students are willing to pay high tuition costs, as they find education to be an investment for their future when considering better employment opportunities (Han, 2010). According to NAFSA (2013), international students not only drive economies, but also help to form connections with other countries and bring global perspectives in U.S. classrooms.
Many international students who return to their home countries after completing their degree have a better understanding of American culture and values, attain positions of influence at home, and continue to maintain their networks in the U.S. (Han, 2010). Many others remain and pursue careers in the U.S. and contribute to the American economy (Kaczmareck et al., 1994). International students who study and eventually settle abroad affect the economies of both sending and destination countries (Throsby, 1999).

Indeed, international students in the U.S. are a diverse population, as individuals originate from various countries across the globe “with differing levels of economic, cultural, and language similarity to each other and to their American counterparts” (Jackson, Ray, & Bybell, 2013, p. 17). However, a few top sending countries represent the largest international student populations. In particular, 55,000 more international students were enrolled in higher education institutions during the 2012-2013 academic year, compared to the 2011-2012 academic year, with a majority of the growth driven by undergraduate students from China and Saudi Arabia (Institute of International Education, 2013). As seen in Table 1, there are now 235,597 Chinese students (increase of 21.4% from the previous year) and 44,566 Saudi students (increase of 30.5% from the previous year) pursuing a degree in the U.S. (Institute of International Education, 2013). This representation appears to be evident in many universities across the U.S., considering that the Chinese student population represents the largest group of international students from one country that has been observed in the U.S. (Redden, 2013). Additionally, the continual increase of Saudi students is largely due to the King Abdullah Scholarship Program provided by the Saudi government, as they invest in their
students to earn bachelor's, master's, and doctoral degrees abroad to then return home to aid in the future development of Saudi Arabia (Knickmeyer, 2012; Roach, 2013). Other top sending countries during the 2012-2013 academic year included India (96,754 students) and South Korea (70,627 students), although the numbers have slightly declined compared to the previous academic year (India down 3.5% and South Korea down 2.3%) (Institute of International Education, 2013). Roach (2013) stated that a combination of reasons such as “global and home country economic factors, growing higher education opportunities at home, and stronger employment opportunities at home after graduation” (p. 1) may be possible influences resulting in the slight decline of these students. In addition to the top sending countries, small increases in the number of international students from Brazil, Canada, Colombia, France, Germany, Indonesia, Iran, Kuwait, Malaysia, Mexico, Nigeria, Spain, the United Kingdom, and Vietnam also have been evident in the U.S. during the 2012-2013 academic year, as seen in Table 1 (Institute of International Education, 2013).
Table 1

*Top 25 Countries of Origin for International Students in the U.S. in 2012-13*

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of Students</th>
<th>Percent Change from 2011-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. China</td>
<td>235,597</td>
<td>21.4</td>
</tr>
<tr>
<td>2. India</td>
<td>96,754</td>
<td>-3.5</td>
</tr>
<tr>
<td>3. South Korea</td>
<td>70,627</td>
<td>-2.3</td>
</tr>
<tr>
<td>4. Saudi Arabia</td>
<td>44,566</td>
<td>30.5</td>
</tr>
<tr>
<td>5. Canada</td>
<td>27,357</td>
<td>2.0</td>
</tr>
<tr>
<td>6. Taiwan</td>
<td>21,867</td>
<td>-5.9</td>
</tr>
<tr>
<td>7. Japan</td>
<td>19,568</td>
<td>-2.0</td>
</tr>
<tr>
<td>8. Vietnam</td>
<td>16,098</td>
<td>3.4</td>
</tr>
<tr>
<td>9. Mexico</td>
<td>14,199</td>
<td>2.2</td>
</tr>
<tr>
<td>10. Turkey</td>
<td>11,278</td>
<td>-5.8</td>
</tr>
<tr>
<td>11. Brazil</td>
<td>10,868</td>
<td>20.4</td>
</tr>
<tr>
<td>12. Germany</td>
<td>9,819</td>
<td>5.0</td>
</tr>
<tr>
<td>13. United Kingdom</td>
<td>9,467</td>
<td>3.1</td>
</tr>
<tr>
<td>14. Nepal</td>
<td>8,920</td>
<td>-7.3</td>
</tr>
<tr>
<td>15. Iran</td>
<td>8,744</td>
<td>25.2</td>
</tr>
<tr>
<td>16. France</td>
<td>8,297</td>
<td>0.8</td>
</tr>
<tr>
<td>17. Hong Kong</td>
<td>8,026</td>
<td>-0.1</td>
</tr>
<tr>
<td>18. Indonesia</td>
<td>7,670</td>
<td>7.6</td>
</tr>
<tr>
<td>19. Nigeria</td>
<td>7,316</td>
<td>4.1</td>
</tr>
<tr>
<td>20. Thailand</td>
<td>7,314</td>
<td>-4.1</td>
</tr>
<tr>
<td>21. Malaysia</td>
<td>6,791</td>
<td>0.7</td>
</tr>
<tr>
<td>22. Colombia</td>
<td>6,543</td>
<td>3.9</td>
</tr>
<tr>
<td>23. Venezuela</td>
<td>6,158</td>
<td>-2.0</td>
</tr>
<tr>
<td>24. Kuwait</td>
<td>5,115</td>
<td>37.4</td>
</tr>
<tr>
<td>25. Spain</td>
<td>5,033</td>
<td>2.2</td>
</tr>
</tbody>
</table>

*Source: Institute of International Education, 2013*
During the 2012-2013 academic year, approximately 339,993 international students pursued undergraduate degrees, 311,204 pursued graduate programs, and the remaining 73,528 pursued associate degrees or were enrolled in English language programs. The most popular fields of study have been engineering, math, computer sciences, and business and management (Institute of International Education, 2013).

**Impact of 9/11 and U.S. Visa Policy Changes on International Students**

Based on Chapman’s (2003) research, after the September 11, 2001, tragedy that occurred in the U.S., the Immigration and Naturalization Service (INS) joined the Department of Homeland Security and implemented policy changes for international students, which resulted in stricter visa guidelines to enter the country. Due to the tightened visa restrictions, along with the fear of America by many foreign students, HEIs face a larger concern that these policy changes would result in a significant loss of international student numbers (Freeman, 2010), particularly as these students can choose to attend schools in other English speaking countries such as the United Kingdom, Canada, and Australia (Chow, 2011). In addition to the repercussions of possibly losing many international students subsequent to this event, administrators also feared that higher education institutions would face a great loss in financial revenue (Poyrazli & Grahame, 2007). As a consequence to the stringent policy changes, the number of international students decreased somewhat over a two-year period during the academic years 2003/04 and 2004/05 (Hindrawn, 2003; Singaravelu & Pope, 2007). Fortunately, those numbers have continued to increase and are at a record high of 819,644 students in 2013 (Institute of International Education, 2013). Despite the stricter guidelines and additional restrictions to receive a U.S. student visa, numerous international students
continue to apply and gain admission to American HEIs, as evident from the continued growth of this student population. Therefore, certain factors continue to motivate foreign students to pursue their higher education in the U.S.

**Factors Influencing International Students’ Decisions to Pursue Higher Education in the United States**

A variety of studies have focused on elements that influence international students’ decisions to study abroad (Han, 2010; Hazen & Alberts, 2006; Khatiwada, 2010; Mazzarol & Soutar, 2002). According to Han (2010), the factors recognized by international students as important when selecting a destination country for study abroad included language, immigration policy, political and economic closeness, and geographic location of the host country, while factors influencing institutional choice included cost of tuition and funding availability, quality of higher education system, academic reputation of faculty and the university, supportive facilities at the institution, and admissions information. Based on secondary data sources from the World Bank and Freedom House relative to living and political conditions in various nations, Khatiwada (2010) also investigated the impact of macro factors (i.e., social networks) and micro factors (i.e., socioeconomic, political conditions, and economic opportunities) on students’ decisions to leave their home country to study abroad. The authors found that political and economic situations for both the sending and receiving countries played an immense role in student migration. When referring to migration, the terms “push and pull factors” often are used. In terms of student migration, push factors tend to deter students from remaining in their home countries, while pull factors are those conditions that attract students to study in a particular country (Parkins, 2010).
**Push Factors**

Major factors driving international students to the U.S. are related to the lack of opportunities in their home countries (Hazan & Alberts, 2006). In particular, the lack of higher education and research opportunities, insufficient lab facilities, limited employment opportunities, and inadequate financial support in the home country influence students to study abroad (Khatiwada, 2010). As Mazzarol and Soutar (2002) found, the limitation of educational opportunities in one’s home country often leads to the increasing magnitude of international students’ flow from “developing countries” to “developed countries” to pursue higher education. Similarly, Han (2010) suggested that the level of economic development and opportunities at the home countries often motivate students’ decisions to study overseas. Furthermore, reasons for study abroad appear to vary by country of origin. For example, in Mazzarol and Soutar’s research, students from India, Taiwan, China, and Indonesia were influenced to study abroad due to the high competition and difficulty of gaining admission into local (home country) programs. Particularly among developing nations, an increased demand for the access to higher education is ongoing (Bunoti, 2012; Task Force on Higher Education and Society, 2000), as higher education plays a vital role in human, social, and economic development (Escrugas, 2008).

**Pull Factors**

Key factors motivating a large proportion of foreign students to come to the U.S. included high quality ratings of the higher education system in the U.S., English language, America’s favorable image in international students’ home countries, and funding opportunities (Han, 2010; Khatiwada, 2010). Mazzarol and Soutar (2002), noted
that students perceived that pursuit of a degree overseas would provide them with a higher quality education than offerings in their home country. Also, international students find that a U.S. degree stands out in the global market, which could lead to better job prospects in their future and possibly enhance career opportunities in the host nation (Hazen & Alberts, 2006; Khatiwada, 2010).

**Upon Degree Completion**

In relation to international students’ interest in remaining in their host country after graduation, Das (1974) theorized that developing countries end up losing intellectual talent, as many of their students who study abroad obtain employment overseas and do not return home. About half of the graduating international student population in the U.S. remain and establish careers in America after they complete their degrees (Sangkanjanavanich, Lenz, & Cavazos, 2011; Saravia & Miranda, 2004). International students in Mazzarol and Soutar’s (2002) study conveyed a strong interest in understanding western culture and intended to remain in the U.S. to begin their career after graduation. In contrast, Burns and Mohapatra’s (2008) study on international students found that, as per capita income of the home country increased, the probability of students remaining in the U.S. after graduation decreased. According to Altbach and Wang (1989), students who return to their home countries after completing their education, and possibly after gaining work experience in the U.S., contribute to the expansion of their home country’s economy and are able to maintain technological and research ties with advanced, developed nations.

As driving factors continue to increase the migration of international students from various countries to pursue higher education in the U.S., along with the impact of
these students on the globalization and internationalization at HEIs, it is pivotal that universities gain a better understanding of international student experiences in order to assist them during their transition. Acculturation research provides a multidimensional approach in understanding how individuals adapt to a new culture and environment. In a world where student migration continues to increase, it is vital to consider the challenges these individuals face and how well they adapt while living in a new culture at a college or university in the U.S. to ensure a positive educational experience.

**Meaning of Acculturation**

As a multicultural society, the U.S. is home to diverse immigrants, refugees, and sojourners such as international students (Berry & Sam, 1997). In order to understand how these individuals adapt to the U.S., one must understand the acculturation construct. Many researchers have used the term “assimilation” in measuring successful cultural adaptation; however, Suarez-Orozco (2001) reported that it mean change is “directional, unilinear, nonreversible, and continuous” (p. 8), which is not the case. As Bordas (2007) explained, the U.S. was viewed as a melting pot, where immigrants felt the need to lose their ethnic and national identities leading to assimilation and cultural uniformity. Instead, Trimble (2003) stated that most often foreign populations “select portions of a dominant or contributing culture that fit their original worldview and, at the same time, strive to retain vestiges of their traditional culture” (p. 7). Acculturation results in culture learning, which contributes to individuals developing multicultural competency in a diverse world (Flaskerud, 2007). Bordas (2007) emphasized that acculturation is the new key to multicultural competency in a multicultural era, as this “allows people to be receptive, skillful, and adaptable to other cultures while staying centered in their own” (p. 181). Trimble (2003) added that acculturation is a more current and multifaceted
construct in understanding how individuals adapt and integrate in a society, as “true assimilation may never occur” (p. 7).

Research on acculturation allows individuals a multidimensional view of cultural adaptation (Abe-Kim, Okazaki, & Goto, 2001). As Trimble (2003) described, the principle of acculturation has been used by social and behavioral scientists for centuries, especially in understanding modernization; however, in more recent times this concept has been given precedence in understanding the diverse experiences and contacts among ethnic and cultural minorities. American anthropologists Redfield, Linton, and Herskovitz (1936) presented the original concept of acculturation and defined it as “those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact with subsequent changes in the original cultural patterns of either or both groups” (p. 149). The key phrase in this definition is “continuous first-hand contact,” which suggests that acculturation occurs in long-term contact among individuals from different cultures (Berry, 2003; Trimble, 2003); however, individuals with short-term exposure to another culture also can experience the acculturation process (Hart, 2009). Berry et al. (1987) simply explained Redfield, Linton, and Herskovitz’s (1936) meaning of acculturation as a process of cultural change that results from repeated, direct contact between two distinct cultural groups. The definition of acculturation was amended in 1954 by the Social Science Research Council (SSRC) to:

…culture change that is initiated by the conjunction of two or more autonomous cultural systems. Its dynamics can be seen as the selective adaptation of value systems, the processes of integration and differentiation, the generation of
developmental sequences, and the operation of role determinants and personality factors. (p. 974)

The SSCR definition signifies that individuals can integrate in a society by choosing aspects of the host culture while maintaining their original cultural values (Berry, 2003). More recent literature on acculturation defines acculturation as the process of adapting to a new culture that includes “cultural and psychological change that takes place as a result of contact between two or more cultural groups and their individual members” (Berry, 2005, p. 698). Therefore, the adaptation process when settling into an unfamiliar culture can be analyzed based on changes that occur among groups of people (group-level acculturation) or individuals (individual-level acculturation) (Hart, 2009).

**Group Level Acculturation**

Acculturation includes the group-level phenomenon where a “cultural group is collectively experiencing acculturation” (Berry et al., 1987, p. 492). As Mukminin (2012) synthesized various works of research on acculturation, he stated that group-level acculturation occurs “as a result of prolonged intercultural contacts in which the original cultural patterns of either or both groups may be changed or modified because one cultural group adopts the beliefs and behaviors of another group” (p. 19). However, either group may not necessarily have the same perceptions of the acculturation process (Berry, 1997); these unequal influences and changes often occur, resulting in an acculturating group (Berry & Sam, 1997).

**Individual Level Acculturation**

Acculturation also includes the concept of individual acculturation, which incorporates psychological changes that occur in an individual, including behavioral
changes in language as well as social and internal characteristics such as identity, values, beliefs, norms, and attitudes (Berry, 1990; Johnson & Sandhu, 2007; Sam, 2006). Trimble (2003) affirmed that acculturation, not only examines changes at the individual level, but also incorporates changes at the sociocultural level and emphasized that the impacts of the social and environmental changes on an individual’s values, beliefs, and behaviors cannot be ignored when analyzing the construct of acculturation. Reviewing the scope of acculturation, John Berry and his colleagues have provided a comprehensive lens to grasp a full perspective on the concept of adapting to a new cultural environment.

**Theoretical Framework of Acculturation**

John Berry and his colleagues (Berry 1990, 1992, 1997, 2005; Berry & Annis, 1974; Berry et al., 1987; Berry et al. 1989; Berry & Sam, 1997) have significantly contributed to the development of the acculturation theory and the work conducted on acculturation and adaptation among international populations. The theory of acculturation is now widely used in cross-cultural psychology “to refer to general processes and outcomes (both cultural and psychological) of cultural contact” (Berry & Sam, 1997, p. 294). In terms of acculturating groups, Berry (1992) used an integrative approach and indicated that the psychological processes of individuals during the acculturation process are basically the same for all. The acculturating groups include immigrants and ethno-cultural groups that moved voluntarily and are relatively permanently settled; sojourners such as international students who voluntarily reside in another country but have a temporary nature of their stay; and those who were exposed to a new culture involuntarily such as refugees, asylum seekers, and indigenous peoples as seen in Table 2 (Berry & Sam, 1997). These groups were divided based on three
influential factors that include mobility, voluntariness, and permanence (Berry et al., 1987).

International students often are included in immigrant studies, as these two groups are placed under the category of migrants as seen in Table 2; however, sojourners differ from immigrants, as they are considered to have a short-term residence rather than permanent residence (Hazen & Alberts, 2006). Based on various research studies, sojourners differ in their acculturation experiences in comparison to immigrants, refugees, and other ethno-cultural groups within the U.S., primarily due to their unique immigration status, the short time frame they reside in the host country, the expectation of quickly adapting to the U.S. academic system and culture, and the stresses of successfully completing their degree (Johnson & Sandhu, 2007; Mirsa & Castillo, 2004; Mori, 2000; Sumer, 2009).

Table 2

*Types of Acculturating Groups*

<table>
<thead>
<tr>
<th>Mobility</th>
<th>Voluntary</th>
<th>Involuntary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sedentary</td>
<td>Ethno-cultural groups</td>
<td>Native people</td>
</tr>
<tr>
<td>Migrant</td>
<td>Immigrants (relatively permanent)</td>
<td>Refugees</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sojourners (temporary)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Asylum seekers</td>
</tr>
</tbody>
</table>

*Source:* (Berry et al., 1987, p. 495)

Berry’s (1992) acculturation framework represented in Figure 1 displays the major factors that influence an individual’s adaptation to a new cultural environment. Each component at the group level of acculturation (i.e., society of origin, society of
settlement, group acculturation) as well as individual level of acculturation (i.e., moderating factors existing prior to acculturation, moderating factors existing during acculturation, psychological acculturation) in Berry’s acculturation framework have an impact on one’s overall level of adaptation, whether sociocultural or psychological (Berry & Sam, 1997).

Figure 1. A Framework for Acculturation Research (Berry & Sam, 1997)

Table 3 provides specific examples for each of the factors outlined under group-level and individual-level acculturation in Figure 1. The specific features listed in Table 3 contribute to one’s overall adaptation during the process of acculturation. A few examples include ethnographic characteristics (i.e., language, religion, values); changes in acculturating group such as moving from a rural environment to urban environment; cultural changes (i.e., dress, food, language); as well as facing prejudice and discrimination (Berry & Sam, 1997).
### Table 3

*Specific Factors Affecting the Process of Acculturation and Adaptation*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Specific Features</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Society of origin</strong></td>
<td>Ethnographic characteristics (e.g., language, religion, values)</td>
</tr>
<tr>
<td></td>
<td>Political situation (e.g., conflict, civil war, repression)</td>
</tr>
<tr>
<td></td>
<td>Economic conditions (e.g., poverty, disparity, famine)</td>
</tr>
<tr>
<td></td>
<td>Demographic factors (e.g., crowding, population explosion)</td>
</tr>
<tr>
<td><strong>Society of settlement</strong></td>
<td>Immigration history (longstanding vs. recent)</td>
</tr>
<tr>
<td></td>
<td>Immigration policy (intentional vs. accidental)</td>
</tr>
<tr>
<td></td>
<td>Attitudes towards immigration (favorable-unfavorable)</td>
</tr>
<tr>
<td></td>
<td>Attitudes towards specific groups (favorable-unfavorable)</td>
</tr>
<tr>
<td></td>
<td>Social support (availability, usefulness)</td>
</tr>
<tr>
<td><strong>Group acculturation</strong></td>
<td>Changes in acculturating group:</td>
</tr>
<tr>
<td></td>
<td>Physical (e.g., rural to urban)</td>
</tr>
<tr>
<td></td>
<td>Biological (e.g., nutrition, disease)</td>
</tr>
<tr>
<td></td>
<td>Economic (e.g., loss of status)</td>
</tr>
<tr>
<td></td>
<td>Social (e.g., isolation)</td>
</tr>
<tr>
<td></td>
<td>Cultural (e.g., dress, food, language)</td>
</tr>
<tr>
<td><strong>Moderating factors prior to</strong></td>
<td>Demographic (e.g., age, gender, education)</td>
</tr>
<tr>
<td><strong>acculturation</strong></td>
<td>Cultural (e.g., language, religion, distance)</td>
</tr>
<tr>
<td></td>
<td>Economic (e.g., status)</td>
</tr>
<tr>
<td></td>
<td>Personal (e.g., health, prior knowledge)</td>
</tr>
<tr>
<td></td>
<td>Migration motivation (e.g., push vs. pull)</td>
</tr>
<tr>
<td></td>
<td>Expectations (e.g., excessive vs. realistic)</td>
</tr>
<tr>
<td><strong>Moderating factors arising</strong></td>
<td>Acculturation strategies (Assimilation, Integration, Separation, Marginalization)</td>
</tr>
<tr>
<td><strong>during acculturation</strong></td>
<td>Contact/participation</td>
</tr>
<tr>
<td></td>
<td>Cultural maintenance</td>
</tr>
<tr>
<td></td>
<td>Social support (appraisal and use)</td>
</tr>
<tr>
<td></td>
<td>Coping strategies and resources</td>
</tr>
<tr>
<td></td>
<td>Prejudice and discrimination</td>
</tr>
</tbody>
</table>

*Source:* (Berry & Sam, 1997)
Psychological Acculturation

Prior research on psychological acculturation by Graves (1967) serves as a foundation for acculturation research as this concept and signifies a main construct in Berry’s acculturation model (Ward & Rana-Deuba, 1999). Graves (1967) defined psychological acculturation as psychological and behavioral changes that occur within an individual due to the direct influence of the host culture. The three varying perspectives that influence psychological acculturation include behavior shifts, acculturative stress, and psychopathology as described in Table 4 (Berry & Sam, 1997).

Table 4

*Specific Features of Psychological Acculturation and Adaptation*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Specific Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral shifts</td>
<td>Culture learning (e.g., language, food, dress, social norms)</td>
</tr>
<tr>
<td></td>
<td>Culture shedding (e.g., changing social norms, gender attitudes)</td>
</tr>
<tr>
<td></td>
<td>Culture conflict (e.g., incompatibility, intergroup difficulties)</td>
</tr>
<tr>
<td>Acculturative stress</td>
<td>Problem appraisal</td>
</tr>
<tr>
<td></td>
<td>Stressors</td>
</tr>
<tr>
<td></td>
<td>Stress phenomena (e.g., psychological, psychomatic, anxiety)</td>
</tr>
<tr>
<td>Psychopathology</td>
<td>Problems</td>
</tr>
<tr>
<td></td>
<td>Crises</td>
</tr>
<tr>
<td></td>
<td>Pathological phenomena (e.g., depression, schizophrenia)</td>
</tr>
<tr>
<td>Psychological adaptation</td>
<td>Self-esteem</td>
</tr>
<tr>
<td></td>
<td>Identity consolidation</td>
</tr>
<tr>
<td></td>
<td>Well-being/satisfaction</td>
</tr>
<tr>
<td>Sociocultural adaptation</td>
<td>Cultural knowledge, social skills</td>
</tr>
<tr>
<td></td>
<td>Interpersonal and intergroup relations</td>
</tr>
<tr>
<td></td>
<td>Family and community relations</td>
</tr>
</tbody>
</table>

*Source:* Berry & Sam (1997)
The first variable of psychological acculturation incorporates “behavioral shifts,” in which an individual learns new behavior that is fitting to the new culture (Berry, 1980a). Berry (2005) identified common examples of behavioral shifts that occur among individuals living in a new culture, such as changes in one’s way of speaking, dressing, eating, and in cultural identity. Other terms related to behavioral shifts include “culture shedding” (Berry, 1992) and “culture learning” (Brislin, Landis, & Brandt, 1983). Berry (1992) concluded that “culture shedding” is often related with assimilation, where one loses some of the original cultural behavior because it is seen as not appropriate by the dominant culture; however, this often leads to culture conflict, which occurs when different cultural values and beliefs clash during intercultural interactions (Berry, 2005). This clash often leads to the second focus in acculturation research, “culture shock” (Oberg, 1960) or “acculturative stress” (Berry, 1970; Berry et al., 1987), which are similarity in meaning. The term culture shock has been used in early studies to refer to the anxiety and emotional disturbance experienced by an individual when traveling to a new cultural setting (Oberg, 1960). In association with the acculturation process, the term acculturative stress is more appropriate, as it refers to the negative consequences that result from contact between two distinctive cultural groups during the experiences of acculturation (Berry, 2005). The third concentration of psychological acculturation research includes the study of mental disease or psychopathology that may result among individuals who experience major difficulties in coping with the cultural changes and stressors (Malzberg & Lee, 1956; Murphy, 1965).

The long-term outcomes of psychological acculturation include psychological adaptation, which concerns one’s self-esteem, identity consolidation, wellbeing, and
satisfaction, as well as sociocultural adaptation pertaining to one’s cultural knowledge, social skills, interpersonal and intergroup relations, and family and community relations (Berry, 1997; Berry & Sam, 1997). Ward and Rana-Deuba (1999) argued that psychological and sociocultural adaptations are interrelated; however, a difference exists between the two adjustment outcomes during cross-cultural transition, as psychological adaptation is linked with the psychological and emotional well-being of an individual, while sociocultural adaptation is associated with one’s “ability to “fit in” or negotiate interactive aspects of the new culture” (p. 424).

Acculturation Strategies

According to previous studies on acculturation, two main theoretical approaches are used when analyzing psychological acculturation at the individual level, which includes a uni-dimensional (linear) model as well as a bi-dimensional model (Castro, 2003; Ryder, Alden, & Paulhus, 2000). The uni-dimensional (linear) model assumes that the acculturating individual gradually loses identification with the home culture and eventually assimilates with the host culture (Gordon, 1978). According to Porter and Washington (1993), the linear approach to acculturation leads to assimilation, resulting in the weakening of one’s ethnic identity. This linear model remains questionable, as it is not necessarily inevitable that individuals lose identification with their home culture as they increase their contact with the dominant culture (Castro, 2003). In contrast, the bi-dimensional model suggests that individuals have the ability to integrate by maintaining their traditional culture while adopting parts of the mainstream host culture in which they live (Castro, 2003). As Padilla and Perez (2003) stated, “Thus, acculturation was not
seen as a strictly uni-dimensional process of cultural change but as a process forced by intergroup contact with multiple outcomes” (p. 38).

The bi-dimensional acculturation model developed by Berry and associates (Berry, 1980a, 1997; Berry et al., 1989) has served as the leading model used in acculturation research. Based on this model, Berry’s (1970) prior research indicated two major, corresponding issues that arise among acculturating individuals, which includes one’s maintenance of original cultural identity as well as one’s maintenance of relations with other groups, as depicted in Table 5. The first issue on cultural maintenance questions to what level the preservation of cultural identity and characteristics considered to be significant by the individual, while the second issue on maintenance of relations with other groups questions the degree to which the individual seeks to become involved in other cultural groups (Berry et al., 1989). Contingent upon the yes or no responses for these criteria, four types of acculturating strategies or forms of adaptation result, to include integration, assimilation, separation, and marginalization (Berry, 1980b; Berry et al., 1989; Berry & Sam, 1997; Berry, 2007).

In terms of selecting the Integration strategy (quadrant I, Table 5), individuals prefer to maintain their ethnic identity while interacting with other groups (Berry, 2006). Berry and Sam (1997) stressed that individuals who integrate maintain a balance between their cultural identity and seek “to participate as an integral part of the larger social network of a multicultural society” (p. 297). When implementing the integration strategy, individuals have the capability of maintaining “ethnic distinctiveness while they simultaneously develop a positive identification with the larger society by engaging in social networks” (Castro, 2003, p. 16).
Table 5

*Four Strategies of Acculturation Based on Orientations to Two Basic Issues*

<table>
<thead>
<tr>
<th></th>
<th>Issue 1: Is it considered to be of value to maintain cultural identity and characteristics?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>I</td>
<td>NO</td>
</tr>
<tr>
<td>Issue 2: Is it considered to be of value to maintain relationships with other groups?</td>
<td>YES</td>
</tr>
<tr>
<td>Integration</td>
<td>Assimilation</td>
</tr>
<tr>
<td>NO</td>
<td>III</td>
</tr>
<tr>
<td>Separation</td>
<td>IV</td>
</tr>
<tr>
<td></td>
<td>Marginalization</td>
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</tbody>
</table>

*Source:* Modified from Berry et al. (1989)

When selecting the Assimilation strategy (quadrant II, Table 5), individuals assume up the cultural identity of the dominant culture, while not finding it significant to maintain their own cultural identity. Conversely, the Separation strategy (quadrant III, Table 5) is identified when an individual does not become involved in the dominant culture and, rather focuses on his or her own cultural heritage (Berry, 2006). Last, the strategy of Marginalization (quadrant IV, Table 5) occurs when the individual loses value in maintaining the original culture, “often due to reasons of enforced cultural loss” and lacks interest in building relationships with others from the dominant culture “often for reasons of exclusion or discrimination” (Berry & Sam, 1997, p. 297). The four acculturation strategies (assimilation, integration, separation, and marginalization) differ greatly from one another and apply to individual preferences (Berry, 1997). Berry and Sam (1997) added that individuals may select different acculturation strategies at different times, depending upon the environment they are in, and it is not unusual for
individuals to try various acculturation strategies before choosing one they find most fitting.

An individual’s success or failure to adapt in a new culture is significantly dependent upon the acculturation strategy they use (Berry, 1997). Research indicates that individuals who use the integration strategy demonstrate the highest levels of psychological adjustment; marginalization leads to the worst adjustment levels; and both the assimilation as well as separation strategies are found to result in intermediate adjustment levels among acculturating individuals (Dona & Berry, 1994; Phinney, 1991; Sumer, 2009; Ward & Rana-Deuba, 1999). In relation to acculturative stress, integration is associated with lower levels of stress; and those who select marginalization and separation exhibit higher levels of acculturative stress. Assimilation is related to intermediate levels of stress (Berry et al., 1987; Khrishnan & Berry, 1992).

Interestingly, the two most common acculturation strategies often selected by migrants are integration and separation, which indicates that most individuals find it significant in maintaining their home cultural values while living in a new country (Berry & Sam, 1997). Research supports that maintaining one’s cultural identity does not reduce engagement with the dominant society (Berry & Kalin, 1995). According to Berry’s (2011) research findings, a positive correlation between the integration strategy and adaptation provides an individual balance in maintaining culture, while participating with the dominant society. However, the integration strategy does not require the eradication of cultural identities or differences; rather, it is perceived as a two-way process through which both the majority and minority influence and change one another (Modood, 2007). Eustace (2007) explained that the traditional “melting pot” or
“assimilationist phenomenon” may work for international students’ positive adaptation; however, the integration strategy would be more useful for lowering stress levels and in adapting to a new culture. Regardless of the acculturation strategy one selects when living in a new culture, most individuals face some level of stress during their transition to a new cultural environment.

**Acculturative Stress**

The term acculturative stress is an alternative to culture shock (Berry, 1970). Oberg (1960) defined culture shock as “anxiety that results from losing all of our familiar signs and symbols of social intercourse” (p. 177); it encompasses different aspects related to the numerous challenges faced by individuals while living in a new culture (Furnham, 2004). Every individual goes through culture shock in various ways when entering a new culture or country; however, overcoming the culture shock and the time it takes to adapt varies among individuals (Oberg, 1960; Winkelman, 1994).

The term acculturative stress is now used in acculturation studies and is defined as negative consequences that result from contact between two distinctive cultural groups, often leading to the reduction of physiological, psychological, and social wellbeing, which in turn leads to a struggle in adapting to a new culture (Berry et al., 1987; Poyrazli et al., 2004). The stress often stems from differences in social customs, norms, and values, as well as standards in education, politics, etc., between the host and original cultures (Yeh et al., 2005). According to Ward and Rana-Deuba (1999), the process of acculturation often is associated within a stress and coping framework, as undesirable results can occur from cross-cultural interaction. The stress and problems individuals face with adapting to a new culture are influenced by a variety of personal and social
factors (Berry, 1990, 1997); these challenges are known as acculturative stressors used in understanding acculturative outcomes such as acculturative stress (Eustace, 2007). Berry et al.’s (1987) acculturative stress framework, as seen in Figure 2, indicates the direct relationship between acculturation experiences, acculturative stressors, and acculturative stress, along with the factors that mediate this relationship to include the nature of the larger society, type of acculturating group, mode of acculturation, demographic and social characteristics of the acculturating individual, and psychological characteristics of the acculturating individual (Berry et al., 1987).

The level of acculturative stress individuals experience can vary from mild stress, which generally improves as the individual slowly adapts to a new culture, to a debilitating level of stress (Berry et al., 1987; Poyrazli et al., 2004; Williams & Berry, 1991), which often leads to symptoms of anxiety and depression that may worsen over time if the individual lacks an effective social support system (Hovey & Magana, 2002; Poyrazli et al., 2004). Hovey (2000) suggested that a relationship exists between acculturative stress, depression, and variables such as one’s social support, expectations for the future, education, and income.
Factors Moderating Relationship between Acculturation and Stress

Nature of larger society: Multicultural vs. Assimilationist; Prejudice & Discrimination
Type of acculturating group: Contact, Conflict, Crisis, Adaptation
Mode of acculturation: Integration, Assimilation, Separation, Marginalization
Demographic and social characteristics of acculturating individual: Age, Status, Social Support
Psychological characteristics of acculturating individual: Appraisal, Coping, Attitudes, Contact

Source: Modified from Berry et al. (1987) p. 493

Figure 2. Relationship between Acculturation and Stress as Modified by Other Factors

Eustace (2007) added that a student’s environment plays a significant role in the acculturative stress levels they face, as social support significantly contributes to the “stressor-stress paradigm” (p. 70). One of the groups of foreign populations most vulnerable to stress while living in the U.S. includes international students. As Poyrazli et al. (2004) remarked, the majority of international students experience issues with transitioning to a new culture, often due to the manifestation of acculturative stress.

Acculturative Stress and Stressors among International Students

Acculturative stress arises when individuals face “negative, disruptive, and stressful circumstances” (Trimble, 2003, p.7) when living in a new culture. From a psychological perspective, often it is assumed that international students should adapt to
the new culture with little difficulty due the voluntary nature of their stay; however, that is often not the case, as the acculturative stress levels between refugee immigrants and international students have been compared and were found to be quite similar (Berry & Kim, 1988). This may be due to the similar challenges faced by these two groups when entering the host country, such as having a lack of personal resources as well as social support, which can lead to greater difficulty acculturating than established ethnic groups (Berry, 1980b; Berry & Kim, 1988; Poyrazli et al., 2004). Furthermore, a much earlier study conducted by Selby and Woods (1966) attested that one of the main reasons many international students face increased levels of stress is that they often are disengaged with the host culture, due to the fact that their ultimate goal is to complete their degree and return back to their home, leading to a lack of desire to integrate with the dominant culture. Moreover, Sandhu and Asrabadi (1998) pointed out that, in addition to the general acculturation issues faced by international students, they also deal with the typical academic stresses and often lack the resources that are available to domestic students. The combination of the lack of resources and social support available to assist international students in transition to the host country may be reasons why international students are vulnerable to the harmful effects of acculturative stress (Poyrazli et al., 2004).

A wide range of factors, known as acculturative stressors, influence international students’ levels of stress that determines how these individuals adapt to the culture of the U.S. Consistent with scholarly literature, some of common acculturative stressors include language difficulty, perceived discrimination, financial concerns, cultural adjustments, academic pressure, education system differences, and losing their
citizenship rights and close connections with family, friends, and relatives (Bentley, 2008; Kaczmareck et al., 1994; Yang & Clum, 1995). In comparison, Aponte and Johnson (2000) grouped factors that influence stress into three categories that include “macrosocial influences (e.g., legal constraints, discrimination, degree of tolerance for diversity, academic pressure); an individual’s background (e.g., world view, cultural distance from U.S. culture); and individual factors (e.g., age, gender, English language proficiency, coping skills, personality)” (p. 3).

Moreover, research indicates that international students face higher levels of discrimination in comparison to domestic students (Poyrazli & Lopez, 2007), which influences their acculturation attitudes (Constantine, Okazaki, & Utsey, 2004; Sodowsky & Plake, 1992). Lee and Rice (2007) added that “difficulties run from students being ignored to verbal insults and confrontation” (p. 405). They also found that discrimination occurs both in and outside the classroom and that, the more culturally different an international student is compared to American students, the more likely he or she is to experience discrimination. Consequently, international students experience unique issues in adapting and often feel isolated when in the U.S., which could inevitably result in psychological distress among some of the students (Berry, 1997; Singaravelu & Pope, 2007).

In order to gain insight into the acculturation experiences of international students, it is important to obtain a perspective on the challenges and struggles these students face, leading to an understanding of their acculturative stress levels. As Poyrazli et al. (2004) stated, “Despite the substantial body of literature that addresses adjustment processes among student sojourners, only a small portion of this literature has, in fact,
addressed the issue of acculturative stress” (p. 73). The evaluation of previous research studies specifically related to acculturation experiences, acculturative stressors, and stress among international students provides a foundation in understanding the unique challenges faced by international students during their transition and time spent at U.S. higher education institutions.

Research on International Students’ Acculturative Stressors, Stress, and Experiences at U.S. Higher Education Institutions

Mukminin (2012) stated, that living in a “new and unfamiliar culture is a multifaceted experience for individuals including international students coming to the U.S.” (p. 23). International students pursuing their education in a foreign country must overcome the challenges related to their adjustment experiences, which often result from the differences between their home culture and the dominant host culture, making adaptation to the college environment more difficult in comparison to students from the host country (Eustace, 2007). Prior research (Barratt & Huba, 1994; Charles & Stewart, 1991; Pedersen, 1991) recognized that international students face various challenges when adapting to their new environment, which may impact their academic success, psychological wellbeing, and the effectiveness in retaining these students by higher educational institutions.

To compare factors that influence stress among international students, Ying and Han (2006) conducted a quantitative, longitudinal study, particularly among Taiwanese students studying abroad in the U.S., and examined the contributions of gender, pre-departure personality, acculturative stressors during the first semester, social relationships during the second semester, and cross-cultural adjustment during the third semester of
courses. Their findings revealed that, as Taiwanese students faced typical acculturative stressors during their first semester, those who were more extroverted were able to better connect with co-ethnic and American students in the second semester, which ultimately had a positive effect on their adjustment. Accordingly, acculturative stressors played a key role in reducing functional adjustment levels and also predicted depression levels among the students, which had an overall effect on their emotional wellbeing. Therefore, the authors found it critical in immediately addressing acculturative stressors once students come to the U.S. (Ying & Han, 2006). In comparison, Eustace (2007) conducted a quantitative study to analyze the relationship between acculturative stressors and social support, along with sociocultural and demographic predictors on acculturative stress levels among international students, in order to understand the acculturation process among this population. The findings indicate that international students who had higher levels of difficulty with the acculturative stressors were more likely to experience higher levels of stress related to new cultural adjustment. Interestingly, most students in Eustace’s (2007) study reported that their level of difficulty with acculturative stressors was “somewhat difficult” and “difficult”; therefore, the author implied that “most students who come to the U.S. for international study perceive some of their acculturation experiences as a source of difficulty. This may be partly explained by the high expectation they held regarding their U.S. educational and social experiences prior to international study” (p. 64). Eustace (2007) also specified that students who indicated high social support during their stay were less likely to be affected by acculturative stressors, resulting in lower levels of stress. In particular, social support from “important others” (i.e., faculty, advisors, international student centers, student organizations,
community, religious places) significantly predicted acculturative stress among international students, indicating that students already exhibiting high stress tend to seek help from important others. These particular individuals may have a substantial influence on the international students’ acculturation experiences.

Poyrazli and Grahame (2007) conducted a qualitative study on international student adjustment at a semi-urban campus community described as being somewhat racially and culturally homogenous. Specifically, this research focused on how international students interact and participate academically and socially at this particular campus environment in order to recognize the vital role of the campus community in student adjustment, as well as understand ways the campus community can assist in creating the necessary support needed by these students for healthy adaptation and to integrate in their new setting. Based on the interview responses, Poyrazli and Grahame (2007) affirmed that the international students experienced numerous barriers as they tried to adjust, particularly during their initial transition to the U.S., which created unnecessary distractions from their academic life. Some of the barriers were related to living accommodations; academic life, particularly in learning the academic culture and different teaching styles; social interactions; transportation; health insurance; limited English proficiency; and discrimination.

Mukminin’s (2012) qualitative study on Indonesian graduate students pursuing their higher education at a public research university in the U.S. provided an analysis of the acculturation experiences among this specific Asian student population. The purpose of the study was to determine the acculturative stressors faced by Indonesian students during their stay at a college in the U.S. as a basis for understanding whether
acculturative stress played a role in the general decline of Indonesian students pursuing degrees at U.S. higher education institutions. Based on the semi-structured interviews with the 13 Indonesian graduate students, some major academic and personal stressors were experienced, along with language difficulties faced during their initial transition in a new culture and academic environment. Some of the academic difficulties students reported included uneasiness in balancing the amount of coursework as a full-time graduate student, along with the workload as teaching or research assistants, which resulted in feeling that they were unable to meet high expectations from professors. Other stressors included language difficulties, although many of the students had English language training and experience in the past, which resulted in students limiting their class participation and communication with Americans. Interestingly, students reported that they did not experience cultural or religious discrimination and found that American professors and students provided a social support system; however, some reported conflicts with some of the non-U.S. faculty. Common personal stressors included homesickness, loneliness, and missing family. Surprisingly, none of the students reported financial stress, as the graduate students either received funding from the host university through assistantships or earned competitive scholarships from the Indonesian government. From the second semester, the students reported less amounts of stress, which indicated that they adapted to their host university after overcoming the academic and personal stressors during their initial semester. Time was needed to adjust to the workload, professor expectations, participation in class, and building social networks (i.e., American professors, American students, co-nationals, international students) (Mukminin, 2012).
Poyrazli et al. (2004) conducted a quantitative survey study with 141 international students from four universities within the U.S. to examine the relationships of social support, academic achievement, English language proficiency, patterns of social contact with non-American versus American students, along with selected demographic variables such as age, gender, marital status, and ethnicity with acculturative stress levels. The research particularly compared European and Asian students, as individuals from other ethnicities were fewer in representation. The findings indicate that ethnicity correlated positively with acculturative stress, as Asian students reported higher levels of acculturative stress and lower levels of English proficiency in comparison to European students. Among international students in America, Asians tend to face greater numbers of acculturative stressors and experience more acculturative stress than other international students (Heeseung & Dancy, 2009; Myers-Walls, Frias, Kwon, Ko, & Lu, 2011; Nilsson, Butler, Shouse, & Joshi, 2008; Ye, 2006; Ying, 2005). The results of Poyrazli et al.’s (2004) study also indicate that students who primarily socialized with non-Americans also experienced lower levels of English proficiency, therefore, resulting in higher levels of acculturative stress. Consequently, students with higher levels of English proficiency and social support, as in married students, were inclined to experience lower levels of acculturative stress. This finding coincides with earlier research conducted by Surdam and Collins (1984) that found international students, referred to as sojourners, who socialized predominantly with other international students experienced lower levels of adjustment.

A recent study by Wang and Mallinckrodt (2006) indicated that one important dimension in examining acculturative stress is the analysis of sociocultural adjustment
difficulties related to adaptive skills affected by one’s language ability, length of stay in the country, and acculturation strategies. Padilla and Perez (2003) emphasized that acculturation is a social process, and factors such as social cognition and social identity provide a better conceptual framework in understanding how novel members of a host country adapt to the new cultural environment, in comparison to those studies using psychological models. In order to sustain the levels of difficulty experienced in a new cultural environment, gaining cultural knowledge, social skills, and language ability of the host culture, along with interpersonal and intergroup relations, can help individuals to better adapt (Berry & Sam, 1997; Ward & Kennedy, 1999). Sociocultural adaptation in relation to cross-cultural adjustment is an underrepresented variable in acculturation literature.

**Sociocultural Adaptation among International Students in the U.S.**

Within the field of acculturation, sociocultural adaptation is a behavioral aspect of cultural competency (Wilson, 2012). Based on several research studies (Ward & Kennedy, 1992, 1993a, 1993b, 1996a; Ward & Rana-Deuba, 1999; Ward & Searle, 1991), sociocultural adaptation relates to the long-term behavioral outcomes one learns in order to perform daily tasks in the host culture. All students who begin college must adjust to the new environment in some shape or form. However, in comparison to domestic U.S. college students, international students face greater difficulties in adapting to the university, particularly as they experience more distress during their initial transition to a new country and cultural environment (Hechanova-Alampay, Beehr, Christiansen, & VanHorn, 2002; Poyrazli & Grahame, 2007; Wilton & Constantine, 2003). International students face greater challenges in adjusting and developing a sense
of belonging at U.S. campuses, often due to difficulties in acclimating to a new social life, potential language barriers, and limited knowledge of the new culture (Bentley, 2008).

Although international students’ transition and adjustment to colleges and universities in the U.S. has been well researched, specific attention has not been focused on the aspects of sociocultural adaptation and its role in acculturation to a new environment. As intercultural contact continues to increase on college campuses, a greater need continues to grow for cultural competency and adaptation. Dorozhkin and Mazitova (2008) emphasized that a great deal of research is needed in understanding the level of sociocultural adaptation and intercultural interaction of international students pursuing a degree at higher education institutions.

As interactions with individuals from the host country are to be expected, international students eventually must make adjustments in their perceptions, attitudes, and expectations, as cultural differences between their home country and the host country exist (Chaney & Martin, 2005; Krapels & Davis, 2005). At U.S. higher education institutions, international students must learn to manage social interactions with Americans, effective English language fluency to engage in social and academic situations, meet their academic learning and career goals, and maintain relationships with family and friends in their home country (Chaney & Martin, 2005). Therefore, the influence of sociocultural adaptation in a new country significantly impacts the daily lives of individuals.

In order to gain insight into sociocultural adaptation to a new environment, variables should be considered, such as one’s country of origin, cultural distance based
on whether students come from a collectivist or individualist background, language ability, length of stay in the host culture, and frequency of contact with host nationals (Constantine, Anderson, Berkel, Caldwell & Utsey, 2005; Searle & Ward, 1990; Surdam & Collins, 1984; Tafarodi & Smith, 2001; Ward & Kennedy, 1992, 1993a, 1993b; Ward & Rana-Deuba, 1999; Ward & Searle, 1991; Wilton & Constantine, 2003). The evaluation of previous research studies in relation to selected factors involved with international student adjustment and sociocultural adaptation at U.S. higher education institutions provides a basis in understanding the relationships of these variables with students’ overall acculturation.

**Collectivist vs. Individualistic Cultures/ Country of Origin**

Many international students, particularly those from non-Western countries, face difficulties in adapting to the college environment in the U.S., as they may be more familiar with a collective society rather than one where individualism is more common (Olivas & Li, 2006; Yakunina, Weigold, Weigold, Hercegovac, & Elsayed, 2012). The terms “individualism” and “collectivism” are used by social scientists in defining someone as an individual or in relation to an in-group (i.e., family) in terms of personal and collective goals (Triandis, 1995). Collective cultures emphasize the interdependence among individuals, in which identity, in large part, is a function of their role in a group; therefore, consequences of actions affect the entire group; individualism takes precedence to individual achievement and goals, and values of self-reliance, and any consequence directly affect the individual (Hui & Triandis, 1986; Triandis, Bontempo, Villareal, Asai, & Lucca, 1988). Individualism often is associated with Western cultures (i.e., U.S., Canada, Great Britain), while collective cultures are more common worldwide (i.e., Asia,
Middle East, Africa, Latin America) (Cai & Fink, 2002; Chirkov, Lynch, & Niwa, 2005; Hui & Triandis, 1986; Triandis et al., 1988). The majority of international students in the U.S. come from collective cultural backgrounds.

Eustace (2007) found that international students who perceived their home country cultural values as collectivist, rather than individualistic (cultural distance), experienced significant challenges with acculturation. For example, Wilson (2011) indicated that students from Asia experienced the highest level of difficulty with adapting to the college campus; however, when comparing all students, those from Asia and Africa together had higher levels of difficulty in adapting in comparison to those from Europe. Therefore, European students had the least difficulty in adapting to the new cultural environment. In addition, Poyrazli and Grahame’s (2007) research pointed out that many of the Asian, Hispanic, and Middle Eastern international students reported issues in social interactions with Americans both on and off campus, as several encountered various forms of discrimination. In contrast, the White German students experienced fewer difficulties with adjustment, in comparison to the Asian or Hispanic students, as they conveyed no problems in socializing with domestic students. As Khatiwada (2010) reported, students with similarities to the cultural background of the host nation were more likely to exhibit higher levels of sociocultural adaptation. Other studies have reported that students from cultures that are notably different than the U.S., such as students from Asia, Central/Latin America, Middle East, and Africa, often experience more challenges in comparison to their European counterparts (Sodowsky & Plake, 1992; Yeh & Inose, 2003).
Eustace (2007) affirmed that, “as long as the majority of the international students who come to study in the U.S. continue to perceive their cultural values as significantly more ‘collectivistic’ than U.S. culture, some kind of stress is inevitable because of the difference in these cultural value orientations” (p. 66). Ward and Kennedy (1996b) also noted that the relationship between psychological adaptation and sociocultural adaptation increases for those who integrate in the society, as well as individuals whose home culture is more similar to the host culture.

English Language Fluency

As previous studies have specified, one of the most common concerns of international students includes language difficulties (Lin & Yi, 1997; Mori, 2000; Wardsworth, Hecht, & Jung, 2008; Yeh & Inose, 2003). In terms of English language fluency, students with increased language barriers experience greater difficulties in adapting to the host culture (Doa, Lee, & Chang, 2007); therefore, lower language proficiency relates to decreased levels of intercultural competence (Hismanoglu, 2011).

Wilson (2011) found that students who were required to take ESL courses (English as a Second Language) exhibited greater challenges in adapting, in comparison to those who were not required to take these courses. Also, international graduate students who rated their English-speaking ability as low had more difficulty adapting than those who viewed themselves at a higher level. In reference to ethnicity, studies reveal that Asian international students exhibit lower levels of English language proficiency, in comparison to students from other cultural backgrounds (Doa et al., 2007; Yangyi, 2009), particularly compared to European international students (Poyrazli & Kavanaugh, 2006). For example, Chang’s (2006) study examined Chinese international
student experiences in the U.S. and conveyed that these individuals felt a lack of success due to poor communication skills in such a dynamic environment, resulting in their ineffectiveness in interacting with people from the American culture. Asian international students often avoid communicating with instructors and peers and in class participation, as they perceived that native speakers would not understand them and feared Americans would ridicule them (Chang, 2006; Lee, 2007). Relative to academic culture, value is placed on students who communicate, demonstrate critical thinking abilities and problem-solving skills, and participate in U.S. classrooms (Ramsay, Barker, & Jones, 1999). However, in collective cultures such as East Asia (i.e., China, Japan, North Korea, South Korea, Taiwan), students tend to not communicate in classrooms in their home country, as teachers are viewed as the higher authority (Hofstede, 2001) and students are expected to remain quiet and take notes in a lecture-type setting (Coleman, 1997). This is one of the reasons that many East Asian international students find difficulty with oral participation in U.S. classrooms (Li & Jia, 2006). The lack of communication and participation can greatly influence their levels of difficulty with English language fluency. Conversely, earlier studies (Hayes & Lin, 1994; Surdam & Collins, 1984; Zimmerman, 1995) expressed that students who exhibited sufficient English language fluency and communication competence when they arrived to the U.S. displayed greater adjustment to the new environment, in comparison to those with lower language ability. Khatiwada (2010) posited that English language proficiency is a significant predictor of sociocultural adaptation, as the development of language skills helps international students to gain a better understanding of local culture and sociocultural aspects.
Pedersen (1991) noted that a language barrier between international students and domestic students inhibits the building of intercultural and interpersonal relationships. Specifically, adaptation can be more difficult for international students, as they are in the country temporarily and intend to return to their home country and, therefore, do not find importance in “acquiring language competency and establishing interpersonal relationships” (Berry & Sam, 1997, p. 306), which are known factors to enhance positive adaptation. Various studies signified that English language proficiency for international students studying at U.S. colleges and universities, particularly with oral communication, correlates to their academic success and social interactions (Graham, 1987; Johnson, 1988; Kim, 2006; Lee, 2007; Trice, 2004). Therefore, English language fluency helps foreign students to overcome the stresses they face, along with building social support systems with native English language speakers (Khatiwada, 2010).

**Social Support and Length of Stay in the U.S.**

Frequent interactions with individuals from the dominant culture plays a large role in international student adjustment. International students with increased interactions with native English speakers, not only acquired more vocabulary and fluency, but appeared to have helped foreign students develop friendships and social support systems that improved their adaptation to the new cultural environment (Martinsen, Baker, Dewey, Bown, & Johnson, 2010; Surdam & Collins; 1984; Zimmermann, 1995).

In classroom experiences, Poyrazli and Grahame (2007) highlighted that international students’ experiences with professors and advisors both inside and outside the classroom also play an important role in their adjustment. For example, Hanassab
(2006) found that international students often felt left out and ignored by their professors and the domestic students in the classroom, leading to feelings of isolation. Poyrazli and Grahame (2007) commented that majority of the international students found faculty as friendly; however, a few cases were reported in which students felt they experienced negative treatment by their instructor, compared to other students in the class, leading to academic stresses. Moreover, many of the foreign students often limited their class participation, not only because they were not used to this learning method, but also due to their hesitation to partake in class discussions because they felt uncomfortable with their instructor and classmates. They felt that these individuals would have difficulty understanding them due to their accents.

Wilton and Constantine’s (2003) study on Asian and Latin American international students found that individuals who spent greater time in the U.S. were able to improve their English language abilities and to build more social support networks; therefore, length of stay in the U.S. is associated with levels of adjustment to the U.S. culture. In contrast, Kim (1991) suggested that students’ willingness to interact and engage in the larger community by building academic, social, and personal relationships appears to be a more significant aspect that heightens one’s adaptation to a new culture, rather than focusing on the length of time spent in the U.S. and at the university. An increase of social interactions and social support with individuals from the U.S. seemed to positively affect international students by connecting them to resources, preventing isolation, increasing their satisfaction levels, and enhancing adaptation among foreign students (Sedlacek & Kim, 1995).
Khatiwada’s (2010) research findings indicate that proficiency in the English language, cultural background, intergroup attitudes and discrimination experiences, social support, social ties in the U.S., and length of stay positively related to sociocultural adaptation. By gaining an understanding of factors that may influence sociocultural adaptation among international students, an insight can be provided into students’ intercultural competency and acculturation experiences.

**Student Satisfaction**

In order to obtain a successful college outcome, it is important for students to become socially and academically integrated in the environment (Tinto, 1993), leading to satisfaction with the college experience. Borden (1995) found that student satisfaction is related to the match between priorities and the campus environment. Elliott and Shin (2002) described student satisfaction as “the favorability of a student’s subjective evaluation of the various outcomes and experiences associated with education. Student satisfaction is being shaped continually by repeated experiences in campus life” (p. 198).

International students’ satisfaction with the college experience and educational setting is central to understanding how these individuals adapt to their new cultural and learning environment in the U.S. As Wardsworth et al. (2008) remarked, international students with high levels of educational satisfaction, not only enjoyed being a student, but also experienced greater satisfaction when interacting with Americans, including their classmates and instructors. Students’ interactions with faculty and/or peers have been found to influence their satisfaction with the college experience (Bean & Bradley, 1986; Eimers & Pike, 1997; Endo & Harpel, 1982; Pascarella, Smart, & Ethington, 1986; Pike, 1991).
Based on the study by Wardsworth et al. (2008), the acculturation process includes adaptation, not only to the host culture, but also to the classroom environment of the host culture. They found that acculturation strongly predicted educational satisfaction among international students, as those with high levels of acculturation were more familiar with the expectations and norms of the American classroom; therefore, acculturation positively related to international students’ educational satisfaction. However, negative experiences such as perceived discrimination, had a negative relationship with students’ satisfaction. The perceptions of prejudice and discrimination from members of the host culture can create stresses among foreign students and impede their acculturation process, along with negatively impacting their educational satisfaction (Eimers & Pike, 1997; Nora & Cabrera, 1996).

Gruber, Fub, Voss, and Glaser-Zikuda (2010) conveyed that student satisfaction with the university is based on a relatively stable person-environment relationship; as a result, student satisfaction reflects the quality of the services offered at the university and the contentment with the wider environment. It is vital for universities to implement initiatives on strategies to improve academic performance and social integration of international students by helping these individuals to feel a part of the larger academic community, as this can impact overall satisfaction and retention of international students (Tompson & Thompson, 1996). International students enrolled at a university with a supportive campus environment, as it relates to the quality of relationships, had higher levels of satisfaction with their educational experience and higher levels of academic success in comparison to students who study at unsupportive environments (Korobova, 2012). As our higher education institutions continue to diversify, particularly as
international student numbers continue to grow, it is essential to understand students’ educational experiences to help them succeed both academically and socially. Satisfaction ensures that students have a positive experience at the college campus, both academically and socially; hence, this factor can influence overall academic success, persistence, and wellbeing.

**Summary**

The purpose of this literature review was to provide a background of supporting research on what information to be analyzed in this study. Past research on the acculturation, acculturative stress, adaptation, and satisfaction of international students was reviewed to show the need in this area. The process of acculturation allows international students to adapt to a new cultural environment, making the transition easier for them to handle. Acculturation theories have been explored to provide the theoretical relevance to international students in higher education. Demographic factors and variables related to acculturation were defined to provide a greater understanding of the acculturative stresses encountered by international students and sociocultural adaptation that influenced students’ daily life and interactions. Finally, past empirical studies were evaluated on acculturation and sociocultural adaptations to demonstrate the necessity for this study.
CHAPTER III: METHODOLOGY

The purpose of this study was to analyze levels of acculturative stress and sociocultural adaptation among international students at a non-metropolitan university in the U.S. in relation to their college satisfaction levels and demographic factors. In particular to demographics, the question is asked: What relationships exist among gender, age, degree level, and English language comfort with levels of acculturative stress, sociocultural adaptation, sociocultural adaptation subscales, and college satisfaction? The research incorporates several aspects, which include a sociocultural adaptation questionnaire, acculturative stress questionnaire, a brief college satisfaction survey to determine overall college satisfaction levels, and a demographic survey to examine whether certain factors influence sociocultural adaptation and acculturative stress levels. This chapter includes the research questions, hypotheses, design, procedures, population, instrumentation, data collection, and the protection of the participants in this study.

This research provides a general understanding of the acculturation experiences among international students by focusing on the challenges and difficulties faced during their matriculation and how well they adapt to a new culture and environment. In addition, attaining knowledge regarding international students’ satisfaction with the college environment may help universities in assessing and meeting their needs. Further, higher education institutions with an international student population can use this research to make changes or adjustments to services and resources as needed to ensure that international students experience a positive educational outcome.
Research Questions and Hypotheses

This study addresses three research questions and the hypotheses that follow:

Research Question 1: How does the level of acculturative stress relate to the levels of overall sociocultural adaptation and the five subscales of sociocultural adaptation (interpersonal communication, academic/work performance, personal interests and community involvement, ecological adaptation, and language proficiency) among international students at a non-metropolitan university in the United States?

Hypothesis 1: A significant relationship exists between the levels of acculturative stress and overall sociocultural adaptation, as well as the five subscales of sociocultural adaptation (interpersonal communication, academic/work performance, personal interests and community involvement, ecological adaptation, and language proficiency) among international students studying at a non-metropolitan university in the United States.

Research Question 2: Do significant differences exist between international students’ selected demographic variables (gender, age, degree level, and English language comfort) and the dependent variables of levels of acculturative stress, overall sociocultural adaptation, five subscales of sociocultural adaptation, satisfaction with the overall college experience, and satisfaction with the university?

Hypothesis 2: A significant difference exists between international students’ demographic variables (gender, age, degree level, and English language comfort) and the dependent variable of acculturative stress, overall sociocultural adaptation, five subscales of sociocultural adaptation, satisfaction with the overall college experience, and satisfaction with the university. The following will be tested in regard to this hypothesis:
RQ2a: Do significant differences exist between international students’ gender and all dependent variables listed in RQ2?

Hypothesis 2a: A significant difference will be found between gender and all dependent variables listed in RQ2.

RQ2b: Do significant differences exist between international students’ age (traditional and non-traditional students) and all dependent variables listed in RQ2?

Hypothesis 2b: A significant difference will be found between age (traditional and non-traditional students) and all dependent variables listed in RQ2.

RQ2c: Do significant differences exist between international students’ degree level (undergraduate and graduate students) and all dependent variables listed in RQ2?

Hypothesis 2c: A significant difference will be found between international students’ degree level (undergraduate and graduate students) and all dependent variables listed in RQ2.

RQ2d: Do significant differences exist between international students’ English language comfort and all dependent variables listed in RQ2?

Hypothesis 2d: A significant difference will be found between international students’ English language comfort and all dependent variables listed in RQ2.

Research Question 3: How do levels of overall sociocultural adaptation and acculturative stress relate to levels of satisfaction with the overall college experience and satisfaction with the university among international students studying at a non-metropolitan university in the United States?
Hypothesis 3: A significant relationship exists between the levels of overall sociocultural adaptation and acculturative stress with satisfaction with the overall college experience and with the university among international students studying at a non-metropolitan university in the United States.

Research Design

A quantitative research method was used in this investigation, to gain a better perspective on key factors influencing acculturation and adaptation of international students. Quantitative research is “inquiry that is grounded in the assumption that features of the social environment constitute an objective reality that is constant across time and settings” (Gall, Gall, & Borg, 2007, p. 650). The use of quantitative methods to study social science research problems allows for a broader study involving a greater number of subjects, enhancing the generalization of the results, greater objectivity and accuracy of results, a summarization of vast sources of information and comparisons across categories and over time, and personal bias to be avoided by researchers by keeping a “distance” from participating subjects and employing subjects unknown to them (Babbie, 2010).

The satisfaction component of the questionnaire included two open-ended questions designed to allow participants an opportunity to elaborate on their ratings of college satisfaction, experiences and additional perceptions in regard to their level of satisfaction with their overall individual experience as an international student at the university, and to specify what contributed to their decision to attend the institution. Qualitative text data in the form of brief, open-ended survey responses often are elicited in organizational research to gather new information about an experience or topic, to
explain or clarify quantitative findings, and to explore different dimensions of respondents’ experiences (Sproull, 1988). Open-ended questions allow data to emerge and permit the researcher to investigate reflections of the participants through their own words, which can then be subjectively analyzed to form themes (Creswell, 2008). In this case, the method of concept mapping was utilized, as “this method appears to be especially well suited for the type of text generated by open-ended questions” (Jackson & Trochim, 2002, p. 307).

Qualitative text data promote a "...deeper understanding of experience from the perspectives of the participants" (Maykut & Morehouse, 1994, p. 44). According to Creswell (2008), four advantages for written open-ended questions include (1) the actual words for participants can remain, (2) the data can be accessed at any time for both researchers and participants, (3) this method is an unobtrusive source of collecting information, and (4) the data can be utilized as written evidence.

This study had no control group or intervention and utilized a convenience sample; therefore, it is a non-experimental quantitative descriptive study. The research is intended to determine whether a significant relationship exists between international students’ levels of acculturative stress and sociocultural adaptation, and whether these variables influence students’ levels of satisfaction with their college experience and environment. It also was intended to determine whether any demographic variables influenced acculturative stress, sociocultural adaptation, and satisfaction among the diverse international student population. The researcher sought to determine the current status of acculturative stress and sociocultural adaptation of the international college student population through participants’ self-report to conclude whether acculturative
stress and sociocultural adaptation levels are related by utilizing instruments that measure these constructs. A brief satisfaction and demographic questionnaire was included to explore the relationship of these variables with students’ acculturative stress and sociocultural adaptation levels. This survey research was conducted for the purpose of sampling attitudes, perceptions, and opinions (Wiersma & Jurs, 2005). The surveys were either administered and immediately collected by paper or distributed online for the duration of one month, representing a cross-sectional survey design.

**Research Procedures**

All procedures relative to conducting research were authorized by the Western Kentucky University Institutional Review Board (WKU IRB 13-333). The application for permission and letter for approval can be found in Appendix A.

**Population**

The population for this study includes all international students from two campuses of a four-year public, large institution in the south central United States. The total international student population during the spring 2013 semester was 880 students ($N = 880$). All international students were holding an F-1 or J-1 visa, with the exception of Canadian students, and were enrolled as full-time students at either the undergraduate or graduate level or enrolled in an English language learning program that included the English as a Second Language Institute (ESLI) and Navitas Program (University Pathway Program and pre-master’s program designed to prepare international students for university studies). Each of the two campuses has courses with large international student populations, allowing the researcher to use class time to administer the paper surveys, as well as the International Student and Scholar Services (ISSS) Office to
distribute online surveys to all international students currently enrolled at the university. Based on the population of international students ($N = 880$), the sample included 438 students, in which 413 had sufficient responses to be included in the results, indicating a 47% response rate. During the spring 2013 semester, the international students represented 70 countries, and the top sending countries included Saudi Arabia ($N = 353$), China ($N = 137$), India ($N = 91$), Vietnam ($N = 36$), South Korea ($N = 17$), Brazil ($N = 14$), France ($N = 13$), Nigeria ($N = 13$), Kenya ($N = 10$), Pakistan ($N = 10$), and Taiwan ($N = 10$). Of the 880 international students enrolled during the spring 2013 semester, 525 were pursuing bachelor’s degrees, 216 in master’s programs, 5 in doctoral programs, and 134 enrolled in English language training. This institution was selected due to its location in a non-metropolitan environment.

**Instrumentation**

Two instruments were utilized throughout this study, An Acculturative Stress Scale for International Students (ASSIS) and the revised version of the Sociocultural Adaptation Scale (SCAS-R), along with a brief student satisfaction survey and demographic questionnaire.

**Acculturative Stress**

*Conceptual definition:* Stress related to the struggle in adapting to a new culture as well as negative consequences that result from contact between two distinctive cultural groups often leading to the reduction of physiological, psychological, and social well-being (Berry et al., 1987; Poyrazli et al., 2004).

*Operational definition:* The Acculturative Stress Scale for International Students (ASSIS) developed by Sandhu and Asrabsadi (1994) was used, as this instrument was
designed to measure the difficulties encountered by international students with personal, social, and environmental changes upon arrival to a new country, often known as the cultural-shock or acculturative stress experience. The ASSIS scale was chosen for this study, as it is the only instrument designed to measure acculturative stress for international students.

The Acculturative Stress Scale for International Students (Sandhu & Asrabadi, 1994) consists of 36 items on a 5-point Likert-type scale, ranging from 1 = “Strongly Disagree,” 2 = “Disagree,” 3 = “Not Sure,” 4 = “Agree,” to 5 = “Strongly Agree,” and was designed to assess the acculturative stress levels of international students. Sample items included, “People from some other ethnic groups show hatred toward me through their actions”; “I feel uncomfortable to adjust to new cultural values”; and “I feel nervous to communicate in English.” The identified major contributing factors included perceived discrimination (8 items), homesickness (4 items), perceived hatred/rejection (5 items), fear (4 items), guilt (2 items), stress due to change (3 items), and non-specific concerns (10 items). The total scores ranged from 36 to 180, with higher scores representing higher levels of acculturative stress. The 36-item scale has high internal consistency, as measured by Cronbach’s alpha, which ranged from .92 to .94 (Constantine et al., 2004; Sandhu & Asrabadi, 1994; Wei et al., 2007) and indicated an evidence for reliability. Reliability also was established through the Guttman split-test, showing the reliability to be .97 (Sandhu & Asrabadi, 1994, 1998). As for validity, Ansari (1996) analyzed the difference in acculturative stress, as measured by ASSIS, between American and international students and found that international students experienced significantly higher levels of acculturative stress in comparison to the
American students. Validity also was supported by factor analysis (Sandhu & Asrabadi, 1994).

**Sociocultural Adaptation**

*Conceptual definition:* One’s culture learning and social skills acquisition, which includes interpersonal and intergroup relations (Berry & Sam, 1997; Ward & Kennedy, 1999).

*Operational definition:* A revised version of the Sociocultural Adaptation Scale (SCAS-R) developed by Wilson (2012) was used, as this instrument examines “sociocultural adaptation as a measure of behavioral adjustment through the use of new terminology concerning an individual’s newly-acquired competencies within a novel cultural environment” (p.144).

The original Sociocultural Adaptation Scale (SCAS) was developed by Ward and Kennedy (1999) and has been utilized in various acculturation research studies across various disciplines due to its theoretically-driven acculturation framework. The SCAS was designed to assess the extent to which students experience sociocultural adjustment problems in terms of university academic life, contact with people, and daily life, using 29 items with a 5-point Likert-type scale ranging from 1 = “No Difficulty” to 5 = “Extreme Difficulty.” The scale measured one’s behavioral-adaptation difficulty and cognitive-adaptation difficulty (Ward & Kennedy, 1999). Wilson (2012) refined the existing SCAS instrument; therefore, it was entitled the Sociocultural Adaptation Scale-Revised (SCAS-R-) version and suggests that the “SCAS-R provides a more concise understanding of an individual’s adaptation and settlement within a new country.”
The SCAS-R consisted of 21 items to which participants were asked to respond to all questions using a 5-point Likert-type scale ranging from 1 = “Not at all Competent” to 5 = “Extremely Competent.” Scores obtained from the scale indicate the respondents’ perceptions about living in another culture in order to understand the social and cultural difficulties they face. Sample items included statements such as competency with “Building and Maintaining Relationships,” “Understanding and Speaking English,” and “Working Effectively with Other Students/Work Colleagues.”

Based on the factor loadings of the 21-item scale, five subscales were identified that included 7 items on one’s competency with interpersonal communication, 4 items in on academic/work performance, 4 regarding one’s personal interests and community involvement, 4 referring to ecological adaptation, and 2 referring to one’s language proficiency while living in a different culture. The mean scores ranged from 1 to 5, with lower scores indicating greater social difficulties and sociocultural adaptation problems; higher scores represent greater competency (skills or behaviors) in a new cultural environment. Scores were calculated by obtaining the mean score for individual items, and scores for each of the SCAS-R subscales also could be calculated (Wilson & Ward, 2010). The overall reliability of the 21-item scale was found to be excellent, as Wilson (2012) reported the Cronbach’s alpha to be .92. Evidence of the construct validity of the SCAS-R was demonstrated through significant subscale correlations by factor analysis (Wilson, 2012).

**Student Satisfaction**

*Conceptual definition:* Elliott and Shin (2002) described student satisfaction as “the favorability of a student’s subjective evaluation of the various outcomes and experiences
associated with education. Student satisfaction is being shaped continually by repeated experiences in campus life.”

**Operational definition:** Four college satisfaction questions were created, of which three were used to determine a students’ overall satisfaction with the college experience at the university and incorporated students’ overall academic experiences; campus experiences; and interpersonal relationships with other students, as well as the faculty and staff, along with overall satisfaction with the university.

In particular, the first satisfaction question referred to the students’ overall experiences as college students at the university, to which participants were asked to respond to the question using a 10-point Likert scale ranging from 1 = “Very Unsatisfied,” to 10 = “Very Satisfied.” A follow-up question provided students with an opportunity to share an open-ended response and to list a few examples that influenced their overall college satisfaction rating. The last satisfaction question referred to students’ opinions on how likely they were to select the same university if they started over again, to which participants were asked to respond to the question using a 10-point Likert scale ranging from 1 = “Very Unlikely,” to 10 = “Very Likely.”

**Demographic Information**

A demographic survey was developed that contained questions about the participants’ gender, age, country of origin, degree level, English language comfort, and length of stay in the U.S., along with an open-ended response asking for the primary reason the student chose to study at this specific university.

**Gender.**

**Conceptual definition:** The self-reported biological sex of the respondent.
Operational definition: Measured as a categorical variable: (1) male and (2) female.

Age.

Conceptual definition: The chronological age of the participant.

Operational definition: Operationalized as a categorical variable by placing students as other traditional or non-traditional.

Country of Origin.

Conceptual definition: The country where one is born.

Operational definition: Measured as a categorical variable based on the country of origin provided by the international student.

Degree Level.

Conceptual definition: The most common degrees awarded by colleges and universities are associate, bachelors, master's, and doctoral degrees.

Operational definition: It was measured as a categorical variable in terms of the degree the student was pursuing: (1) undergraduate (Bachelors) and (2) graduate (Master’s or Doctorate) degree level.

English language fluency.

Conceptual definition: The ability of an individual to speak or perform in the English language.

Operational definition: Two variables were used to measure English language fluency: (a) English language fluency was measured as a categorical variable in terms of English being the participants’ first language: (1) yes or (2) no.
(b) The participants were asked to indicate the level of comfort when using the English language from the following categories: (1) Not Comfortable, (2) Somewhat Comfortable, (3) Comfortable, (4) Very Comfortable, or (5) Extremely Comfortable.

**Length of Stay.**

*Conceptual definition:* The duration of stay in the United States.

*Operational definition:* Measured as a continuous variable in terms of months lived in the United States.

**Data Collection**

In order to reach out to the international student body, surveys were distributed using two methods that included paper and online surveys. Paper surveys were administered in classrooms throughout various departments, as well as at the Office of International Programs, and were collected on the same day for a period of four weeks. In addition, an online survey was distributed by a mass e-mail to all international students by the International Student and Scholar Services (ISSS) Office. The online survey link was created on Qualtrics (online survey software) with identical survey questions and aligned to the paper format of the survey, which also was available for a period of four weeks. Paper surveys were administered to 285 international students and online surveys were completed by 128 international students, with a total of 413 international student participants.

Utilizing the information provided by the International Student and Scholar Services (ISSS) Office on campus, the staff provided a list of academic departments and courses with relatively large international student numbers, along with contact information of department heads and faculty names across campus. Various department
heads, faculty members, and program directors furnished by the ISSS Office were e-mailed with a brief description of the study, consent letter, and a copy of the survey prior to their agreement to administer of the instruments during class periods. Utilizing WKU TopNet software, the researcher also was able to retrieve contact information of faculty and course schedules to arrange class visits. For those who conveyed that class time would be difficult to use, they were asked to forward the online survey link to their international students.

Initial students who were surveyed included international students enrolled in English preparatory courses in the English as a Second Language Institute (ESLI) Program and Navitas Program, as these classes had the largest number of international students, and the program directors were very supportive of providing class time to conduct surveys. However, students placed in lower level courses were not surveyed due to the possibly of these students experiencing difficulty reading and interpreting the survey questions.

Out of the seven department heads that were contacted, four agreed via e-mail to allow their class time for students to complete surveys, two chose to e-mail the online survey links to major advisors to encourage their international students to complete the survey, while one refused to participate. Out of the 38 faculty contacted across disciplines with courses having large international student numbers, 28 agreed via email to allow class time for students to participate in the study.

After permission was received from several department heads and faculty across disciplines, various classrooms with large undergraduate and graduate international student numbers were visited to administer surveys. All students in the classrooms were
asked to fill out the surveys, including non-international students to ensure anonymity; however, surveys from non-international students were not used. One question on the survey asked students to identify themselves as an international student or non-international student to select eligible participants. The online surveys served as a method to reach out to international students whose classrooms were not visited. International student organizations such as the Saudi Student Organization, Indian Student Association, Vietnamese Student Organization, and International Club also were e-mailed to encourage their members to complete the online survey, as a large number of these students make up the international student population at the university. The ISSS Office also sent out two reminder e-mails during the four-week period to encourage students to participate in the survey.

The survey emphasized that students who had previously completed questionnaire should not re-take it. To ensure that survey responses were not repeated by the same participant, students were asked to provide the last four digits of their student identification (ID) number, although this number could not be traced back to any individual, thus ensuring anonymity. After data entry was complete, the researcher checked for repeats in ID numbers; for any repeated responses, the data was not utilized. Thereafter, the entire column of ID numbers was deleted from the data set, as this information served no further purpose. A drawing for two $25 gift cards to a popular store and restaurant was used as an incentive to encourage students to complete the survey. Students had the option of providing their e-mail address after submission of either the paper or online survey to enter a gift card drawing; this information was not linked to the survey responses in any way.
Data Analysis

An analysis was conducted to determine the relationship between levels of sociocultural adaptation and acculturative stress among the international students. A second analysis investigated differences between selected demographic factors (gender, age, degree level, and English language comfort) with students’ levels of acculturative stress, sociocultural adaptation, and satisfaction to gain insight into the acculturation experiences among specific international student groups. The last analysis incorporated an examination of the relationship between international students’ college satisfaction levels and their levels of sociocultural adaptation and acculturative stress to gain insight relative to their college experience.

Data from both paper and online surveys were merged and aligned into one data set, and items were coded for gender, age, degree level, and English language comfort. The Statistical Analysis System (SAS) version 9.3 was utilized for data analysis. The data analysis procedure used to answer Research Question 1 involved a correlational statistical analysis to determine whether any relationship existed between the levels of sociocultural adaptation and acculturative stress among international students. Correlational statistical analysis is a method that indicates the relationship or association between variables (Hinkle, Wiersma, & Jurs, 2003). The data analysis procedure used to answer Research Question 2 was a comparison of means through one-way analysis of variance (ANOVA) to explore whether differences were evident among the means for selected demographic factors and students’ levels of sociocultural adaptation, acculturative stress, and satisfaction. An ANOVA is “a procedure for determining whether the difference between the mean scores of two or more groups on a dependent
variable is statistically significant” (Gall et al., 2007, p. 632). The data analysis procedure used to answer Research Question 3 utilized correlational statistical analysis, as items on satisfaction were compared with levels of sociocultural adaptation and acculturative stress to determine whether certain levels of sociocultural adaptation and acculturative stress related to overall college satisfaction levels among international students. Participants’ responses to the open-ended questions were entered into Microsoft Excel and analyzed utilizing concept mapping that included the identification, coding, and categorization of data into invariant themes and patterns, as well as meaningful subcategories. These themes and quotations were then used to elaborate on the survey findings.

Using correlations, analysis of variance, and concept mapping, patterns and themes of international students’ sociocultural adaptation and acculturative stress levels were analyzed and compared with demographic factors and overall college satisfaction levels. Knowledge gained from this study can function as a model for retention efforts and college satisfaction of both international and domestic students at various campuses and environments.

Summary

The purpose of this study was to determine whether relationships exist between sociocultural adaptation, acculturative stress, college satisfaction, and demographics. This chapter discussed the methodology of the study by considering two empirical instruments to measure students’ acculturative stress and sociocultural adaptation levels and the relationship with college satisfaction. The reliability and validity of the instruments were described. IRB was provided, along with the description of the sample
population, administration of the two instruments and questionnaires, data collection, and input of the data. The results from the data analysis are discussed in Chapter IV.
CHAPTER IV: RESULTS

This study examined international students’ acculturation experiences at a non-metropolitan university in the U.S. The literature review suggested that international students’ acculturation experiences are influenced by multiple factors, which include students’ acculturative stress and sociocultural adaptation to a new culture. A particular goal of the study was to investigate the relationship between international students’ levels of acculturative stress, and sociocultural adaptation, including the five subscales of sociocultural adaptation and college satisfaction levels. Selected demographic variables were examined to determine whether differences may exist among this student population pursuing a degree at a non-metropolitan university in the U.S.

This study involved a quantitative analysis, in which data was collected by utilizing the Acculturative Stress Scale for International Students (ASSIS) and the revised version of the Sociocultural Adaptation Scale (SCAS-R). In regard to the SCAS-R, the overall level of sociocultural adaptation was determined, along with the five subscales of sociocultural adaptation, which include interpersonal communication, academic/work performance, personal interests and community involvement, ecological adaptation, and language proficiency. In addition, a brief demographic profile and student satisfaction survey accompanied these instruments. The demographic survey asked respondents the following information: gender, age, degree level, country of origin, length of time in U.S., length of time at higher education institution, and English language. The college satisfaction questions referred to international students’ overall college experience, which included academic experiences, campus experiences, and interpersonal relationships with students, faculty, and staff, along with their overall satisfaction with the university. In order to characterize the overall college satisfaction rating, an open-ended response was
included to allow participants to provide further experiences and perceptions in terms of their satisfaction as an international student at the university. Appendix G contains the grouped themes generated by all open-ended responses. The International Student Questionnaire can be found in Appendix A.

Quantitative data were analyzed using SAS 9.3 software for responses to the SCAS-R, ASSIS, student satisfaction, and demographic surveys. The procedures utilized were descriptive statistics about the participants’ characteristics, Pearson’s correlations, and one-way analysis of variance (ANOVA), along with post hoc analyses to include Tukey’s HSD and tests for simple effects. An alpha level of .05 was used for all statistical analyses. The descriptive statistics of the sample are reported in this chapter, including international students’ country of origin, gender, age, degree level, top degree majors, length of stay in the U.S., and semesters spent at universities in the U.S. Second, the means and statistical analysis procedures are discussed to answer the research questions of the study. Subsequent to the utilization of concept mapping for the open-ended response on college satisfaction, seven themes were generated based on the feedback provided by the students. The data and findings of this study also are presented in this chapter.

All international students enrolled in the university during the spring 2013 semester (N = 880) were invited to participate in this study. All respondents (N = 438) verified on the survey that they were international students enrolled at the university; however, 413 provided completed surveys indicating a 50% response rate, in which 94% of student respondents provided sufficient feedback. These 413 students originated from 46 countries (two students did not report their country of origin) (Appendix F). The top
five countries with the highest number of international students in the study, making up 75% of the sample population, included students from Saudi Arabia ($N = 140$), China ($N = 76$), India ($N = 54$), Vietnam ($N = 31$), and Republic of Korea ($N = 9$), which was representative of the international student population at the institution. Table 6 provides a comparison of the frequencies for the top 10 representations by foreign countries.

Table 6

<table>
<thead>
<tr>
<th>Top 10 Countries Represented at University for Fall 2012 *</th>
<th>N</th>
<th>%</th>
<th>Top 10 Countries Represented in Study for Spring 2013</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
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<td>Saudi Arabia</td>
<td>140</td>
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<td>12.79</td>
<td>India</td>
<td>54</td>
<td>13.08</td>
</tr>
<tr>
<td>Vietnam</td>
<td>39</td>
<td>5.09</td>
<td>Vietnam</td>
<td>31</td>
<td>7.51</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>20</td>
<td>2.61</td>
<td>Republic of Korea</td>
<td>9</td>
<td>2.18</td>
</tr>
<tr>
<td>Brazil</td>
<td>14</td>
<td>1.83</td>
<td>Nigeria</td>
<td>8</td>
<td>1.94</td>
</tr>
<tr>
<td>France</td>
<td>13</td>
<td>1.70</td>
<td>Indonesia</td>
<td>7</td>
<td>1.69</td>
</tr>
<tr>
<td>Canada</td>
<td>12</td>
<td>1.57</td>
<td>Canada</td>
<td>6</td>
<td>1.45</td>
</tr>
<tr>
<td>Kenya</td>
<td>11</td>
<td>1.44</td>
<td>Iran</td>
<td>6</td>
<td>1.45</td>
</tr>
<tr>
<td>Japan</td>
<td>10</td>
<td>1.31</td>
<td>Japan</td>
<td>6</td>
<td>1.45</td>
</tr>
<tr>
<td>Total</td>
<td>766</td>
<td>78.86</td>
<td>Total</td>
<td>413</td>
<td>83.05</td>
</tr>
</tbody>
</table>

*Source: University Factbook (2012)*

Particular to demographic backgrounds of international students in this study, there were more male respondents ($N = 271$, 66%) than females ($N = 142$, 34%). These numbers are comparable to the international student population ($N = 880$) at the university during the spring 2013 semester, as about 70% of international students were males and 30% were females. International students’ ages ranged from 16 to 44;
therefore, students were categorized as traditional (16-24 years) and non-traditional (25 years and above); 67% of the international students in the study were of traditional age, particularly between the ages of 18 to 24. With regard to degree level, the majority of the international student respondents were pursuing an undergraduate degree \((N = 255, 62\%)\) and the remaining were pursuing a graduate degree \((N = 156, 38\%)\). These numbers are representative of the international student population at the university, as 502 out of 880 students were pursuing a bachelor’s degree (57%), and 214 out of were pursuing a master’s degree (24%) during the spring 2013 semester. Five international students were included who were pursuing a doctorate, and 134 were enrolled in an English language training program. Some international students at both the undergraduate and graduate levels were listed as having undeclared majors. Table 7 provides the respondents’ demographic information on gender, age, and degree level.

Table 7: Study Demographics: Gender, Age, and Degree Level

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>271</td>
</tr>
<tr>
<td>Female</td>
<td>142</td>
</tr>
<tr>
<td>Total</td>
<td>413</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>Traditional age students</td>
<td>266</td>
</tr>
<tr>
<td>Non-traditional age students</td>
<td>133</td>
</tr>
<tr>
<td>Total</td>
<td>399</td>
</tr>
<tr>
<td><strong>Degree level</strong></td>
<td></td>
</tr>
<tr>
<td>Undergraduate</td>
<td>255</td>
</tr>
<tr>
<td>Graduate</td>
<td>156</td>
</tr>
<tr>
<td>Total</td>
<td>411</td>
</tr>
</tbody>
</table>
Specific to academic degrees, certain departments had higher numbers of international students both at the undergraduate and graduate levels compared to others. Of the 880 international students enrolled as full-time during the spring 2013 semester, 825 were listed as having a declared undergraduate or graduate major. The top majors with the highest student numbers related to science or business fields, which accounted for 82% of the international student population at the university. This finding concurs with previous research indicating that a large number of international students are pursuing degrees in science, technology, engineering, and mathematics (STEM) (Ashby, 2006; U.S. Department of Homeland Security, 2013). During the spring 2013 semester, 337 international students (41%) were enrolled in the college of science and engineering, with the highest numbers pursuing degrees in engineering ($N = 119$), computer science ($N = 68$), architectural and manufacturing sciences ($N = 61$), chemistry ($N = 36$), and biology ($N = 32$). The business college had a total of 217 international students (26%), with the highest numbers pursuing degrees in management ($N = 73$), finance ($N = 37$), accounting ($N = 29$), international business ($N = 32$), economics ($N = 27$), and marketing ($N = 19$). The third college with the highest international student population was the college of health and human services, as there were 119 international students (14%), and the highest numbers were pursuing degrees in public health and health administration ($N = 67$), as well as kinesiology ($N = 18$).

Regarding the international students’ length of stay, the majority in this study reported to have lived in the U.S. less than two years (85%). As noted in Chapter II, various research studies report that international students face the greatest difficulties during their initial transition to a new culture and environment (Hechanova-Alampapy et
al., 2002; Poyrazli & Grahame, 2007; Wilton & Constantine, 2003). On average, the international students in the study resided in the U.S. for approximately 20 months, which coincides with the number of semesters in which students were enrolled, the majority (87%) indicating being enrolled between one to four semesters. International students attended the university for an average of 2.84 semesters, as seen in Table 8.

Table 8

| Study Demographic: Length of Stay in U.S. and Semesters at University |
|----------------------------------------------------------|----------------|-----------|
| Variable                                                  | N             | M         | SD        | Minimum | Maximum |
| Length of Stay in U.S. (Months)                           | 408           | 20.15     | 16.85     | 2.00    | 144     |
| Semesters at University of Study                          | 411           | 2.84      | 2.13      | .50     | 18      |

For the majority of students, this was the first time they were enrolled at a higher education institution in the U.S., as 86% (N = 356) indicated they did not attend another institution in the U.S. prior to enrolling at the university in this study. Table 9 indicates these findings.

Table 9

| International Students Attending another Higher Education Institution in the U.S. Prior to Their Arrival at the University |
|---------------------------------------------------------------------------------------------------------------------|---------|--------|
| Have you attended another higher education institution in the U.S. prior to attending this university?             | Sample  | N     | %    |
| Yes                                                                   | 57      | 13.80 |
| No                                                                    | 356     | 86.20 |
| Total                                                                 | 413     | 100.00|

Of the 57 students, out of 413, who attended another higher education institution in the U.S. prior to their arrival to the university in the study, a majority (N = 33) reported they were at the other institution only for one to two semesters. One student did
not indicate the number of semesters spent at the other institution. Prior time spent at another higher education institution could possibly influence the acculturation experiences for this small percentage of respondents. Table 10 summarizes these findings.

Table 10

<table>
<thead>
<tr>
<th>Number of semesters spent at other higher education institution in the U.S.</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>One</td>
<td>16</td>
</tr>
<tr>
<td>Two</td>
<td>17</td>
</tr>
<tr>
<td>Three</td>
<td>8</td>
</tr>
<tr>
<td>Four</td>
<td>5</td>
</tr>
<tr>
<td>Five</td>
<td>4</td>
</tr>
<tr>
<td>Six</td>
<td>4</td>
</tr>
<tr>
<td>Seven</td>
<td>0</td>
</tr>
<tr>
<td>Eight</td>
<td>2</td>
</tr>
<tr>
<td>Not Reported</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>57</td>
</tr>
</tbody>
</table>

Pertaining to language, 91% identified English as their second language. As was reported in Chapter II, language fluency serves as a significant predictor of adaptation to the host culture (Doa et al., 2007). Table 11 provides the frequencies and percentages for the English language demographic variable.
Table 11

*Study Demographics: English Language*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>English language</td>
<td></td>
</tr>
<tr>
<td>English as first language</td>
<td>38</td>
</tr>
<tr>
<td>English as second language</td>
<td>375</td>
</tr>
<tr>
<td>Total</td>
<td>413</td>
</tr>
</tbody>
</table>

**Findings for Research Question 1**

The first research question to be addressed is: How does the level of acculturative stress relate to the levels of overall sociocultural adaptation and the five subscales of sociocultural adaptation among international students at a non-metropolitan university in the United States?

A Pearson’s correlation analysis was used to examine the relationships between acculturative stress and sociocultural adaption levels among international students. The data revealed that a significant negative relationship exists between international students’ overall levels of acculturative stress and sociocultural adaptation ($r = -.23, p < 0.01$); however, this indicates a weak relationship. In addition, the correlations between students’ overall levels of acculturative stress with the five subscales for sociocultural adaptation were determined indicating all five subscales had a significant negative relationship with overall acculturative stress levels; however, all relationships also were very weak. Among the five subscales, interpersonal communication exhibited the strongest correlation, although this relationship also was very weak ($r = -.25, p < 0.01$). The remaining four subscales included academic/work performance ($r = -.20, p < 0.01$); personal interests and community involvement ($r = -.10, p < 0.01$); ecological
adaptation (r = -.12, p < 0.01); and language proficiency (r = -.16, p < 0.01). Table 12 summarizes these findings.

Table 12

<table>
<thead>
<tr>
<th>Means, Standard Deviations, and Intercorrelations for Acculturative Stress and Sociocultural Adaptation Levels among International Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>-------------------------------</td>
</tr>
<tr>
<td>Acculturative Stress</td>
</tr>
<tr>
<td>Sociocultural Adaptation</td>
</tr>
<tr>
<td>Sociocultural Adaptation Subscales</td>
</tr>
<tr>
<td>Interpersonal Communication</td>
</tr>
<tr>
<td>Academic/ Work Performance</td>
</tr>
<tr>
<td>Personal Interests and</td>
</tr>
<tr>
<td>Community Involvement</td>
</tr>
<tr>
<td>Ecological Adaptation</td>
</tr>
<tr>
<td>Language Proficiency</td>
</tr>
</tbody>
</table>

*p < 0.05; **p < 0.01

Findings of Research Question 2

The second research question is: Do significant differences exist between international students’ selected demographic variables (gender, age, degree level, and English language comfort) and the dependent variables of levels of acculturative stress, overall sociocultural adaptation, five subscales of sociocultural adaptation, satisfaction with the overall college experience, and satisfaction with the university?

Four additional research questions were formulated corresponding to each of the demographic variables to address Research Question 2:
**RQ2a:** Do significant differences exist between international students’ gender and all dependent variables listed in RQ2?

**RQ2b:** Do significant differences exist between international students’ age (traditional and non-traditional students) and all dependent variables listed in RQ2?

**RQ2c:** Do significant differences exist between international students’ degree level (undergraduate and graduate students) and all dependent variables listed in RQ2?

**RQ2d:** Do significant differences exist between international students’ English language comfort and all dependent variables listed in RQ2?

One-way analysis of variance (ANOVA) was utilized to examine the differences of each of the demographic factors and the dependent variables outlined above. RQ2a examined the difference by gender for each of the dependent variables. To address RQ2 in terms of acculturative stress, an ANOVA was conducted to test the differences between gender and acculturative stress among the international students in the study. A significant difference was found, as the male international students had a significantly higher mean for acculturative stress levels ($F = 4.29, 1, 407, p < 0.04$), which indicated that they had slightly higher levels of acculturative stress. Table 13 depicts the mean values for acculturative stress by gender.
To address RQ2a in terms of sociocultural adaptation, an ANOVA was conducted to test the differences between gender and overall sociocultural adaptation levels, along with the five subscales of sociocultural adaptation among the international students. Female international students had a significant, slightly higher means for total sociocultural adaptation levels ($F = 7.66, 1, 411, p < 0.01$), along with four specific sociocultural adaptation subscales which included interpersonal communication ($F = 4.25, 1, 411, p < 0.04$); academic and work performance ($F = 9.67, 1, 411, p < 0.002$); ecological adaptation ($F = 7.83, 1, 411, p < 0.01$); and language proficiency ($F = 7.62, 1, 411, p < 0.01$). Table 14 displays the mean values for sociocultural adaptation by gender.

Table 13  

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th></th>
<th></th>
<th>Female</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$N$</td>
<td>$M$</td>
<td>$SD$</td>
<td>$N$</td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>Acculturative Stress</td>
<td>267</td>
<td>93.01</td>
<td>22.79</td>
<td>142</td>
<td>87.93</td>
<td>25.13</td>
</tr>
</tbody>
</table>
To address RQ2a in terms of college satisfaction, an ANOVA was conducted to test the differences between gender and overall satisfaction with the college experience and satisfaction with the university among the international students. Females had a significant, slightly higher mean for overall satisfaction with the college experience \((F = 4.91, 1, 399, p < 0.03)\), indicating they were slightly more satisfied with their college experience in comparison with their male counterparts; however, no significant difference was found for the level of satisfaction with the university. Table 15 displays these findings on satisfaction by gender.
Table 1

*Means and Standard Deviations for Overall Satisfaction with College Experience and Satisfaction with University by Gender*

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th></th>
<th>Female</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>Overall Satisfaction with College Experience</td>
<td>261</td>
<td>7.06</td>
<td>1.88</td>
<td>140</td>
</tr>
<tr>
<td>Satisfaction with University</td>
<td>262</td>
<td>6.67</td>
<td>2.46</td>
<td>140</td>
</tr>
</tbody>
</table>

The demographic variable of age was analyzed among international students, for which students were classified as traditional and non-traditional. To address RQ2b in terms of acculturative stress, an ANOVA was conducted to test the differences between age and acculturative stress among the international students in the study. Traditional students had a slightly higher mean for levels of acculturative stress; however, a significant difference was not evident. Table 16 provides the mean values for acculturative stress by age.

Table 16

*Means and Standard Deviations for Acculturative Stress by Age (Traditional vs. Non-Traditional Students)*

<table>
<thead>
<tr>
<th></th>
<th>Traditional</th>
<th></th>
<th>Non-Traditional</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>Acculturative Stress</td>
<td>265</td>
<td>91.29</td>
<td>24.08</td>
<td>130</td>
</tr>
</tbody>
</table>

To address RQ2b in terms of sociocultural adaptation, an ANOVA was conducted to test the differences between age and overall sociocultural adaptation levels, along with the five subscales of sociocultural adaptation among the international students. A significant difference was evident for the sociocultural adaptation subscale variable of academic/work performance (F = 5.11, 1, 397, p < 0.02), as non-traditional students had a
significant higher mean value in comparison to traditional students. In addition, non-traditional students had slightly higher means for overall levels of sociocultural adaptation, along with the remaining four subscales of sociocultural adaptation that included interpersonal communication, personal interests and community involvement, ecological adaptation, and language proficiency. However, the differences among traditional and non-traditional students were not significant for these variables. Table 17 presents the findings for sociocultural adaptation by age.

Table 17

<table>
<thead>
<tr>
<th></th>
<th>Traditional</th>
<th></th>
<th>Non-Traditional</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>Sociocultural Adaptation</td>
<td>266</td>
<td>3.46</td>
<td>0.60</td>
<td>133</td>
</tr>
<tr>
<td>Sociocultural Adaptation Subscales</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal Communication</td>
<td>266</td>
<td>3.39</td>
<td>0.67</td>
<td>133</td>
</tr>
<tr>
<td>Academic/ Work Performance</td>
<td>266</td>
<td>3.55</td>
<td>0.69</td>
<td>133</td>
</tr>
<tr>
<td>Personal Interests and Community Involvement</td>
<td>266</td>
<td>3.33</td>
<td>0.68</td>
<td>133</td>
</tr>
<tr>
<td>Ecological Adaptation</td>
<td>266</td>
<td>3.47</td>
<td>0.73</td>
<td>133</td>
</tr>
<tr>
<td>Language Proficiency</td>
<td>266</td>
<td>3.73</td>
<td>0.91</td>
<td>133</td>
</tr>
</tbody>
</table>

To address RQ2b in terms of college satisfaction, an ANOVA was conducted to test the differences between age and overall satisfaction with the college experience and satisfaction with the university among the international students. A significant difference was evident for the variable of overall satisfaction with the college experience (F= 4.59, 1. 385, p < 0.03), as non-traditional students indicated a slightly higher mean score. In
regard to traditional students, this group had a slightly higher mean for satisfaction with the university, in comparison to non-traditional students; however, a significant difference was not evident. Table 18 displays the findings on satisfaction by age.

Table 18

*Means and Standard Deviations for Overall Satisfaction with College Experience and Satisfaction with University by Age (Traditional vs. Non-Traditional Students)*

<table>
<thead>
<tr>
<th></th>
<th>Traditional</th>
<th>Non-Traditional</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
</tr>
<tr>
<td>Overall Satisfaction with College Experience</td>
<td>261</td>
<td>7.08</td>
</tr>
<tr>
<td>Satisfaction with University</td>
<td>261</td>
<td>6.83</td>
</tr>
</tbody>
</table>

Relative to the demographic factor of degree level, students were categorized at the undergraduate and graduate levels. To address RQ2c in terms of acculturative stress, an ANOVA was conducted to test the differences between degree level and acculturative stress among the international students in the study. No significant differences were found in mean values between undergraduate and graduate students for the variable of acculturative stress; however, undergraduate international students had a slightly higher mean for overall acculturative stress levels. Table 19 displays these results.

Table 19

*Means and Standard Deviations for Acculturative Stress by Degree level (Undergraduate vs. Graduate)*

<table>
<thead>
<tr>
<th></th>
<th>Undergraduate</th>
<th>Graduate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
</tr>
<tr>
<td>Acculturative Stress</td>
<td>252</td>
<td>92.56</td>
</tr>
</tbody>
</table>

To address RQ2c in terms of sociocultural adaptation, an ANOVA was conducted to test the differences between degree level and overall sociocultural adaptation levels,
along with the five subscales of sociocultural adaptation among the international students. Significant differences were not evident between the mean values; however, graduate international students had a slightly higher mean for overall sociocultural adaptation levels, along with the four subscales of interpersonal communication, academic and work performance, ecological adaptation, and language proficiency. Undergraduate international students had a slightly higher mean for the sociocultural adaptation subscale of personal interests and community involvement. Table 20 displays these results by degree level.

Table 20

<table>
<thead>
<tr>
<th></th>
<th>Undergraduate</th>
<th>Graduate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
</tr>
<tr>
<td>Sociocultural Adaptation</td>
<td>255</td>
<td>3.48</td>
</tr>
<tr>
<td>Sociocultural Adaptation Subscales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal Communication</td>
<td>255</td>
<td>3.41</td>
</tr>
<tr>
<td>Academic/ Work Performance</td>
<td>255</td>
<td>3.58</td>
</tr>
<tr>
<td>Personal Interests and Community</td>
<td>255</td>
<td>3.36</td>
</tr>
<tr>
<td>Involvement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecological Adaptation</td>
<td>255</td>
<td>3.50</td>
</tr>
<tr>
<td>Language Proficiency</td>
<td>255</td>
<td>3.76</td>
</tr>
</tbody>
</table>

Regarding RQ2c in terms of college satisfaction, an ANOVA was conducted to test the differences between degree level and overall satisfaction with the college experience and satisfaction with the university among the international students. A
significant difference was found for students’ overall satisfaction with the college experience as graduate international students exhibited a significant, slightly higher mean value in terms of overall satisfaction with their college experience ($F = 17.52, 1, 397, p < 0.0001$). No significant difference was found for the variable of satisfaction with the university, although graduate students had a slightly higher mean. Table 21 depicts the findings for college satisfaction by degree level.

Table 21

<table>
<thead>
<tr>
<th></th>
<th>Undergraduate</th>
<th>Graduate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$N$</td>
<td>$M$</td>
</tr>
<tr>
<td>Overall Satisfaction with College Experience</td>
<td>245</td>
<td>6.90</td>
</tr>
<tr>
<td>Satisfaction with University</td>
<td>246</td>
<td>6.70</td>
</tr>
</tbody>
</table>

The final the demographic variable of English language comfort was examined. Particular to this factor, students selected their level of comfort with the English language, which included the options of not comfortable, somewhat comfortable, comfortable, very comfortable, and extremely comfortable. The categories of English language comfort were compiled into three groups that included students who were somewhat comfortable (including not comfortable and somewhat comfortable) ($N = 92, 22\%$); comfortable ($N = 161, 39\%$); and extremely comfortable (including very comfortable and extremely comfortable) ($N = 159, 39\%$). Table 22 provides the frequencies and percentages of the number of students who reported their level of English language comfort.
Table 22

*Study Demographic: English Language Comfort (Three Categories Include Somewhat Comfortable, Comfortable, and Extremely Comfortable)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>English language comfort</td>
<td></td>
</tr>
<tr>
<td>Somewhat comfortable</td>
<td>92</td>
</tr>
<tr>
<td>Comfortable</td>
<td>161</td>
</tr>
<tr>
<td>Extremely comfortable</td>
<td>159</td>
</tr>
<tr>
<td>Total</td>
<td>412</td>
</tr>
</tbody>
</table>

To address RQ2d in terms of acculturative stress, an ANOVA was conducted to test the differences between English language comfort and acculturative stress among the international students in the study. A significant difference was found for the variable of acculturative stress ($F = 15.86, 2, 405, p < 0.0001$). Tukey’s post hoc analysis indicates that a significant difference occurred between students who were somewhat comfortable and extremely comfortable, as well as comfortable and extremely comfortable with English, which indicates a large difference with students who were extremely comfortable with the English language and those who were not. Table 23 depicts the results by English language comfort.

Table 23

*Means and Standard Deviations for Acculturative Stress by English Language Comfort*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Somewhat Comfortable</th>
<th>Comfortable</th>
<th>Extremely Comfortable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N        M      SD</td>
<td>N        M      SD</td>
<td>N        M      SD</td>
</tr>
<tr>
<td>Acculturative Stress</td>
<td>91       96.71  19.16</td>
<td>159      96.19  20.43</td>
<td>158      83.28  26.86</td>
</tr>
</tbody>
</table>
To address RQ2d in terms of sociocultural adaptation, an ANOVA was conducted to test the differences between English language comfort and overall sociocultural adaptation levels, along with the five subscales of sociocultural adaptation among the international students. Significant differences were evident for overall sociocultural adaptation levels \( (F = 27.51, 2, 409, p < 0.0001) \), along with the five subscales of sociocultural adaptation that included interpersonal communication \( (F = 32.18, 2, 409, p < 0.0001) \); academic/work performance \( (F = 26.59, 2, 409, p < 0.0001) \); personal interests and community involvement \( (F = 8.24, 2, 409, p < 0.0003) \); ecological adaptation \( (F = 7.68, 2, 409, p < 0.0005) \); and language proficiency \( (F = 23.52, 2, 409, p < 0.0001) \).

Tukey’s post hoc analyses revealed a significant difference between students who were somewhat comfortable and extremely comfortable, as well as comfortable and extremely comfortable for the variables of overall sociocultural adaptation and the four subscales of sociocultural adaptation (academic/work performance, personal interests and community involvement, ecological adaptation, and language proficiency). These results indicate a large difference with students who were extremely comfortable with the English language and those who were not. The subscale of interpersonal communication showed a significant difference between all three categories of English language comfort, as Tukey’s post hoc analysis indicated differences between the categories of somewhat comfortable and comfortable, somewhat comfortable and extremely comfortable, and comfortable and extremely comfortable. Table 24 displays the results for sociocultural adaptation by students’ English language comfort.
Table 24

Means and Standard Deviations for Sociocultural Adaptation and Sociocultural Adaptation Subscales by English Language Comfort

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Somewhat Comfortable</th>
<th>Comfortable</th>
<th>Extremely Comfortable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Sociocultural Adaptation</td>
<td>92</td>
<td>3.24</td>
<td>0.48</td>
</tr>
<tr>
<td>Interpersonal Communication</td>
<td>92</td>
<td>3.09</td>
<td>0.56</td>
</tr>
<tr>
<td>Academic/ Work Performance</td>
<td>92</td>
<td>3.33</td>
<td>0.59</td>
</tr>
<tr>
<td>Personal Interests and Community Involvement</td>
<td>92</td>
<td>3.21</td>
<td>0.67</td>
</tr>
<tr>
<td>Ecological Adaptation</td>
<td>92</td>
<td>3.36</td>
<td>0.62</td>
</tr>
<tr>
<td>Language Proficiency</td>
<td>92</td>
<td>3.41</td>
<td>0.77</td>
</tr>
</tbody>
</table>

Relative to RQ2d in terms of college satisfaction, an ANOVA was conducted to test the differences between English language comfort and overall satisfaction with the college experience, along with satisfaction with the university among the international students. A significant difference was found for students’ overall satisfaction with the college experience ($F = 8.84, 2, 398, p < 0.0002$) and satisfaction with the university ($F = 3.23, 2, 399, p < 0.04$). Tukey’s post hoc analyses showed a significant difference between students who were somewhat comfortable and extremely comfortable, also indicating a large difference between students with lower levels of English language...
comfort and those who had much higher comfort with the English language. Table 25 displays the results for college satisfaction by English language comfort.

Table 25

| Means and Standard Deviations for Overall Satisfaction with College Experience and Satisfaction with University by English Language Comfort |
|---|---|---|---|---|---|---|
| Somewhat Comfortable | Comfortable | Extremely Comfortable |
| N | M | SD | N | M | SD | N | M | SD |
| Overall Satisfaction with College Experience | 89 | 6.60 | 1.86 | 156 | 7.16 | 1.79 | 156 | 7.60 | 1.81 |
| Satisfaction with University | 88 | 6.35 | 2.35 | 157 | 6.68 | 2.38 | 157 | 7.13 | 2.44 |

Findings for Research Question 3

Research Question 3 is: How do levels of overall sociocultural adaptation and acculturative stress relate to college satisfaction levels among international students studying at a non-metropolitan university in the United States?

To address Research Question 3, a Pearson’s correlation analysis was utilized to examine the relationships between levels of overall satisfaction with the college experience and satisfaction with the university among international students with their acculturative stress and sociocultural adaption levels. The data revealed a statistically significant negative relationship between international students’ overall satisfaction with the college experience and levels of acculturative stress ($r = -0.20, p < 0.01$), although the correlation is relatively weak. The correlations between students’ overall satisfaction with the college experience and overall levels of sociocultural adaptation also showed a significant relationship ($r = 0.28, p < 0.01$); however, this correlation also was weak.
The next relationship was analyzed between levels of satisfaction with the university and levels of acculturative stress and sociocultural adaption among international students. The data revealed that a significant negative relationship exists between students’ satisfaction with the university and acculturative stress levels ($r = -0.25$, $p < 0.01$); a significant correlation also is seen for students’ satisfaction with the university and overall levels of sociocultural adaptation ($r = 0.12$, $p < 0.01$); however, both of these correlations are weak. Table 26 summarizes the findings noted above.

Table 26

<table>
<thead>
<tr>
<th>Variable</th>
<th>$N$</th>
<th>Mean</th>
<th>SD</th>
<th>Pearson Correlations Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acculturative Stress</td>
<td>409</td>
<td>91.25</td>
<td>23.72</td>
<td></td>
</tr>
<tr>
<td>Sociocultural Adaptation</td>
<td>413</td>
<td>3.50</td>
<td>0.61</td>
<td>-0.23**</td>
</tr>
<tr>
<td>Overall Satisfaction with College Experience</td>
<td>401</td>
<td>7.21</td>
<td>1.85</td>
<td>-0.20** 0.28**</td>
</tr>
<tr>
<td>Satisfaction with University</td>
<td>402</td>
<td>6.78</td>
<td>2.41</td>
<td>-0.25** 0.12**</td>
</tr>
</tbody>
</table>

*p < 0.05; **p < 0.01

Of the 413 participants, 241 responded to the open-ended question in regard to their satisfaction with the overall college experience at the university; 372 students responded to the open-ended question regarding factors that influenced their decision to select the university of this study at which to pursue their higher education. In terms of the open-ended responses from students’ as to their overall satisfaction with the college experience, the findings were explained by seven primary themes: (1) faculty and staff interactions, (2) peer interaction, (3) involvement on campus, (4) reputation of campus,
(5) community interactions, (6) academics, and (7) other, such as financial/tuition
(Appendix G).

Summary of the Findings

This chapter presented quantitative results of this study regarding the relationships between acculturative stress, sociocultural adaptation, and college satisfaction, along with differences among demographic factors for international students pursuing a degree at a non-metropolitan university. The findings were presented relative to three research questions: (1) How does the level of acculturative stress relate to the levels of overall sociocultural adaptation and the five subscales of sociocultural adaptation among international students at a non-metropolitan university in the United States? (2) Do significant differences exist between international students’ selected demographic variables (gender, age, degree level, and English language comfort) and the dependent variables of levels of acculturative stress, overall sociocultural adaptation, five subscales of sociocultural adaptation, satisfaction with the overall college experience, and satisfaction with the university? (3) How do levels of overall sociocultural adaptation and acculturative stress relate to college satisfaction levels among international students studying at a non-metropolitan university in the United States?

Regarding RQ1, correlations between acculturative stress and sociocultural adaptation, along with the five subscales of sociocultural adaptation, indicated a significant negative relationship among the variables. Although the relationship is weak, this finding indicates that, as acculturative stress scores increased, students’ levels of sociocultural adaptation decreased and, as acculturative stress scores decreased, students’ levels of sociocultural adaptation increased. The five subscales also indicate a significant
negative relationship with acculturative stress. Although this correlation is weak, the results demonstrate that students with greater competency in interpersonal communication, academic/work performance, personal interests and community involvement, ecological adaptation, and language proficiency usually experience lower levels of acculturative stress.

Based on the findings for Research Question 2, the results of the Analysis of Variance (ANOVA) with students’ demographic factors indicate significant differences across the demographic factors of gender, age, degree level, and English language comfort for the dependent variables investigated in RQ2 (international students’ levels of acculturative stress, overall sociocultural adaptation, five subscales of sociocultural adaptation, student satisfaction with the college experience, and student satisfaction with the university). In particular, male students reported higher levels of acculturative stress and females reported higher levels of sociocultural adaptation. Also, students of non-traditional age and graduate students had slightly higher levels of satisfaction with their overall college experience than traditional and undergraduate international students. Last, significant differences were evident with English language comfort across all the dependent variables in RQ2, particularly between students who reported the highest levels of English language comfort and those who reported lower levels of English language comfort.

Relative to RQ3, correlations between student satisfaction with the college experience and satisfaction with the university with levels of acculturative stress and overall sociocultural adaptation indicate a significant relationship between these variables, although weak. A significant negative correlation resulted between students’
acculturative stress levels and their overall satisfaction with the college experience, along with satisfaction with the university. A significant correlation was found with students’ sociocultural adaptation levels and overall satisfaction with the college experience, along with their satisfaction with the university. Based on the findings generated from the open-ended responses, social interaction among faculty, staff, peers, and community, as well as the importance of academic success, appear to be important factors that influence international students’ experiences at the university. These findings will be discussed further in Chapter V and will include implications for applicability, limitations of the study, and suggestions for future research.
CHAPTER V: CONCLUSION

The focus of this study was to analyze international students’ acculturation experiences related to their levels of acculturative stress, sociocultural adaptation, and college satisfaction at a non-metropolitan university environment in relation to specific demographic factors. The continued increase of international student populations at colleges and universities in the U.S. has become a major focus for higher education institutions, as these students impact research, innovation, generation of large funds for higher education institutions through high tuition and fees, and influence diversity across campuses. These factors have continued to influence initiatives to recruit more international students. However, a majority of international students often face many challenges in adjusting to a college campus in the U.S.; therefore, additional efforts should be placed on helping meet the needs of international students. In order to provide adequate services for these students, gaining a perspective of the international student acculturation experience in terms of their levels of acculturative stress, sociocultural adaptation, and college satisfaction may help higher education institutions better understand ways to more effectively meet the needs of this student population as they transition to living in a new culture and environment.

The data gathered provided a better understanding of the levels of acculturative stress, sociocultural adaptation, and college satisfaction among 413 international students pursuing their postsecondary education at a non-metropolitan university. This study is significant because it adds to the body of knowledge regarding the acculturation experiences of international students, particularly by analyzing their college satisfaction levels. This study provides evidence that significant relationships exist between
international students’ levels of acculturative stress, sociocultural adaptation, and college satisfaction and that significant differences are evident among certain demographic factors, especially gender and English language comfort. This chapter discusses findings relative to the research questions and the literature review. Limitations, implications, and suggestions for future research also are discussed.

Discussion of the Findings

The following section discusses the results of this study.

Research Question 1: How does the level of acculturative stress relate to the levels of overall sociocultural adaptation and the five subscales of sociocultural adaptation among international students at a non-metropolitan university in the United States?

Research Hypothesis 1: A significant relationship exists between the levels of acculturative stress and overall sociocultural adaptation, as well as the five subscales of sociocultural adaptation among the international students of this study.

The data support the hypotheses, as findings suggest that acculturative stress levels among international students negatively correlate with levels of sociocultural adaptation among international students living in a new cultural environment. Although a significant weak correlation is displayed between these two acculturating factors, this finding implies that, as acculturative stress levels increase for international students, their levels of sociocultural adaptation decrease and, as levels of acculturative stress decrease, students’ sociocultural adaptation to the university environment increases. In addition, all five subscales of sociocultural adaptation resulted in a significant negative relationship with acculturative stress, although the correlation was weak. This may suggest that
greater competency with interpersonal communication, academic/work performance, personal interests and community involvement, ecological adaptation, and language proficiency can each reduce levels of acculturative stress among international students. As suggested by Wang and Mallinckrodt (2006), the factor of acculturative stress is important in analyzing sociocultural adjustment difficulties.

Research Question 2: Do significant differences exist between international students’ selected demographic variables (gender, age, degree level, and English language comfort) and the dependent variables of acculturative stress, overall sociocultural adaptation, five subscales of sociocultural adaptation, satisfaction with the overall college experience, and satisfaction with the university? Four research hypotheses were formulated, corresponding to each of the demographic variables addressed in RQ2.

Hypothesis 2a: A significant difference will be found between gender and all dependent variables listed in RQ2. In terms of the demographic variable of gender, a significant difference was evident between the female and male international students as females had significant higher mean values for overall sociocultural adaptation and the four subscales of sociocultural adaptation that included interpersonal communication, academic/work performance, ecological adaptation, and language proficiency. Although the differences are weak, this indicates that the female international students in the study had slightly higher levels of competency in sociocultural adaptation to a new cultural environment compared to the male students. In terms of the male international students, they had a significant higher mean score for acculturative stress, which coincided with their slightly lower mean scores for sociocultural adaptation. In terms of college
satisfaction, no significant difference was found by gender; however female did exhibit higher means for satisfaction. This indicates that the male international students face slightly greater challenges and difficulties adjusting to the campus environment.

In contrast, Wilson’s (2011) study found that female international graduate students at a private urban, mid-sized Northeastern university in the U.S. had more difficulty adapting in comparison to men. This finding is similar with other studies that indicated female international students encountered higher levels of stress, anxiety, and levels of homesickness (Doa et al., 2007; Fatima, 2001; Hsieh, 2006; Yangyi, 2009) and more problems socially, psychologically, and academically when compared to male students (Mallinckrodt & Leeong, 1992). However, difficulties experienced by male students were not significantly different than females, representing that further research should be considered regarding gender differences (Wilson, 2011).

Hypothesis 2b: A significant difference will be found between age (traditional and non-traditional students) and all dependent variables listed in RQ2. Significant differences resulted for only two variables that included students’ overall satisfaction with the college experience and the sociocultural adaptation subscale of academic/work performance, as non-traditional students had higher mean values. However, for these two variables, a significant weak difference was noted. Interestingly, non-traditional students also had higher mean values for the remaining four subscales of sociocultural adaptation, which included interpersonal communication, personal interests and community involvement, ecological adaptation, and language proficiency. However, significant differences were not evident among the four subscales. This may imply that non-traditional students in the study had higher levels of sociocultural adaptation (including
the five subscales) in comparison to traditional-aged students, as indicated by their significant higher mean for overall satisfaction with the college experience. In addition, these results correspond to the higher mean value for acculturative stress among the undergraduate international students, as they had lower levels of sociocultural adaptation (both overall sociocultural adaptation and five subscales of sociocultural adaptation). Although this difference among traditional students was not significant, the negative correlation between sociocultural adaptation and acculturative stress is evident in this finding.

*Hypothesis 2c:* A significant difference will be found between international students’ degree level (undergraduate and graduate) and all dependent variables listed in RQ2. In regard to the demographic factor of degree level, the only variable resulting in a significant difference between undergraduate and graduate students was students’ overall satisfaction with the college experience, as graduate students had a slightly higher mean value. Although significant differences did not result for the remaining variables, graduate students had higher mean scores for overall sociocultural adaptation levels and the four subscales of sociocultural adaptation that included interpersonal communication, academic/work performance, ecological adaptation, language proficiency, and satisfaction with the university. In contrast, the undergraduate international students had higher mean values for acculturative stress, indicating that these students face greater challenges and difficulties during their stay at the university. The findings relative to students’ degree level coincide with the demographic variable of age, as undergraduate students most often are of traditional age and graduate students are commonly of non-traditional age.
Hypothesis 2d: A significant difference will be found between international students’ English language comfort and all dependent variables listed in RQ2. The research hypothesis was supported, as the demographic factor of English language comfort showed significant differences for all dependent variables in RQ2. In particular, differences occurred between students who were somewhat comfortable and extremely comfortable, indicating a large difference between students with lower levels of English language comfort and those who had much higher comfort with the English language. As addressed in Chapter II in terms of English language fluency, students with increased language barriers experience greater difficulties adapting to the host culture (Doa et al., 2007). Therefore, lower language proficiency relates to decreased levels of intercultural competence (Hismanoglu, 2011). As Khatiwada (2010) reported, English language proficiency is a significant predictor of sociocultural adaptation, as the development of language skills helps international students to gain a better understanding of local culture and sociocultural aspects of daily life.

Research Question 3: How do levels of overall sociocultural adaptation and acculturative stress relate to levels of satisfaction with the overall college experience and satisfaction with the university among international students studying at a non-metropolitan university in the United States?

Hypothesis 3: A significant relationship exists between the levels of overall sociocultural adaptation and acculturative stress with satisfaction with the overall college experience and satisfaction with the university among the international students of this study. The data support the hypothesis, as findings suggest a significant negative correlation is evident between students’ acculturative stress levels with their overall
satisfaction with the college experience and levels of satisfaction with the university. In addition, a significant correlation is seen among international students’ overall sociocultural adaptation levels and overall satisfaction with the college experience, along with satisfaction with the university. Although, the correlations are significant, they are weak; however, this indicates that international students who have higher levels of acculturative stress and lower levels of sociocultural adaptation are less satisfied with their college experience and with the university. For those exhibiting lower levels of acculturative stress and higher levels of sociocultural adaptation, they indicate having greater overall college satisfaction with their experiences and the university. In addition to the quantitative findings on college satisfaction, the open-ended responses specified that social interaction among faculty, staff, peers, and the community, as well as academic success, impacted their overall college satisfaction levels.

**Implications**

The results of this study offer guidance in understanding the acculturation experiences among international students in the U.S. Many international students face initial challenges in adjusting to a college campus in the U.S. due to cultural, language, environmental, and academic differences. Also, it is extremely common for international students to often feel isolated and to report higher cases of discrimination at colleges and universities in the U.S., hence, leading to acculturative stress and the unique issues related to adapting in a new cultural environment (Berry, 1997; Singaravelu & Pope, 2007). In light of these findings, universities should expand their outreach efforts in improving international students’ well-being while living in the U.S. by aiding in the
process of their adjustment during their entire stay at the university and by promoting diversity and cultural sensitivity for all individuals across campus.

As students gain sociocultural competency skills with interpersonal communication, academic and work performance, personal interests and community involvement, ecological adaptation, and language proficiency, they are better able to adapt to the new cultural environment, which, in turn may reduce their levels of stress and possibly improve their college satisfaction levels. As Wilson (2012) noted, sociocultural adaptation is a behavioral aspect of cultural competency within the field of acculturation. Increased intercultural competency among our international student population would suggest that students, not only have an awareness for one’s own cultural worldview, but also have cross-cultural skills and the ability to understand, communicate, and effectively interact with individuals across cultures (Mercedes & Vaughn, 2007).

Multicultural competency also should be promoted across campus among all students, faculty, and administrators in order to create a dynamic learning environment. International students indicated that social interaction among faculty, staff, peers, and the community influenced their opinion regarding their overall satisfaction with their college experience. As such, higher education institutions should put more effort in providing multicultural competency training for all students, administrators, faculty, and staff, including individuals who work closely with these students such as International Office staff, healthcare professionals, counselors, and psychologists. These individuals play a large role with international students’ social interactions as well (Sumer, 2009).

Adaptation and integration in a foreign culture are not solely based on the knowledge one
obtains on the language and culture of the host society, as intercultural interactions with those from the host country greatly influence students’ attitudes of the sociocultural environment (Dorozhkin & Mazitova, 2008). Therefore, positive intercultural interactions are critical for cultural competency for both domestic and international students on college campuses.

An increase in efforts to provide various opportunities for international students to interact with native English speakers can benefit international students, particularly because the majority of international students speak English as a second language. This exposure may help to improve international students’ English language proficiency, which plays a large role in how students adapt to a new culture. In addition, this engagement also stimulates cross-cultural interaction, benefiting all students, including Americans. Not only can social interactions help improve international students’ English language comfort, but they also provide opportunities for international students to build social support networks (Martinsen et al., 2010). As Poyrazli and Grahame (2007) reported, international students desire more social interaction with American students and the wider community, as this helps them to improve their English language proficiency and to develop a social support system. In addition to English language, higher education institutions should extend increased academic support for international students, as they often struggle with the academic expectations in the U.S. because this differs from their home countries, especially during their initial transition to the campus.

Interestingly, male international students, along with undergraduate and traditional-aged international students, face higher levels of acculturative stress, lower levels of sociocultural adaptation, and lower levels of college satisfaction in the study,
although the contributing factors of demographics can be quite variable. For this particular study, the university may need to place extra effort in creating more programming, activities, and events on campus to promote positive student interaction by targeting student groups who face higher levels of stress and have greater difficulty adapting to the new cultural environment. Poyrazli and Grahame (2007) recommended that universities pair incoming international students with current students from their own country, or with other international students, to create a comfortable line of communication for new students. This provides an incoming international student with an opportunity to prepare prior to arriving in the U.S., as well as social support during their stay. These initiatives can help create a more positive social and academic environment for all students.

**Limitations**

The primary limitation of this study was the narrow range of students surveyed, as all participants were international students from one institution located in the south central region of the United States; therefore it is difficult to generalize the results. Other higher education institutions, particularly those located in varying geographical areas, may have different international student representation, campus culture, and university initiatives. International student experiences at the targeted institution may vary in comparison to other institutions. For this reason, applicability to other colleges and universities and geographical areas is limited. In addition, as English was a second language to the majority of international students, a language barrier with English language fluency could have varied the interpretation of survey items and influenced the results. Also, for this study, international students’ country of origin was quite diverse in
representation and in numbers, creating difficulties in making inferences about the population based on nationality.

**Future Research**

This study offers interesting results to inform higher education administrators, faculty, staff, and students about the unique experiences and challenges faced by international students when pursuing education in the U.S. In addition to a quantitative analysis, qualitative research on this topic would provide more in-depth, open-ended views and perspectives from international students to enhance one’s understanding of the challenges they face and to gain suggestions on ways to better meet their needs while pursuing their postsecondary degree in the U.S. A longitudinal study also would shed light in understanding international student experiences upon arrival at the university and after students have acclimated to the campus climate and have had time to adjust. For future research, more studies are needed on the acculturation experiences among international students in the U.S., especially in comparing various environments, such as rural and urban colleges and universities, to better understand how environment influences adjustment levels. Additional research could compare the acculturation strategies (i.e., integration, assimilation, separation, and marginalization) chosen by international students while living in a new culture in order to gain an understanding on how these varying approaches impact their acculturation experiences. Future studies also could assess how different sources of income (scholarship from U.S. or home country, on-campus employment, graduate stipend, family support, or other financial support) as well as on-campus and off-campus housing influences academic and sociocultural adaptation among international students.
Last, future research should be conducted on testing the effectiveness of a semester-long orientation course for first-year international students as this may help students better adapt to the U.S. Majority of incoming international students often receive a short introduction to the campus and are overwhelmed by all the information they receive in a short period of time. An international student experience course would benefit future international students, as it may reduce the initial stresses faced upon arrival. Therefore, understanding the advantages of a semester-long orientation course can help to improve students’ levels of adaptation to a new culture.

**Conclusion**

Unfortunately, the adjustment for international students often are overlooked, which is a large concern as these students experience higher levels of stress compared to U.S. students (Mori, 2000). Therefore, universities should increase outreach efforts for the international student population by providing more activities that promote social interaction and cultural awareness between international and domestic students. This study provides valuable information regarding the international student experience in terms of a unique comparison of students’ levels of acculturative stress, sociocultural adaptation, and college satisfaction, which may help determine whether the university is meeting the needs of this population. Gaining an understanding of the acculturation experiences among international students can serve as guidance for higher education administrators, faculty, and staff to adequately meet the needs of these students. While the limitations restrict one from drawing extensive conclusions, some insight is provided into international students’ acculturation experiences at a non-metropolitan university in
the U.S. relative to the levels of acculturative stress, sociocultural adaptation, and college satisfaction reported.

As higher education institutions continue to focus on the recruitment of international students and the revenue these students generate, these findings suggest that higher education professionals also place an emphasis on ensuring that currently enrolled international students are provided a quality academic and social experience to prevent them from facing high levels of stress and difficulty adapting to the campus and leading to satisfied students. Unsatisfied students often are not retained or result in having lower academic success; therefore, aiding foreign students in having a positive acculturation experience can improve their overall college experience both socially and academically. In addition, current research findings reveal that satisfied students may attract new students by engaging in positive word-of-mouth communication to inform acquaintances of the university and leading to successful student recruitment (Marzo-Navarro, Pedraja-Iglesias, & Rivera-Torres, 2005; Mavondo, Tsarenko, & Gabbott, 2004; Schertzer & Schertzer, 2004; Wiers-Jenssen, Stensaker, & Grogaard, 2002). As Sumer (2009) stated, “In order for U.S. colleges and universities to better accommodate the significant number of international students and to recruit them in the future, it is critical to identify factors that influence these students’ adjustment (p. 3). Also, as Bordas (2007) noted, acculturation requires an individual to be “proactively engaging in cross-cultural experiences” and to also be “willing to step out of one’s cultural conditioning in order to gain knowledge of and adapt to diverse perspectives.” Therefore, “acculturation increases one’s cultural repertoire, creativity, adaptability, and flexibility, and promotes cross-cultural competency” (Bordas, 2007, p. 188).
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APPENDIX A: SURVEY INSTRUMENT

INTERNATIONAL STUDENT QUESTIONNAIRE

Part I:

B) Are you currently an international student (Not a U.S. citizen, immigrant, refugee, or permanent resident)  ☐ Yes  ☐ No  If yes, please continue with the survey.

Part II: Demographic Survey

In order to analyze the data on your survey, some information about your background will be helpful. Please check the box or supply the most accurate response for each of the following statements or questions.

1. Gender:  ☐ Female  ☐ Male

2. Age: ______

3. What degree are you pursuing?
   ☐ Undergraduate
   ☐ Graduate (Master’s or Doctorate)

4. What is your country of origin? (Please write which country you are from.)

   ______________________

5. Is English your first language?  ☐ Yes  ☐ No

6. How comfortable are you communicating in English?
   ☐ Not Comfortable
   ☐ Somewhat Comfortable
   ☐ Comfortable
   ☐ Very Comfortable
   ☐ Extremely Comfortable

7. How long have you been in the U.S.? ________ (Years)

8. How many semesters have you been enrolled at WKU? ________ (Semesters)
9. Have you attended other colleges or universities in the U.S. before coming to Western Kentucky University?  □ Yes  □ No

If yes, how many semesters did you spend at the other institution? __________ (Semesters)

10. Marital status:

□ Single

□ Married, spouse and/or children staying at my home country

□ Married, brought spouse and/or children to the U.S.

□ Other (please specify): __________________________

11. What is the primary reason you chose to study at Western Kentucky University?


Part III: Sociocultural Adaptation Scale

Living in a different culture often involves learning new skills and behaviors. Thinking about life in United States, please rate your competence at each of the following behaviors (1 = Not at all competent; 5 = Extremely competent). If you are unsure about any statement, please leave it blank.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. Building and maintaining relationships.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Interacting at social events.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Maintaining my hobbies and interests.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Adapting to the noise level in my neighborhood.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 Not at all competent</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5 Extremely competent</td>
</tr>
<tr>
<td>---</td>
<td>------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>-----------------------</td>
</tr>
<tr>
<td>17.</td>
<td>Accurately interpreting and responding to other people’s gestures and facial expressions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18.</td>
<td>Working effectively with other students/work colleagues.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19.</td>
<td>Obtaining community services I require.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20.</td>
<td>Adapting to the population density.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21.</td>
<td>Understanding and speaking English.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22.</td>
<td>Varying the rate of my speaking in a culturally appropriate manner.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23.</td>
<td>Gaining feedback from other students/work colleagues to help improve my performance.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24.</td>
<td>Accurately interpreting and responding to other people’s emotions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25.</td>
<td>Attending or participating in community activities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>26.</td>
<td>Finding my way around.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27.</td>
<td>Interacting with members of the opposite sex.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28.</td>
<td>Expressing my ideas to other students/work colleagues in a culturally appropriate manner.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>29.</td>
<td>Dealing with the bureaucracy.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>30.</td>
<td>Adapting to the pace of life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>31.</td>
<td>Reading and writing English.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>32.</td>
<td>Changing my behavior to suit social norms, rules, attitudes, beliefs, and customs.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
### Part IV: Acculturative Stress Scale for International Students (ASSIS)

For each of the following statements, please circle the number that BEST describes your response. If you are unsure about any statement, please leave it blank.

1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Not Sure (NS), 4 = Agree (A), 5 = Strongly Agree (SA)

Because of my different cultural background as a **foreign** student, I feel that:

<table>
<thead>
<tr>
<th>Statement</th>
<th>SD</th>
<th>D</th>
<th>NS</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>33. Homesickness for my country bothers me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>34. I feel uncomfortable to adjust to new foods and/or to new eating habits.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>35. I am treated differently in social situations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>36. I feel rejected when people are sarcastic toward my cultural values.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>37. I feel nervous to communicate in English.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>38. I feel sad living in unfamiliar surroundings here.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>39. I fear for my personal safety because of my different cultural background.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>40. I feel intimidated to participate in social activities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>41. Others are biased toward me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>42. I feel guilty to leave my family and friends behind.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>43. Many opportunities are denied to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>44. I feel angry that my people are considered inferior here.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>45. I feel overwhelmed that multiple pressures are placed upon me after my migration to this society.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>46. I feel that I receive unequal treatment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>47. People from some ethnic groups show hatred toward me nonverbally.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48. It hurts when people don’t understand my cultural values.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Not Sure (NS), 4 = Agree (A), 5 = Strongly Agree (SA)

<table>
<thead>
<tr>
<th></th>
<th>SD</th>
<th>D</th>
<th>NS</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>49. I am denied what I deserve.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>50. I have to frequently relocate for fear of others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>51. I feel low because of my cultural background.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>52. I feel rejected when others don’t appreciate my cultural values.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>53. I miss the country and people of my national origin.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>54. I feel uncomfortable to adjust to new cultural values.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>55. I feel that my people are discriminated against.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>56. People from some other ethnic groups show hatred toward me through their actions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>57. I feel that my status in this society is low due to my cultural background.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>58. I am treated differently because of my race.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>59. I feel insecure here.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>60. I don’t feel a sense of belonging (community) here.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>61. I am treated differently because of my color.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>62. I feel sad to consider my people’s problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>63. I generally keep a low profile due to fear from other ethnic groups.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>64. I feel some people don’t associate with me because of my ethnicity.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>65. People from some other ethnic groups show hatred toward me verbally.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>66. I feel guilty that I am living a different lifestyle here.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>67. I feel sad leaving my relatives behind.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>68. I worry about my future for not being able to decide whether to stay here or to go back.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Part V: Satisfaction Survey

69. On a scale of 1-10, how satisfied are you with your overall experience as a college student at Western Kentucky University (consider your academic experiences; your campus experiences; and your interpersonal relationships with students, as well as the faculty and staff)?

Very Unsatisfied | Very Satisfied
---|---
1 | 10
2 |
3 |
4 |
5 |
6 |
7 |
8 |
9 |
10 |

70. Please provide a few examples that influenced your rating to the question above. Be specific.


71. If you could start over again, how likely would you choose to attend Western Kentucky University again?

Very Unlikely | Very Likely
---|---
1 | 10
2 |
3 |
4 |
5 |
6 |
7 |
8 |
9 |
10 |

Thank you so much for your participation and cooperation!
APPENDIX B: IRB LETTER OF APPROVAL

DATE: April 4, 2013
TO: Hajara Mahmoud
FROM: Western Kentucky University (WKU) IRB
PROJECT TITLE: [449363-1] An analysis of sociocultural adaptation, acculturative stress, and satisfaction among international students at a non-urban university.
REFERENCE #: IRB 13-333
SUBMISSION TYPE: New Project
ACTION: APPROVED
APPROVAL DATE: April 4, 2013
EXPIRATION DATE: December 4, 2013
REVIEW TYPE: Expedited Review

Thank you for your submission of New Project materials for this project. The Western Kentucky University (WKU) IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by an implied consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS or UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

This project has been determined to be a Minimal Risk project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of December 4, 2013.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

If you have any questions, please contact Paul Mooney at (270) 745-2128 or irb@wku.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Western Kentucky University (WKU) IRB's records.
APPENDIX C: APPROVED INFORMED CONSENT LETTER

Informed Consent for International Student Questionnaire

Informed Consent

Project Title: An Analysis of Sociocultural Adaptation, Acculturative Stress, and Satisfaction among International Students at a Non-Urban University

Investigator: Hajara Mahmood, Western Kentucky University Educational Leadership Doctoral Student. 270-659-6961, Email: hajara.mahmood@wku.edu

Dear International Students,

For my dissertation in the Educational Leadership Doctoral Program at Western Kentucky University, I am asking undergraduate and graduate international students to answer several questions about your perceptions regarding living in the U.S. and in a different culture, how you feel others perceive you and your culture, as well as your overall satisfaction with your college experience at WKU. You will also be asked to provide basic demographic information, but not your name. If you are an international student (i.e., not a U.S. citizen, immigrant, refugee, or permanent resident) who is currently enrolled at Western Kentucky University and 18 years old or older, your participation and valuable input in this survey will be greatly appreciated.

While you may not benefit directly from participation in this study, it is hoped that the knowledge gained through your participation will help others and institutions of higher education better understand certain factors that may influence overall college satisfaction of international students. This survey will also help the university, faculty, and staff to better understand the views of our international student population and possibly find ways to improve services on college campuses for our international students. There are no foreseeable risks associated with this research project and the probability and magnitude of harm or discomfort anticipated in the research is very minimal.

This survey will take about 15 minutes to complete. You are asked to provide the last four digits of your WKU student ID number to ensure that each student has only taken the survey once. This number will not be used for any other purposes; therefore anonymity is assured, and all data will be reported in the aggregate. Refusal to participate in this study will have no effect on any future services you may be entitled to from the University. Anyone who agrees to participate in this study is free to withdraw from the study at any time with no penalty.

Please note that your continued participation with the survey implies your consent. If you have any questions, feel free to contact Hajara Mahmood at hajara.mahmood@wku.edu or (270) 659-6961. I thank you in advance for your participation.

Hajara Mahmood,
Western Kentucky University Doctoral Candidate

THE DATED APPROVAL ON THIS CONSENT FORM INDICATES THAT THIS PROJECT HAS BEEN REVIEWED AND APPROVED BY THE WESTERN KENTUCKY UNIVERSITY INSTITUTIONAL REVIEW BOARD

Paul Mooney, Human Subjects Administrator

TELEPHONE: (270) 745-2129

WKU IRB# 13-333
Approval - 4/4/2013
End Date - 12/13/2013
Expedited
Original - 4/4/2013
APPENDIX D: PERMISSION FOR USE OF THE ACCULTURATIVE STRESS SCALE FOR INTERNATIONAL STUDENTS

RE: Permission to use ASSIS Instrument

Sandhu, Daya Singh [daya.sandhu@louisville.edu]

You replied on 2/12/2013 2:54 PM.

Sent: Monday, February 11, 2013 7:02 PM

To: Mahmood, Hajara

Attachments: [ASSIS-Final.doc (45 KB)]

Dear Mahmood,

Thank you for your interest in my research. You have my permission to use the Acculturative Stress Scale for International Students (ASSIS) to complete your dissertation. I am attaching a copy of the original scale to facilitate your research. If you have any questions, please let me know. Daya Singh Sandhu

From: Mahmood, Hajara [hajara.mahmood@wku.edu]
Sent: Monday, February 11, 2013 5:03 PM
To: Sandhu, Daya Singh; dsandhu11@yahoo.com
Subject: Permission to use ASSIS Instrument

Hello Dr. Daya Sandhu,

I am an Educational Leadership doctoral student at Western Kentucky University and my dissertation topic focuses on international students' adaptation and acculturation levels while attending a university in Kentucky, particularly Western Kentucky University. I came across your Acculturative Stress Scale for International Students through a master's thesis completed by Ansari (1996) and found this to be a very useful instrument for my study. I would like to see if you can grant me permission to use your instrument for my dissertation. I look forward in hearing back from you and appreciate your help.

Thank you!
Hajara Mahmood
WKU Educational Leadership Doctoral Student
hajara.mahmood@wku.edu
APPENDIX E: PERMISSION FOR USE OF THE REVISED SOCIOCULTURAL ADAPTATION SCALE

RE: Measurement of Sociocultural Adaptation Question- Permission to use

Jessie Wilson [Jessie.Wilson@vuw.ac.nz]

You replied on 1/6/2013 3:56 PM.

Sent: Sunday, January 06, 2013 3:53 PM
To: Mahmood, Hajara

Hello Hajara Mahmood,

Thank you for your email. Please feel free to utilize the SCAS-R. You will find a version of the scale here:

http://cacr.victoria.ac.nz/projects/research-projects/jessie-project

I have also attached a draft of my PhD thesis that outlines development of the scale in detail (chapter 3).

Best wishes for the successful completion of your research,

Jessie

From: Mahmood, Hajara [hajara.mahmood@wku.edu]
Sent: Wednesday, January 02, 2013 7:01 PM
To: Jessie Wilson
Subject: FW: Measurement of Sociocultural Adaptation Question- Permission to use

Hello Dr. Jessie Wilson,
I have corresponded with Dr. Colleen Ward by e-mail in regards to the Sociocultural Adaptation Questionnaire and recommended that I contact you in regards to the revised version. Is there any way I can have access and permission to use the revised version for my dissertation?
Thank you.
Hajara Mahmood

From: Colleen Ward [Colleen.Ward@vuw.ac.nz]
You can download info on the original from my web-site. If you'd like a copy of the revised version we are working on, please contact JessieWilson@vuw.ac.nz.

Good luck with your research

Colleen

On 1/01/13 7:56 AM, "Mahmood, Hajara" <hajara.mahmood@wku.edu> wrote:

Hello Dr. Ward,

I am an Educational Leadership doctoral student at Western Kentucky University and am interested in measuring sociocultural and academic adaptation among international students in Kentucky universities (non-urban environment) for my dissertation. I came across your article published in 1999 "The Measurement of Sociocultural Adaptation" and am interested in using your questionnaire mentioned in this article. Would you be able to grant me permission and access to use this questionnaire for my dissertation?

I appreciate any help at this time.
Thank you and look forward in hearing back from you.

Hajara Mahmood
WKU Educational Leadership Doctoral Student
hajara.mahmood@wku.edu
<table>
<thead>
<tr>
<th>Country of Origin</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
<td>China</td>
<td>76</td>
<td>18.40</td>
</tr>
<tr>
<td>India</td>
<td>54</td>
<td>13.08</td>
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<td>Vietnam</td>
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<td>7.51</td>
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<td>Republic of Korea</td>
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<tr>
<td>Nigeria</td>
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<td>1.94</td>
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<td>Indonesia</td>
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<td>Jamaica</td>
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</table>
APPENDIX F – continued

*Rank Ordered Frequencies of Participants by Country of Origin*

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<th>Country</th>
<th>Rank</th>
<th>Frequency</th>
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</thead>
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<td>South Sudan</td>
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<tr>
<td>Tanzania</td>
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<tr>
<td>Turkey</td>
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<td><strong>Total</strong></td>
<td><strong>413</strong></td>
<td><strong>100.00</strong></td>
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</table>
APPENDIX G: THEMES GENERATED BY OPEN-ENDED RESPONSES

Primary Reason You Chose this University (Survey Question #11)

1. Recommendation (84)
   a. Agency
   b. Friends/Family attend or attended this university
2. Acceptance process/Accessibility (27)
   a. Accommodating and Flexible
   b. Only school accepted the student
   c. Efficient
3. Financial/Cost (60)
   a. Scholarship
   b. Tuition (reasonable)
   c. Cost of living
4. Campus/Bowling Green Environment and Culture (60)
   a. Campus aesthetics
   b. Community
     i. Friendly
     ii. Safe
     iii. Quiet
5. Academics (93)
   a. Programs available
   b. Reputation of the university
6. Athletics
7. International Program/Component (21)
   a. ESLI
   b. Studying Abroad (they wanted to be in the U.S.)
8. No Reason in particular (10)
What influenced your rating regarding your satisfaction with your overall experience at this university? (Survey Question #70)

I. Faculty and Staff Interaction
   a. Good interactions (53)
      i. ISSS (9)
      ii. Staff (18)
      iii. Faculty (39)
   b. Bad interactions (7)
      i. ISSS (1)
      ii. Staff (2)
      iii. Faculty (4)

II. Peer interaction
   a. Good interactions (46)
   b. Bad interactions (12)
      i. racism
      ii. lack of kindness

III. Involvement on campus (9)

IV. Reputation (38)
   a. Campus facilities (10)
   b. Campus Environment (20)
   c. Services at the University (11)

V. Community Interactions
   a. Positive interactions (26)
      i. Safety
      ii. Aesthetics
   b. Negative interactions (6)
      i. Boring
      ii. Lack of kindness

VI. Academics (17)

VII. Other (Financial/Tuition) (4)