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Mohd Tajudin Hj Ninggal
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THE ROLE OF ETHNICITY AMONG INTERNATIONAL STUDENTS IN ADJUSTMENT TO ACCULTURATIVE STRESS

by

Mohd Tajudin Hj Ninggal

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
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Department of Counselor Education
and Counseling Psychology

Western Michigan University
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THE ROLE OF ETHNICITY AMONG INTERNATIONAL STUDENTS IN ADJUSTMENT TO ACCULTURATIVE STRESS

Mohd Tajudin Hj Ninggal, Ed.D.
Western Michigan University, 1998

This study examined whether there were differences in six acculturative stress themes among three Malaysian ethnic groups who were enrolled at Western Michigan University during the Fall, 1997 semester. The study also investigated whether the following demographic attributes: (a) gender, (b) academic major, (c) financial sponsorship, (d) family socio-economic status, (e) type of residential setting, and (f) scores on the Test of English as a Foreign Language (TOEFL) affected Malaysian students in relation to the six acculturative stress themes: (1) Perceived Discrimination, (2) Homesickness, (3) Perceived Hate, (4) Fear, (5) Culture Shock, and (6) Guilt.

A total of 138 respondents (female, n = 49 and male, n = 89) ranging between 18 and 37 years of age were selected through a process of systematic random sampling. They took approximately 20 minutes to answer a set of 36-items in Likert format on the Acculturative Stress Scale for International Students (ASSIS) designed to measure international students' concerns on a
variety of psychological issues related to their stay in a university environment outside of their home country.

Two-Way Analyses of Variance (ANOVA) and Post hoc analyses using the Scheffe method were used to determine differences among the six acculturative stress themes. Twenty four hypotheses were tested at an alpha .05 level of significance. Important findings in this study included: (a) Malay students experienced higher levels of stress on the majority of the six acculturative stress themes on the ASSIS than did the Chinese and Indian groups; (b) there were stress differences between students who were below 20 years of age and students who were above 26 years on all acculturative stress themes; (c) there were interactions between students' types of sponsorship and three types of academic major on Perceived Discrimination, Homesickness, Perceived Fear, and Guilt acculturative stress themes; (d) the study indicated an interaction among students' two types of residential settings and three socio-economic levels on the Culture Shock theme; and (e) the study found the Homesickness stress theme constituted the most concern among the three ethnic groups at Western Michigan University.
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DEDICATION

With profound gratitude and memory I wish to dedicate my dissertation to my beloved father, Haji Ninggal Mohd Amin, who never failed to believe in me and to my beloved mother, Hajah Jenah Abdullah, who passed away at the age of 67, 10 months before my graduation. Each of them sacrificed in their own unique ways, and I know they have continuously prayed for my success.

Finally, I am able to pay a debt of gratitude to my loving wife, Faridah Yunus and my two beautiful children, Muhammad Naqib, 9, and Nur' Amira, 3 years old, whose unconditional support, patience, and tolerance allowed me to be a husband and father, while being a student to pursue my studies and achieve my personal goals. Words fail to express the love and gratitude I feel for each of them. I extend my heartfelt and most loving thank you. At this time there is a lot of joy at the Ninggal home.

Mohd Tajudin Hj Ninggal
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I would like to take this opportunity to thank the many people who so willingly contributed to the completion of this dissertation and my program of study. It would require an additional volume to name all who have offered support in the process of my doctoral studies. However, there are several individuals whose guidance, encouragement, and support need my deepest appreciation and respect.

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Mohd Tajudin Hj Ninggal

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CHAPTER I

INTRODUCTION

Background of the Problem

The study of international students' psychological well-being in U.S. colleges and universities has always been a serious topic of discussion among government leaders, policy makers, higher institutional administrators, counselors, parents, as well as researchers in the field of higher education (Altbach, 1987; Day & Hajj, 1986; Green, 1997; Martin & Midgley, 1994; Mayerson & Massy, 1995; Pedersen, 1991; Sandhu & Asrabadi, 1994; Sue & Sue, 1990). For the past 4 decades, thousands of these bright and academically prepared students throughout the world have sought admission to a variety of American colleges and universities which offer a wide range of disciplines in meeting international students' educational needs and expectations (Coleman, 1997; Seidel, 1991; Wilson, 1990).

According to Hanson and Mayerson (1995), Hayes and Lin (1994), and Zikopoulos (1992), the number of international students enrolled in U.S. colleges and universities has increased steadily over the past few decades. From an approximately 34,000 students in 1954, the number of
undergraduate and graduate students enrollment from 193 countries rose to almost 408,000 in 1990. Kwan, Sodowsky, and Ihle (1994) predicted that the number of international students will increase to approximately one million by the end of 1990s, and the majority of these students will be coming from Asia, primarily from China, Japan, Taiwan, India, and South Korea.

Pedersen (1991) and Selvadurai (1991) noted that the presence of international students in U.S. colleges and universities provide an opportunity for cultural and international understanding. These students bring significant knowledge and experiences with respect to their diverse political systems, national cultures, religious beliefs, and family orientations in the classroom.

The reality of being an international student in a strange land is not always an easy endeavor. Sandhu and Asrabadi (1994), in a study on international students psychological problems in U.S. colleges and universities revealed that these sojourners have to make a number of educational and social adjustments upon their arrival to this country. Dillard and Chilson (1983), Padilla, Alvarez, and Lindholm (1986), and Schram and Lauver (1988) in their related studies agreed that college experiences for international students are often filled with more stress, and limited resources for help during their 4 year undergraduate experience, than the majority of White American students.
Brack (1997) and Martin and Midgley (1994) added that the presence of international students on U.S. colleges and universities campuses is usually taken for granted despite their contribution to the enrichment of educational and cultural diversity in U.S. higher education. Cheng, Leong, and Geist (1993), Church (1982), Coleman (1997), Hodne (1997), and Pruitt (1978) in their related studies on international students in U.S. colleges and universities agreed that less attention was given to their academic and welfare needs when they first arrived in the United States. The majority of these students, first timers in this country were faced with educational and social problems that are unique to their cultural identity.

Most studies on international students are usually limited in scope and do not universally represent their world-views and concerns. Gong-Guy (1985), Pedersen (1990), and Selvadurai (1991) in discussing stereotypical issues among international students in U.S. colleges and universities suggested that these students should be viewed in their own cultural context since they have different types of subcultural adjustment issues. Sue and Sue (1990) added that research on different international ethnic groups should also be expanded and carefully interpreted, because they provide meaningful insights and understanding to the body of knowledge of international students' educational, and social experiences in U.S. colleges and universities.
The majority of findings on international students stressed the importance of discussing the educational and social phenomena among different groups of international students in U.S. colleges and universities. Consensually, researchers agreed that it is important not to view any particular ethnic group as a "wild card" in understanding international students' experiences in U.S. higher education (Allameh, 1990; Altbach, 1987; Church, 1982; Cox, 1989; Falk, 1995; Green, 1997; Lai, 1993; Othman, 1980; Sandhu & Asrabadi, 1994; Suradi, 1984).

Statement of the Problem

Malaysian students constitute one of the fastest growing international student groups in U.S. colleges and universities in the last 2 decades. Between the 1986 and 1990 academic years, there were approximately 49,000 Malaysian students studying abroad, of whom 7,500 were in the United States (Malaysia, 1991). The majority of Malaysian students enrolled in U.S. higher educational institutions were majoring in Business Management, Engineering, and Computer Science programs. In the 1996 academic year, there was a substantial increase in Malaysian students enrollment. There were approximately 20,000 government-sponsored and private-sponsored Malaysian student enrolled in U.S. colleges and universities (Datuk Mustapha Mohamad, personal communication, November 5, 1996).
The complexity of Malaysian students in U.S. colleges and universities has gradually changed with the increase of Malay, Chinese, and Indian ethnic groups. Unlike 15 years ago, there is a new breed of younger Malaysian student comprised of Malay, Chinese, and Indian ethnicities that add to the legacy of previous Malaysian students in U.S. higher educational settings. These students constitute a wider spectrum of ethnicity, educational backgrounds, and family socio-economic status, and they need considerable attention with respect to their cultural adjustments and psychological well-being while attending U.S. colleges and universities.

Previous studies conducted on Malaysian students in U.S. colleges and universities were focused mainly on the Malay ethnic group (Che Din, 1984; Jaafar, 1982; Othman, 1980; Salleh, 1984; Suradi, 1984; Taib, 1978). These studies reported that the majority of Malay students in U.S. colleges and universities encountered difficulties in several major areas such as communication, adjusting to the new culture, developing social friendships, finances, and diet.

Generally, issues that affect Malay students often hold consequences or implications for Chinese and Indian students in different parts of the United States. This stereotyping has created a controversy and debate among educational and political leaders in Malaysia since the predicament of one
ethnic group does not necessarily represent the dilemma of other Malaysians in other higher educational institutions in the United States.

Hence, it is timely that a study be conducted to identify the variability of experiences and adjustment problems among these three Malaysian groups in U.S. colleges and universities. Suradi (1984), in concluding his study on the Malay ethnic group at one midwestern university suggested that further investigation should include other Malaysian ethnic groups who are studying in U.S. higher educational institutions. He added that findings on other ethnic groups will deconstruct false perceptions and stereotypes of Malaysian students' experiences and adjustment problems in the U.S. colleges and universities.

Purpose of the Study

The primary purpose of this study was to identify and disclose whether there were any differences in acculturative stress themes experienced by the three Malaysian ethnic group: (1) Malay, (2) Chinese, and (3) Indians who were enrolled at Western Michigan University during the Fall, 1997 semester. The study also examined whether there were differences in stress among: (a) gender, (b) age levels, (c) academic majors, (d) financial sponsorships, (e) socio-economic status, (f) types of residential settings, and (g) scores on the Test of English Language as a Foreign Language (TOEFL).
In addition, this study was designed to provide useful information to Malaysian educational leaders and policymakers on the most recent developments with respect to students' adjustment issues and psychological well being in U.S. colleges and universities. The results of this study will provide useful information in designing orientation programs for students who are planning to pursue their studies in U.S. colleges and universities, as well as appropriate intervention programs for students who are already in the U.S. higher educational systems.

Rationale

This study may produce new and surprising evidence to political and educational leaders, parents, and researchers, in Malaysia regarding students' acculturative stresses and adjustment problems in U.S. colleges and universities. Since the previous study on Malaysian students' psychological well being was conducted by Suradi (1984), it would be interesting to re-examine the outcome of his study over time. Current findings from the current study might reveal considerable insights regarding ethnicity and its effect on acculturative stress among Malaysian students in U.S. colleges and universities.

Borg and Gall (1989) added that there was a trend among researchers to conduct replications on previous studies. The replication of a study might
provide a sound basis for judging the validity of the research findings. The majority of researchers agreed that research findings are more valuable when they can be applied to educational practice, and provide meaningful understanding about the study (Abu Al Rab, 1995; Aldwin, 1996; Kawanishi, 1995; Lee, 1981; Yang, Teraoka, Eichenfield, & Audas, 1994; Zimmermann, 1995). In addition, the use of appropriate instruments can add to the credibility of the research conclusions (Falk, 1995; Gholamrezaei, 1996; Sandhu and Asrabadi 1994). Replication of a study will provide information relevant to the development of intervention and counseling programs, and may also be used to check the validity of research findings across different populations (Meeedin, 1993; Mustapha, 1991; Othman, 1980; Samah, 1987; Suradi, 1984; Sue & Sue, 1990).

**Limitation of the Study**

Several limitations have been identified while conducting this study. Lack of randomness among the Indian sample surveyed was one limitation. The Indian ethnic group was the least represented among the three Malaysian ethnic groups enrolled at Western Michigan University. Consequently, a random selection was not possible and a sample of convenience was chosen. Another limitation was the usage of the survey instrument. The Acculturative Stress Scale for International Students (ASSIS)
was a new scale developed by Sandhu and Asrabadi in 1994. Limited data on its reliability and validity exists. A final area of limitation was that the participants chosen for this study were representative of three Malaysian ethnic groups at Western Michigan University. Therefore, the generalization of results to other Malaysian groups across U.S. colleges and universities should be done with caution.

Research Questions

Consistent with the statement of the problem and current research on acculturative stress among international students in U.S. colleges and universities, the research questions proposed below examined six acculturative stress themes among three Malaysian ethnic groups enrolled at Western Michigan University during the Fall, 1997 semester.

Are there differences among the six acculturative stress themes (Perceived Discrimination, Homesickness, Perceived Hate, Perceived Fear, Culture Shock, and Guilt): (a) Across three ethnic groups (Malay, Chinese, Indian) and two levels levels of TOEFL scores?; (b) Across gender and three levels of age; (c) Across three academic majors and two levels of sponsorship?; or (d) Across three types of residential settings and three levels of socio-economic status?
The following terms used by Sandhu and Asrabadi (1994) in their study of international students' adjustment problems in U.S. colleges and universities are defined for the purpose of this research.

**Acculturative Stress:** The loss of vitality, the inability to cope with everyday pressures, and the incompetence to function effectively due to massive adjustments that international Asian students are required to make in their social and academic lives while attending U.S. colleges and universities.

**Acculturative Stress Themes:** Recurring acculturative stress experienced by international Asian students in U.S. colleges and universities. The following acculturative stress themes measured by the Acculturative Stress Scale for International Students (ASSIS) (Sandhu and Asrabadi, 1994) were chosen:

1. **Perceived Discrimination:** International students' experiences with cruder varieties of racial discrimination in educational and social settings.

2. **Homesickness:** The loss of emotional and social support systems due to separation from significant others.

3. **Perceived Hate:** International students perceived rejection in the verbal and non-verbal communication and behaviors of some American peers.
4. Perceived Fear: The sense of insecurity in unfamiliar surroundings, high rates of crime and violence in American society, racial discrimination, and sociopolitical realities of off and on hostile relations between some international students' native countries and the United States.

5. Culture Shock: Students' feeling of stress after migrating to strange land where they experience differences in climate, food, social values, modes of behavior, as well as in verbal and nonverbal communications.

6. Guilt: Feelings of betrayal to the native culture when adopting values and lifestyles of the host culture.

Malaysian Students

Individuals from three Malaysian ethnic groups (Malays, Chinese, and Indians) who were enrolled as students at Western Michigan University during the Fall, 1997 semester. These students hold F1 (student visa) status determined by the U.S. Immigration and Naturalization Service which requires them to have a passport, a certificate of eligibility for study in the United States, proof of sufficient finances to pursue their studies, and proof of proficiency in the English language. They are either undergraduate or graduate, government or privately sponsored students who are enrolled in various field of studies.
International Students

Students who are not citizens of the United States. These international students come from a variety of cultures and lifestyles, as well as with a multitude of different purposes, sponsorships, and educational goals. However, the focus of international students in this study is focussed on students who are from Asian countries.

Summary

Studies on international students' psychological well being in U.S. colleges and universities in relation to ethnicity are beginning to appear in the literature on higher educational research. Several studies indicated that ethnicity plays significant roles in international students' lives and experiences. How they perceive and interact with their surroundings and other human beings are reflection of their identities, belief systems, and cultural and religious values (Pedersen, 1990).

Studies also suggested that the application of instruments for assessing students' psychological problems and well-being should be carefully adapted. As previously mentioned, international students often have been subjected to prejudices and misrepresentation when these intruments did not measure the true nature of international students' issues and concerns.
This study was intended to explore the influence of ethnicity with respect to acculturative stress in U.S. colleges and universities. In its practical sense, this study intended to add valuable information to the body of literature on international students.

The review of the literature relating to international students' stress and problems related to variety of difficulties ranging from loneliness, homesickness, and irritability to severe depression, confusion, disorientation, and communication problems will be discussed in the following chapter.
CHAPTER II

REVIEW OF RELATED LITERATURE

This literature review is organized into three related topics pertaining to the present study: (1) an historical overview of international students in U.S. colleges and universities, (2) global trends and changes in higher education toward the 21st century, and (3) variability of international Asian students' adjustment problems in U.S. higher educational institutions.

An Historical Overview of International Students in the United States

The presence of international students in U.S. colleges and universities dates back to the early 1940s. The majority of these students during this period were from European countries, such as Italy, Germany, Switzerland, Sweden, and Austria. They fled to the United States when World War II started in Europe and many European universities closed bringing higher education in Europe to a virtual standstill. No data were recorded on the total number of international European students in the United States during that period (Seidel, 1991).

The influx of European students during World War II brought
changes to major U.S. colleges and universities. The majority of Ivy League schools were no longer filled with predominantly White middle-class American students, but with "parochial" European students. The migration of these European students marked the beginning of alternative values, lifestyles, cultures, and political orientations in American colleges and universities (Coleman, 1997; Hanson & Meyerson, 1995).

The end of World War II brought another new "wave" and "invasion" of international students to U.S. higher educational institutions. Unlike the 1940s, these international students were coming from non-European countries, particularly from Asia, to pursue their education. The steady flow of these Asian students gradually brought major changes to campus environment across the United States. Many researchers believe that post-World War II brought both diversity and advantages to U.S. higher education in a variety of ways (Allameh, 1990; Altbach & Uphoff, 1973; Boyan, 1981; Coleman, 1997; Globetti E., Globetti. G., Brown, & Smith, 1993; Green, 1997; Hanson & Meyerson, 1995; Holstein, 1988; Owie, 1982).

First, international Asian students portrayed a worldview of many different religions, cultures, and ethnic groups in U.S. colleges and universities (Kwan, Sodowsky & Ihle, 1994; Selvadurai, 1992; Wan, Chapman, & Briggs, 1992). Second, the presence of these international students generated a substantial source of revenue to U.S. colleges and
Finally, international Asian students contributed significantly to U.S. colleges and universities alumni fundraising efforts. The majority of international alumni rose to positions of prominence in their home countries, and were a source of referrals for new student enrollment, as well as donations for their alma mater (Coleman, 1997; Skelton, 1991; Zimmermann, 1995).

Who Are International Asian Students?

The presence of international Asian students in U.S. colleges and universities have always been profound. As mentioned earlier in Chapter I, these students spark interesting discussions and heated debate among the American people, as well as within the international student population. Therefore, to answer the question about international Asian students, the following empirical reviews should be noted.

The flow of international Asian students in U.S. colleges and universities in the early 1950s was based upon their countries' national needs. The majority of these government-sponsored students were from Third World countries, and were expected to come back with a degree, as well as useful knowledge and skills to help develop their countries. Some of these countries had just gained independence and were beginning to

Welty (1984) added that U.S. colleges and universities became "Meccas" for international Asian students for the past 4 decades due to two main reasons: (1) the majority of American colleges and universities were internationally known for their excellent undergraduate and graduate programs, and (2) U.S. higher educational institutions have been providing excellent educational opportunities for millions of young and aspiring students around the world.

International students come from a variety of lifestyles and socio-economic backgrounds prior to enrolling in U.S. colleges and universities. They may be the son of a king from Saudi Arabia, the daughter of a wealthy Singaporean exporter, or a Japanese exchange student admitted to study English in a midwestern university. In addition, there are countless numbers of illegally registered immigrants who flock to U.S. colleges and universities each year (Allameh, 1990; Boyan, 1981; Falk, 1995; Hanson and Mayerson, 1995a; Lai, 1993; Mehta, 1993).

In 1954, there were approximately 34,000 international students who were studying in the top 20 U.S. colleges and universities (Yang, Teraoka, Eichenfield, & Audas, 1994). Four years later, the number of these students who were primarily enrolled in business, engineering, the physical sciences,
mathematics, and computer science, doubled to approximately 65,000 (Hanson & Meyerson, 1995b; Lambert, 1995).

Between 1970 and 1989, the number of international students (in terms of undergraduate enrollment) increased substantially, and later constituted the fastest growing minority in U.S. colleges and universities (Takagi, 1992; Wang 1987). By the 1991-92 academic year, there were approximately 386,851 international Asian students in U.S. colleges and universities, and they constituted the largest international student population (51%) in the United States (Kwan, Sodowsky, & Ihle, 1994). International graduate students who were primarily from China, Japan, Taiwan, and Korea, comprised 25% of the total student enrollment (American and international students) in the 1990s (Parr, Bradley, & Bingi, 1992; Hanson & Meyerson, 1995a).

In 1995, U.S. colleges and universities hosted the largest number of international students (450,000), as well as comprising the largest provider (58.9%) of educational services to international students enrolled from over 200 countries around the world (Coleman, 1997; Kwan, Sodowsky, & Ihle, 1994; Talbot, Geelhoed, & Ninggal, 1997). Other major providers of educational services to international students were Great Britain, Australia, and New Zealand (Lambert, 1992).
Hanson and Meyerson (1995b) added that there would be more than one million international Asian students enrolled in U.S. colleges and universities by the end of the 1990s. During a presentation at the International Challenges to American Colleges and Universities Symposium in 1992, Hanson and Meyerson predicted that the United States would become one of the most popular countries among international Asian students, and that these students would seek courses primarily related to business management, engineering, physical sciences, mathematics, and computer sciences. However, international Asian students would no longer enroll in the top 20 U.S. colleges and universities as their previous sojourners had in the 1950s.

The majority of U.S. colleges and universities realized the importance of the internationalization of global education and began to expand their international admissions policies. These educational institutions have successfully attracted this new breed of international Asian students to enroll in their institutions through their international recruitment programs (Allameh, 1990; Cha 1997; Coleman, 1997). The total number of U.S. colleges and universities that admitted students from abroad have grown from relatively few in the early 1940s to nearly 2,000 today (Driedger, 1996).

International students play significant roles toward promoting cultural awareness and understanding on campus, and provide valuable
resources in the classroom (Selvadurai, 1991). For example, issues on hunger, prejudice, racism, and drug abuse, which no country has been able to solve alone, can be mutually discussed between American and diverse groups of international students. Research findings on cultural diversity in classroom settings revealed that the presence of international students in U.S. colleges and universities has provided valuable educational resources for American students in various fields of study (Coleman, 1997; Hodne, 1997; Seidel, 1991; Walters, 1993; Zimmermann, 1995). Much information has been gained from this growing research interest regarding international Asian students in U.S. colleges and universities. According to Sue and Sue (1990), regardless of the international Asian students' fields of study, these students bring with them their languages, socialization, culturally influenced value systems, methods of communicating ideas, and information about events and conditions in their countries.

Pedersen (1989), in analyzing international Asian students' cultures, reported that Asians have stronger feelings of affection for Americans and the United States in comparison to other nationalities. They perceive Americans as friendly and open minded. The United States is considered a vigorous economy and youthful country filled with a new and shining way of life. Sandhu and Asrabadi (1991) and Welty (1984) in their related studies about Asians' perceptions toward the U.S. added that the media had
played a major role in influencing Asian students’ thoughts and perceptions toward America. Sandhu, Asrabadi, and Welty firmly believed that all media have indirectly contributed to the rapid enrollment of international Asian students in the United States. The United States is portrayed as the most superior country in the world, the center of information and higher education, and is equipped with the most advanced technology in all areas of human endeavors.

A Brief History of Malaysian Students in U.S. Colleges and Universities

The presence of Malaysian students in U.S. colleges and universities dates back to 1957, the year Malaysia gained its independence from England. The newly formed government realized the importance of providing tertiary and advanced education for its young citizens in meeting the shortage of manpower in several demanding fields such as medicine, engineering, architecture, and law. However, the limited number of places and courses offered by newly formed local universities could not meet the demand for higher education. This situation prompted the government to send thousands of its young and bright students abroad for their higher education. In return, these students were expected to come back with a degree and knowledge to help develop their country.
In 1971, the Malaysian government implemented the "New Economic Policy" aimed to resolve the distinct imbalances in various economic areas such as income level, employment, and business ownership among the three major ethnic groups in Malaysia. Part of the overall plan of the program was to eradicate poverty among the Malay group and to restructure the Malaysian society (Malaysia, 1971).

In the 1970s and 1980s, the majority of Malaysian students in U.S. colleges and universities were represented by the Malay ethnic group ("Bumiputeras" or the indigenous people). These students were given scholarships by the government to pursue their tertiary and advanced education in various fields of study (Steadman, 1986). They were chosen to pursue their education based on two criteria: (1) their outstanding performance on the Malaysian Certificate Examination (MCE), (a national testing examination taken by each student at the end of high school); and (2) the Malay ethnic group from rural areas who had been deprived of better educational opportunities during the British administration in Malaysia (Pillai, 1983).

The composition of Malaysian students in U.S. colleges and universities has gradually changed as the country progressed rapidly. The number of private-sponsored students had increased with the declining enrollment among government-sponsored scholars in the United States.
During the 1990-1991 academic year, the total enrollment of Malaysian students studying in U.S. colleges and universities was approximately 20,000. Private-sponsored students constituted about 70% of the total enrollment (14,000) (Berita Harian, September 10, 1997). For example, these students constituted two-thirds of the 667 Malaysian students currently enrolled during the Fall, 1997 semester at Western Michigan University. The majority of these students come from Sunway College, Kuala Lumpur, a "twinning program" with Western Michigan University. In addition, more students from Malaysia currently study at WMU than any other American university.

Global Trends and Changes in Higher Education Toward the 21st Century

The international challenges and profound changes in global economy, technology, and politics in the 20th century have significantly impacted the trend and future of higher education around the world (Anderson & Myers, 1985; Hanson & Meyerson, 1995; Kwan, Sodowsky, & Ihle, 1994; Schram & Lauver, 1988). Unlike 4 decades ago, parents and students from newly industrialized Asian countries began to acknowledge the importance of college education in meeting their countries’ as well as the world’s present and future challenges. In addition, governments from Asian countries became aware of the importance of education as one of
their national assets for economic development, political stability, and the enhancement of national prestige (Crano & Crano, 1993; Parr, Bradley, & Bingi, 1992; Selvadurai, 1991). There has been a steady flow of international Asian students coming to U.S. colleges and universities to seek education and meeting their families' and countries' expectations (Tompson & Tompson, 1996). Not surprisingly, studies show that international Asian students will be monopolizing international student enrollment in U.S. colleges and universities as the world enters the new millennium (Zimmermann, 1995).

In a related study, Sandhu and Asrabadi (1994) tended to agree with the statement about international Asian students vast enrollment in U.S. colleges and universities. Many studies predicted that there would be another major paradigm shift in the U.S. higher education institution toward the 21st century. There were strong indicators that the process of "internationalizing" the American educational setting will be achieved earlier than predicted. Amazingly, the predicted ratio of American/international Asian students in U.S. colleges and universities by the year 2020 would be seven American students to one international Asian student (Sue and Sue, 1997).

Selvadurai (1991) provided additional confirming literature that U.S. colleges and universities are becoming more dependent on international
Asian students, especially with declining enrollments among American students. In a recent study, U.S. colleges and universities began to view international students as important customers that needed particular attention (Sandhu & Selvadurai, 1994). U.S. colleges and universities tended to be more aware of the diverse perspectives and experiences many of which are unknown to American students. Coleman (1997), in reflecting his view about American students, suggested that living in an era of global competition, it is important for American students to realize that the American perspective and experience is not necessarily the only one, nor is it always the best one.

The past several years have been a turning point for most U.S. colleges and universities in reviewing their international education policies. A majority of 2,000 U.S. colleges and universities have been actively involved in international student recruitment programs and have focused their efforts on recruiting more international students, especially in science and technology. Representatives from U.S. higher education institutions have been actively recruiting international Asian students from as far as Hong Kong, as well as many oil producing countries in the Middle East (Sandhu & Asrabadi, 1991).

Besides the effort made by U.S. colleges and universities mentioned above, many higher education institutions in several Asian countries have
developed "twinning programs" with American colleges and universities. These educational collaborations have successfully attracted more international Asian students to pursue their studies in the United States. In addition, the strong commitment made by the U.S. government to promote internationalization and global education has resulted in an increase in both the total number of international students attending American colleges and universities, as well as the number of U.S. students studying abroad (Sheehan & Pearson, 1995). Driedger (1996) noted that the number of U.S. students studying abroad rose to 84,403 in 1994-95 academic year.

International students have constituted an asset to international understanding and toward the globalization of knowledge. Administrators and professors in U.S. colleges and universities strongly believe the universal value of education, and the enhancement of international understanding and goodwill, can be achieved only when colleges and universities are willing to learn from international students (Selvadurai, 1991). There has been a growing trend among faculty members, administrators, and student personnel professionals in U.S. colleges and universities to deal more actively and seriously with international students' needs and aspirations. The National Association of Foreign Student Affairs (NAFSA) through their recent annual seminars and conferences recognized the contribution made by these international Asian students in U.S. colleges.
and universities. A committee within NAFSA was set up to clarify standards for institutions to use in evaluating the adequacy of their services for international students, and in conducting research studies on cross-cultural relations (Selvadurai, 1991).

Rowh (1989) in his critical review on U.S. higher education systems stressed the importance of responsibility among U.S. colleges and universities in providing a worthwhile college experience for international students in an increasingly global environment. He added that a conscientious understanding of cultural diversity should be one of the important parts of educational process since it would provide a ticket to the "good life" for these international students when going back to their home countries.

Mayerson and Massy (1995) in a related article on U.S. higher education systems tended to agree with Rowh's comments. They were skeptical of U.S. colleges and universities' roles in promoting internationalization and cultural diversities on U.S. campuses, and in meeting international Asian students' educational and social needs. Most researchers believe that one major question remains unanswered: How far have U.S. higher education institutions prepared themselves to assist young and aspiring Asian international students in pursuing their educational dreams in America? This question seems to be important to the majority of
international Asian students in U.S. colleges and universities because these students face a variety of pressures and anxieties during their college years than their American peers (Leong, Mallinckrodt, & Kralj, 1990; Manese, Sedlacek, & Leong, 1989; Mallinckrodt & Leong, 1992; Parr, Bradley, & Bingi, 1992; Sodowsky & Plake, 1991; Zimmermann, 1995).

Issues related to international students had been seriously addressed in several colloquiums provided by the National Liaison Committee on Foreign Student Admission since 1967. A group of professionals representing U.S. higher education, federal government, educational foundations, and professional agencies and associations convened in 1970 and 1974 in Racine, Wisconsin and collectively agreed that U.S institutions should implement appropriate strategies to meet international students’ educational and social needs (The National Liaison Committee on Foreign Student Admissions, 1975).

The colloquium recognized the diverse nature of the issue and deliberately and conscientiously developed recommendations for United States higher education institutions to serve only as broad guidelines for international students in U.S. higher education systems (The National Liaison Committee on Foreign Student Admission, 1975).
Adjustment Problems Among International Asian Students

The presence of international Asian students in over 2,000 U.S. colleges and universities poses an interesting phenomenon. These students come to the United States with a variety of educational goals and purposes. They could be here to obtain a college education and training that is not available at home, to gain prestige with a degree from a U.S. institution of higher education, or to escape unsettled political or economic conditions in their own countries (Altbach & Uphoff, 1973; Sandhu & Asrabadi, 1994; Spaulding & Flack, 1976).

International Asian students in U.S. colleges and universities have been an important part of the American higher education history and research (Locke & Valasco, 1987; Manese, Sedlacek, & Leong, 1988). The courage, motivation, and struggles of this "invisible minority" in U.S. colleges and universities deserves unqualified admiration and research. These modern day "pioneers" travelled thousands of miles away from their homes to compete with their American counterparts in pursuing their educational dreams (Sandhu & Asrabadi, 1991).

There has been a growing interest among researchers in understanding international Asian students' experiences and problems in U.S. colleges and universities over the past decade. Schram and Lauver
(1988) added that apart from problems which are common to all college students, there are experiences and problems that are specifically unique to international Asian students. These problems include, but are not limited to, homesickness, peer relationships, communication, and independency. Sheehan & Pearson (1995) in their related study on Asian students in U.S. colleges and universities added it would be a major mistake to assume that all international Asian students' encounter the same problems.

Cheng, Leong, and Geist (1993) in a related study agreed international Asian students tend to differ from American students in the magnitude of their needs, and the severity of their problems while attending colleges and universities. They added international Asian students come from a variety of cultures and life experiences. For example, students from China are culturally and religiously different from students from Indonesia. Pedersen (1991) suggested studies on adjustment problems and psychological stress among international Asian students need comprehensive attention and understanding.

Variability of Adjustment Problems

This section is organized into three sub-topics related to international Asian students' adjustment problems in U.S. colleges and universities: (1) educational stress, (2) social acculturation, and (3) financial stress. These
factors have been indicated in the literature as pertinent to international Asian students adjustment problems in U.S. colleges and universities (Dillard & Chisolm, 1983; Lauver, 1988; Takagi, 1992).

**Educational Stress**

Many studies reported international Asian students are more stressful and dependent in the classroom setting than American students. (Ahmadian, 1986; Coleman, 1997; Yang, Johnson, 1997; Teraoka, Eichenfield, and Audas, 1994; Parr, Bradley, and Bingi, 1992; Stalker, 1997). Heikinheimo and Shute (1986) in a related study revealed the majority of international Asian students were more submissive, diffident, and introverted than were the American students during classroom discussions. Hodne (1997) and Hanson (1995) found similar findings on international Asian students’ locus of control in the classroom. They added international Asian students were more educationally introverted and experienced more stress than American students because of their traditional education orientations and cultural values.

Like many of their American peers, international Asian students are constantly under pressure and have deadlines to meet. However, these factors seemed to disadvantage international students more than American students. International Asian students are confounded by language
difficulties and an array of misunderstandings about American academic systems.

Parr, Bradley, and Bingi (1992) in a study on educational stress in classroom settings provided interesting historical literature on international Asian students' educational backgrounds. They found the majority of international Asian students received their early education in the British educational system. This was particularly true in countries such as in India, Malaysia, and Hong Kong where there had been a long-term British presence (Stalker, 1997).

In most Asian countries, British English is a widely spoken language in schools and offices with a variety of native accents (Eddy, 1978; Hanson & Meyerson, 1995; Heikinheimo & Shute, 1986; Suradi, 1984). These students brought with them a variation of their "British" English to U.S. colleges and universities, and are often misunderstood by American students and professors (Johnson, 1997; Maylath, 1997; Mestenhauser, 1976; Stalker, 1997; Suradi, 1984). The sudden change in academic life, expectations, and patterns among international Asian students in U.S. colleges and universities seemed to be some of the contributing factors to educational stress (Stafford, 1980; Wray, 1981).

The informal, less-structured classroom settings, and faculty-student rapport impede international Asian students' learning process. Sheehan
and Pedersen (1995) provided confirming data on this phenomenon of educational anxiety and discomfort among international Asian students. They found international Asian students are trained to listen to instructors rather than to speak in the classroom. Being mannered and polite in the classroom is expected of all international Asian students.

To argue with instructors in the classroom situations is a “taboo,” since instructors are perceived to be in the “parental” role. Instructors are well respected by the eastern communities and expected to seek the truth and knowledge. Hence, any arguments or discussions with the instructor are considered disrespectful (Owie, 1982; Pedersen, 1988; Sue & Sue, 1990; Suradi, 1984).

International Asian students frequently have trouble adjusting to the “informal” nature of the U.S. classroom situation. Professors who presumably hold high status position do not routinely act in way international Asian students’ consider to be appropriate. These students are likely to expect professors to be wiser, do most of the talking, express their opinions, and offer suggestions in the classroom. They are not likely to expect professors to sit and listen most of the time, since such behavior is not concordant with their expectations about the way people who are older and wiser, and with such a title as “professor” are expected to act.
In a review article on international Asian students' problems in U.S. colleges and universities, Sheehan and Pearson (1995) mentioned the inability to communicate good English has affected students' ability to concentrate on lectures, read course materials at a rate is required to be an effective student, do report writing, and more importantly to express ideas in classroom discussions. These difficulties constitute a major impact on international Asian students' abilities to perform academically in U.S. higher education institutions. Due to these circumstances, international Asian students are often perceived by their instructors and American peers as passive and shy in the classroom (Wan, Chapman, & Biggs, 1992). They also mentioned that "English language skills appear to override all other concerns, which suggest international students' perceived language skills have the most significant influence on their appraisal of stressfulness of classroom situations" (p. 617).

Coleman (1997), in a study of the English proficiency among international students commented that passing an English language proficiency test such as the Test Of English as a Foreign Language (TOEFL), was not a good predictor in measuring an international student's readiness for an American education. He added it takes more than "passing" an English proficiency test for international students to participate in the types
of oral skills required for classroom discussions in U.S. colleges and universities.

Abu A. R. (1995), Eddy (1978), Heikinheimo and Shute (1986) added the lack of proficiency in English has resulted in difficulties to function effectively in an academic setting. They shared the belief language is one of the major barriers and common problems encountered by international Asian students in a U.S. educational settings. It often leads to stress despite the fact these students were bright and hardworking students in their home countries, and scored high on their TOEFL exams prior to coming to the United States (Abadzi, 1980; Agarwal & Winkler, 1985; Hayes & Rue Lin, 1994; Manese, Sedlacek & Leong, 1988; Miller & Winston, 1990; Sheehan & Pearson, 1995; Spaulding & Flack, 1976; Suradi, 1984).

In a study at Northeastern University, 118 international students from Third World countries reported similar findings on educational anxieties in U.S. colleges and universities. They revealed English language proficiency was one of their highest concerns. The majority of these students admitted their confidence level was very low even though they had passed the standardized proficiency examinations prior to coming to the United States. They felt nervous communicating in classroom discussions, and feared their English pronunciation was not comparable to their American peers. Hence, to avoid the embarrassment and
perception of appearing "dumb" or "strange", these students chose to keep quite in class (Michailidis, 1996).

Delamere (1986) noted American students tend to add to the feeling of stress among international Asian students when they unintentionally exhibit cultural prejudices towards international Asian students' accent or errors in the content of their speech. Ahmadian (1986) in a study on educational stress and problems among 351 international Asian students at the University of North Texas reported writing term papers and classrooms discussions were the two major areas of difficulties in classroom settings.

The profile of international Asian students' attitudes toward English language seems to be similar across regions. Gholamrezaei (1996), in a study on adjustment problems among 173 international Asian students' from 11 Asian countries at the University of Wollongong, Australia reported proficiency in English language was one of the major contributors to educational stress. Schram and Lauver (1988) in a related study noted English language is considered one of the international Asian students' universal adjustment problems in a foreign educational setting.

Coleman (1997) sympatized with the enormous problems encountered by international Asian students in a variety of educational settings. He added that faculty indirectly have contributed to some of the
adjustment problems encountered by this "silent minorities" in U.S. colleges and universities. He criticized faculty for being insensitive to international students' needs and concerns in the classroom. Often times, professors supplemented their lectures with colloquial expressions or references to domestic politics, events, historical figures, or even comic strips, movies, and songs foreign to international Asian students. When these references are not explained, international Asian students could miss the point of an entire discussion. Professors could help minimize international Asian students' educational stress in the classroom by taking the time to explain the significance of such expressions and references whenever these expressions are used.

Alsaffar (1977), Eddy (1978) and Wray (1981) noted a positive relationship between international Asian students' English proficiency and their academic, personal, as well as social problems in U.S. colleges and universities. They cited several studies which confirmed students with better English language competency experienced less discomfort than did students with poor language competency (Brislin, 1981; Church, 1982; Lee, Abd-Ella, & Burks, 1981; Pruitt, 1978).

Lee (1981) in a related study on international students from developing countries in U.S. colleges and universities revealed that proficiency in English is a strong predictor of academic satisfaction and
progress. Herring and Jespersen (1994) added international students who reported their use of English was adequate on arrival in the United States were better adapted than those who did not. Wan, Chapman, and Biggs (1992) in their analysis on international Asian students' perceived stress and coping strategies in U.S. colleges and universities agreed students who were competent in English language were less stressed than their counterparts whose weaker language skills contributed to stressfulness in classroom situations.

Many studies concluded language skills are very important in helping international Asian students understand American culture as a whole. Successful adaptation to American educational settings include the understanding of a wide range of nonverbal communication patterns such as paralinguistic conversations, social interactions, emotional communication, interpersonal behavior patterns, rules, and patterns of social reasoning. A lack of English proficiency and a failure to understand a common body of educational, social, and cultural knowledge regarding the United States often leaves international Asian students educationally isolated in U.S. colleges and universities (McKnight, 1994). In addition, international Asian students' inabilitys to communicate effectively with the host culture leads to a loss of social support, and prevent international students from developing social relationships with American students.

Social Acculturation

The process of acculturating to a new culture is not an easy task. It takes a considerable amount of courage, understanding, and time in adjusting to a foreign environment as well as different social expectations. The acculturation process for international Asian students in U.S. colleges and universities is often met with difficulty. It involves the process of assimilating to American's social patterns and lifestyles that often times contradict with international Asian students' traditional values and beliefs. Locke and Velasco (1987) and Wray (1981) in their study on cultural diversity mentioned that the majority of international Asian students experienced cultural shock when they were suddenly exposed to a "free" and "liberal" American culture. Craig (1981) in a related study added international Asian students struggle with the new culture is totally distinct from their cultures which promote close family relationships and distinct religious beliefs.

Wray (1981), in a study on international students' acculturative stress in U.S. colleges and universities, found most international Asian students are more emotionally withdrawn, socially isolated, and verbally inhibited
than their American counterparts. Several studies reported international Asian students' inabilitys to communicate effectively with the host culture led to the loss of social support, and prevented international these students from developing social relationships with American students (Furnham & Alibhai, 1985; Leong & Sedlacek, 1986; Meloni, 1986; Pedersen, 1991; Ray & Lee, 1988; Surdham & Collins, 1984).

Holahan, Moos, and Schafer (1996) added most studies on international students in U.S. colleges and universities have been insufficient and were usually limited in scope. Most researchers believed the lack of comprehensive instruments used to assess the psychological needs of these students added to the limitation of the study. They agreed that due to these limitations, research findings on international Asian students' well-being in U.S. colleges and universities were misrepresented and stereotyped, even though they are culturally and religiously different (Hayes & Lin, 1994; Kawanishi, 1996; Michailidis, 1996; Parr, Bradley, & Bingi, 1992; Sandhu & Asrabadi, 1994; Selavdurai, 1991; Suradi, 1984).

Yang, Teraoka, Eichenfield, and Audas (1994) in their study on cultural differences between international Asian students and American students suggested prejudices and cultural orientations on the part of both international Asian and American students could be several contributing factors which interfere with social friendships. American students often
perceive international Asian students as "transients" in American society and labeled them as "outsiders," thus, not worthy to be befriended. In addition, international Asian students are here only for a short duration of their life time, and will plan to return to their home countries upon completing their studies. Walters (1993), in a related study, revealed the significant influx of Asian immigrants and refugees over the past decade has led to anti-Asian sentiments and acts of violence in U.S. colleges and universities.

Eid and Theresa (1991), in a needs assessment study on 85 international Asian students at Eastern Oregon State College, found the majority of these students spent their time with friends of their own culture or national group when attitudinal differences hinder them from building relationships with their American counterparts. Most international Asian students feel alienated when they encounter difficulty in making friends with their American peers. A common complaint international students have about Americans is "They are always so busy," and are dominated by their clocks and schedules.

Many international Asian students revealed they feel alienated when American students treat them with disdain. For example, most American students do not make an attempt to get to know Asian students that sit next to them in the classroom. Most American students would rather strike up a
conversation with someone who looks similar to them culturally and ethnically. As a result, most international Asian students would rather find comfort in others' company when it is hard to make friends with American students (Che Din, 1984; Delamere, 1986).

International Asian students see themselves more as members of groups, families, or tribes than as separate individuals. A study by Triandis, Brislin, and Hin (1988) mentioned that people who are from collective cultures, such as international students, pay more attention to group memberships. They considered Americans as more individualistic, identifying themselves as separate persons, and operating on their own and responsible for themselves.

Sue and Sue (1990) reported an interesting finding on Asians' attitudes toward Americans. He found Chinese students were significantly inhibited, more impersonal in their interpersonal relations, and less socially concerned about American people in comparison to other international students. Other studies have also found a similar pattern among Chinese students' attitudes toward Americans. Parr, Bradley, and Bingi (1992) and Rui (1997) in their studies on international Asian students' perceptions toward the American culture confirmed Chinese students tended to have a higher level of impersonal relationships with the American people. The
Chinese seemed to be straightforward in their relationships and were intellectually oriented.

Ozaki (1988) in a study on Eastern cultures found international Asian students tended to identify with their own group in order to reduce stress. Regardless of their cultural origins, Asians felt comfortable being with their "people" who resemble similar physical and cultural identities. In a study related to cultural groups in America, Hendricks and Skinner (1975) added most international Asian students felt safe and accepted when they were among Asian groups. These students were often confused when they were among Americans since they did not have a clear idea of what is expected of them, or how to react appropriately with their American friends. Many researchers believed international Asian students' cultural and religious frameworks over the course of their lives might have influenced their behavior during friendship building and socializing (Pedersen, 1988).

Winkelman (1994) suggested language skills are considered to be one of the important tools for international Asian students to understand and participate in the American culture. McKnight (1994) added successful adaptation to the American culture includes understanding a wide range of nonverbal communication patterns such as paralinguistic conversations, social interactions, emotional communication, interpersonal behavior patterns, rules, and patterns of social reasoning. The lack of English
proficiency and failure to understand a common body of social and cultural knowledge regarding the United States often leaves international students socially isolated and feeling stressful (Hendricks & Skinner, 1975; Lee, Abd-Ella & Burks, 1981; Parr, Bradley, & Bingi, 1992; Reid, 1977; Surdam & Collins, 1984).

**Financial Stress**

During the 1994 academic year, international students spent approximately $7 billion on tuition and living expenses in U.S. colleges and universities. The average international undergraduate students pay roughly $18,000 a year or about five times what domestic students pay to study in the United States (Koretz, 1995). Many researchers agreed financial stability seemed to be one of the primary concerns among international students in U.S. colleges and universities despite limited data reported in the literature review (Aper & Currey, 1996; Hendricks & Skinner, 1975; Lee, Abd-Ella, & Burks, 1981; Martin, 1994; Parr, Bradley, & Bingi, 1992).

A majority of international Asian students come to the United States with a fixed budget and do not expect to pay additional tuition in "unexpected" academic courses. Many of these students end up working either full time or part time while attending college to earn extra
money to pay for their tuition and personal expenses. The American Council on Education (ACE) reported an estimated 30,000 international students had received permission from the U.S. Immigration and Naturalization Service to work off-campus, and another 30,000 students worked in graduate assistantships (Aper & Currey, 1996).

Suradi (1984) mentioned compared to their local counterparts, Malaysian students who studied abroad were more likely to encounter difficulties in adjusting to university life. In his study on Malaysian students at Western Michigan University, financial difficulties were identified as one of the major problems leading to acculturative stress.

Summary

Although there has been considerable research identifying the various needs of international students in U.S. colleges and universities during the last 3 decades, there was limited information on international Asian students (Alvarez & Lindholm, 1996; Schram & Lauver, 1988, Smith, 1990a). Kwan, Sodowsky, and Ihle (1994), added that inadequacies existed in research pertaining to international Asian students in U.S. colleges and universities. Pedersen (1991) stressed that psychological and social differences among international students needed careful and comprehensive research attention.
This review of the literature suggested that the research findings on psychological stress and adjustment problems among international Asian students have provided valuable information to the field of counseling and psychology. There seems to be a significant relationship between the foreign environment and the overall pattern of stress and adjustment problems among international students. Aside from an increased awareness and understanding of other cultures on the part of American students, faculty, and the community, the difficulty faced by international Asian students in the United States has not changed drastically. Research studies indicate although there are some levels of stress differences among international students, they all share a common problem among their subgroups (Solberg, Choi, Ritsma, & Jolly, 1994; Smith, 1990b).

Maslach (1982) added studies of stress and adjustment problems among college students in general have received a considerable amount of attention. College administrators, instructors, student affairs professionals, parents, and students themselves wish to know what actually affects students' personalities and causes them to struggle with stress. Fred (1992) went one step further by asking whether the dramatic increase in student stress and adjustment problems in general is actually associated with the college environment and the university bureaucracies and processes. Mayerson and Massy (1995), in discussing the revitalization of higher
education, stated an institution's physical, social, and organizational environments can be discouraging, confusing, and alienating to college students.

However, despite what has been mentioned and reviewed on international students, limited studies exist discuss the inter-ethnic or race group variability in response to dealing and coping with psychological stress among Asian international students while studying in the United States. More research is needed on this issue to provide support and encouragement and to reduce academic and psychological stress among international students in general. Arthur (1988) in conducting a study on special issues, problems, and trends in higher education institution further added that student services professionals could reduce the stress level among college students by anticipating special needs of those students.

In conclusion, it is apparent from the literature review that there are a variety of adjustment problems and psychological stressors which Asian international students face in U.S. colleges and universities. Institutions can help to enhance the understanding of the international students' acculturative stress and adjustment problems by focusing on the study of international student populations from specific cultures by creating more specific and culturally appropriate test instruments will help to
reduce stereotyping and false beliefs about this growing population in the United States.
CHAPTER III

METHODOLOGY

The primary purpose of this study was to identify and determine whether there were any differences in the six themes of acculturative stress among three Malaysian ethnic groups: (1) Malays, (2) Chinese, and (3) Indians who were enrolled at Western Michigan University during the Fall, 1997 semester. Secondarily, the study attempted to examine whether there were differences in the six themes of acculturative stress by gender, age levels, academic majors, financial sponsorships, socio-economic status, types of residential settings, and scores on the Test of English as a Foreign Language (TOEFL). This chapter is divided into seven sections: (1) research hypotheses, (2) population, (3) sample, (4) instrumentation, (5) dependent and independent variables, (6) procedural methodology, and (7) statistical analyses.

Research Hypotheses

The following research hypotheses presented in the null hypotheses form were formulated based on research questions stated in Chapter I. Twenty-four null hypotheses were tested at the .05 level of significance:
Null Hypotheses: #1 – 6

There will be no significant differences in the six themes of acculturative stress scores on: (1) Perceived Discrimination, (2) Homesickness, (3) Perceived Hate, (4) Perceived Fear, (5) Culture Shock, and (6) Guilt among three Malaysian ethnic groups and across three levels of their TOEFL scores.

Null Hypotheses: #7 – 12

There will be no significant differences in the six themes of acculturative stress scores on: (1) Perceived Discrimination, (2) Homesickness, (3) Perceived Hate, (4) Perceived Fear, (5) Culture Shock, and (6) Guilt between genders and across three age levels.

Null Hypotheses: #13 – 18

There will be no significant differences in the six themes of acculturative stress scores on: (1) Perceived Discrimination, (2) Homesickness, (3) Perceived Hate, (4) Perceived Fear, (5) Culture Shock, and (6) Guilt among students’ academic majors and across two types of sponsorships.
Null Hypotheses:  #19-24

There will be no significant differences in the six themes of acculturative stress scores on: (1) Perceived Discrimination, (2) Homesickness, (3) Perceived Hate, (4) Perceived Fear, (5) Culture Shock, and (6) Guilt among three types of students' residential settings and across three socio-economic levels.

Population

The population from which the sample was drawn consisted of 667 (421 males and 246 females) Malaysian students who were enrolled at Western Michigan University during the Fall 1997 semester. They comprised 171 Malays, 450 Chinese, and 46 Indian undergraduate and graduate students majoring in various fields of study. Their ages ranged between 18 and 37. The Malaysian student population at WMU constituted approximately 32.5% of the total number of international students (2,050), and comprised 2.5% of the total number of the university student enrollment (27,000) during the 1997/78 academic year.

Malaysian students at WMU were financially sponsored either by the Malaysian government or their parents. Government-sponsored students refer to individuals who received scholarships or loans to study in U.S. colleges and universities. These students received monthly subsistence
allowances during their approved duration of study. Tuition fees pertaining to approved courses and other expenses related to their studies are directly billed to their sponsors for payments. Married students received additional allowances for their dependents. Single and married students including their family members received health insurance coverage during their entire academic enrollment. In addition, both single and married students (including their dependents) travelling expenses prior to coming to the U.S. and upon going home after completing their studies are also fully covered by the government.

Private-sponsored students are financially dependent on their families or bank loans. These students have either completed their 2-year “twinning program” at Sunway College in Kuala Lumpur, or are from other private higher educational institutions in Malaysia. Under the twinning program, students will complete their junior and senior years at Western Michigan University. The duration of studies for other private students varies according to their completion of study period in Malaysia.

Sample

Two hundred and twelve Malaysian students who were enrolled during the Fall, 1997 were identified and invited to participate in this study. This pool of participants were chosen because they represented the three
Malaysian cultural and ethnic groups at WMU, as well as in Malaysia. Of the identified samples, 138 (65.1%) undergraduate and graduate level students chose to participate in the study. There were 59 Malays (42.7%), 47 Chinese (34.1%), and 32 Indians (23.2%). The mean age of participants was 25 years (SD=6.78) and their ages ranged between 18 and 37. Participants were comprised of 75 (54.3%) males and 63 (45.7%) females from various fields of study.

Instrumentation

The Acculturative Stress Scale for International Students (ASSIS) developed by Sandhu and Asrabadi in 1989 and revised in 1994, is a brief 36-item rating scale designed to measure international students' acculturative stress in colleges and universities outside of their home countries. The ASSIS instrument measures students' level of emotional stress across a broad range of campus and social environments. Items in the ASSIS instrument are short descriptors of students' behavioral or emotional responses rated on a 5-point Likert scale (1 = strongly disagree to 3 = as not sure to 5 = strongly agree). Higher scores on each item indicate higher acculturative stress perceived by students. The potential range of scores in this instrument is between 36 and 180. The test takes approximately 20 minutes to answer and can be manually scored.
Besides collecting background information from students, the ASSIS provides scaled scores on 12 major recurring themes of acculturative stress: (1) Perceived Discrimination, (2) Social Isolation, (3) Threat to Cultural Identity, (4) Inferiority, (5) Homesickness, (6) Perceived Fear, (7) Anger/Disappointment, (8) Mistrust, (9) Communication Problems, (10) Culture Shock, (11) Perceived Hate, and (12) Guilt. For the purpose of this study, only six recurring themes of acculturative stress were chosen and tested. These themes represent major concerns among international students in previous studies. The six themes of acculturative stress chosen were: (1) Perceived Discrimination, (2) Homesickness, (3) Perceived Hate, (4) Perceived Fear, (5) Culture Shock, and (6) Guilt.

The ASSIS offers institutions and researchers another choice of an instrument that can be used to objectively assess the dimensions of international students' college life. It is expected to provide pertinent data on issues related to international students' experiences and adjustment problems in U.S. colleges and universities. Sandhu and Asrabadi (1994) stressed that issues related to international students have been sporadically measured in the past, thus resulting in the misrepresentation of data concerning international students' psychological well-being in U.S. colleges and universities.
Reliability

Sandhu and Asrabadi (1994) have provided a well-organized and informative report of the ASSIS. The report describes the intended use of the Scale, the conceptual basis behind the scale, scale development, and the target population for whom the scale was designed. Procedures for administering and scoring the scale were both well-written and unambiguous.

The ASSIS appears to have good test-retest reliability on the six recurring themes of acculturative stress (Perceived Discrimination, Homesickness, Perceived Hate, Perceived Fear, Culture Shock, Guilt), alpha reliability correlation coefficients ranged from .60 to .86 across different ethnic groups and gender. Preliminary and follow-up findings of the ASSIS detailed important information about its overall reliability and technical quality.

The ASSIS scale development was initially contracted in 1989 with an initial pool of 26 international students. The first draft of 125 items representing 12 themes of acculturative stress (Perceived Discrimination, Social Isolation, Threat to Identity, Inferiority, Homesickness, Fear, Anger/Dissapointments, Mistrust, Communication Problems, Culture Shock,
Perceived Hate, Guilt) was pilot tested with 17 undergraduate and 9 graduate international students, and reviewed by three university professors at two different universities. These professors taught multicultural courses at the graduate level and were familiar with issues related to international students. Both students and professors made comments about the wording of items and offered suggestions resulting in the elimination of some items. The instrument was revised to avoid confusion, repetition, and ambiguity regarding its intent and meaning.

In 1994, Sandhu and Asrabadi conducted a follow-up study on the ASSIS on a larger number of international students. Participants were comprised of 86 men (M = 23.6 yr.) and 42 women (M = 22.8 yr.) representing Latin American, Europe, Middle East, and Asian countries. Asian students from China, India, Japan, Korea, and Taiwan (n = 56) accounted a large number of the participants (43.75%). Participants from Latin American countries (n = 34) accounted for 26.56% of the sample, Middle Eastern students (n = 22) accounted for 17.19%, and the remaining participants from Europe and Africa (n = 6) accounted for 12.50% of the students.

Participants of academic majors included 24 business and management students (18.75%), 18 engineering students (14.06%), 16 health profession students (12.50%), 20 computer and information services students (15.62%), 12 physical sciences students (9.37%), 11
education students (8.59%), 9 social sciences students (7.03%), 8 psychology students (6.25%), and 10 students with miscellaneous majors (7.82%). Most of these students (n = 106), 82.81%, learned English as a second language prior coming to the U.S. and indicated that they received most of their financial support either from their families or sponsors in the United States or in their home countries.

The ASSIS has been standardized with a relatively diverse sample representing Asian, Middle East, European and African students to assess the psychological needs of international students in a comprehensive manner. The Scale took into account both ethnic and cultural differences often seen in international college students. It is an attempt to construct a test instrument that could provide a composite measure of adjustment problems among international students. Finally, a refined version of 36 items with the same 12 acculturative themes was constructed.

The ASSIS appears to have a number of positive features and may be a useful acculturative stress tool in clinical settings. The test is very brief and takes approximately 20 minutes to complete because many of the items are just one or two words. According to Sandhu and Asrabadi (1994), the ASSIS is an objective instrument which is uninfluenced or undistorted by the beliefs or biases of the individuals who administer and score it.
Validity

Both authors are to be commended for the extent of measurement validation that has been conducted on the ASSIS. Data on the validity of the ASSIS are presented in a variety of way. Intercorrelations between factors of acculturative stress for international students are presented for the norm group. These data showed the six acculturative stress themes: (1) Perceived Discrimination, (2) Homesickness, (3) Perceived Hate, (4) Perceived Fear, (5) Culture Shock, and (6) Guilt accounted for 70.6% of the total explained variance.

Factor analyses were performed to provide evidence supporting the construct validity of the ASSIS. Principal factors and representative items with their factor loadings and commonalities were extracted using the method of principal components. Computations were performed using the SPSS Release 3.0 for UNISYS. The analysis showed a relatively large loading for each factor (between .6 to .9), thus justifying the use of the subscales. The result of factor analysis successfully produced six major acculturative themes: (1) Perceived discrimination, (2) Homesickness, (3) Perceived Hate, (4) Perceived Fear, (5) Cultural Shock, and (6) Guilt.

The ASSIS seems to have a high degree of face validity. It appears to measure what it purports to measure. Walse and Betz (1995) stated construct validity is not a necessary part of the test's basic quality, since the
instrument also takes into account characteristics by which it acquires
meaning, interpretability, and usefullness.

**Dependent and Independent Variables**

**Dependent Variables**

The dependent variables were the following six recurring themes of аккультуративного стресса measured by the 36-item Likert scales of the Acculturative Stress for International Students Questionnaires (ASSIS): (1) Perceived Discrimination, (2) Homesickness, (3) Perceived Hate, (4) Perceived Fear, (5) Culture Shock, and (6) Guilt.

**Independent Variables**

The independent variables were the demographic information gathered from the participant's data sheet. They were categorized as follows: (a) Ethnicity, (b) Gender, (c) Age, (d) Major field of studies, (e) Financial sponsorships, (f) Socio-economic status, (g) Types of residential settings, and (h) TOEFL scores.

The rationale for choosing these independent variables for this study was based on previous studies on international students' acculturative stress in U.S. colleges and universities.
Ethnicity

It refers to three ethnic groups of Malaysian students enrolled at Western Michigan University: (1) Malays, (2) Chinese, and (3) Indians.

Gender

It refers to Malaysian male and female students enrolled at Western Michigan University.

Age

It refers to three levels of age among Malaysian students enrolled at Western Michigan University: (1) Below 20 years old, (2) Between 21 – 25 years old, and (3) Over 26 years old.

Major Fields of Study

Refer to three major fields of study among Malaysian students enrolled at Western Michigan University: (1) Business and Economics, (2) Computer Science and Engineering, and (3) Education and Social Science.

Financial Sponsorships

Refer to Malaysian students' types of financial sponsorships while studying at Western Michigan University: (a) Government-sponsored
(including Ministry of Education, Public Service Department, Majlis Amanah Rakyat (MARA), National Petroleum Corporation (PETRONAS), Universities, and State Governments); or (b) Private-sponsored (family financial support and bank loans)

**Socio-economic Status**

It refers to students’ family monthly income levels: (a) Low income group (Total income less than RM1,500 per month); (b) Medium income group (Total income between RM1,500 – RM2,500 per month; or (c) High income group (Total income greater than RM2,500 per month).

*Note.* 1 dollar U.S. is approximately RM3.6 ringgit.

**Types of Residential Settings**

Refer to participants’ types of residential settings prior to coming to the United States: (a) Village/small town; or (b) Urban/city.

**English Language Proficiency**

It refers to participants’ TOEFL scores categorized into two levels: (1) High (more than 550 points), or (2) Low (550 points).
Designs and Procedures

Research Design

Two hundred and twelve copies of the ASSIS, a cover letter, and personal data sheet were mailed to all Malaysian students identified in this study. Samples from the Malay, Chinese, and Indian ethnic groups were chosen from a comprehensive list of Malaysian students at WMU available at the Office of the International Student Services (OISS) and the Malaysian Student Organization directory. Seventy Malay students and 96 students from the Chinese ethnic group were chosen based on a systematic random sampling procedure. However, due to its limited numbers, all 46 Indian students were included in this study. A sample of convenience was used with the Indian population.

Self-addressed and self-stamped envelopes were provided to facilitate the completion process. The Director of the International Student Services at WMU was contacted to get a complete list of names and addresses of these students. The researcher provided 2 weeks for participants to respond to the questionnaires. A follow-up phone call was made to those who did not respond by the expected date. They were given another week to reply before the researcher began to finalize the data.
Statistical Procedures

The SPSSX 6.1 for Windows was used to analyze the data. Tables were utilized to report students' demographic characteristics. Mean scores and standard deviations were computed to describe the six themes of acculturative stress scores with respect to students' demographics profile.

Two-Way Analyses of Variance (ANOVA) were used to determine differences and interactions among independent variables in relation to the six themes of acculturative stress. Post hoc analyses using the Scheffe method were used to find mean differences among groups. All comparisons were established using an alpha .05 level of significance. Additional analyses on the six acculturative stress themes and their representative items were conducted.
CHAPTER IV

PRESENTATION AND RESULTS

Overview of the Chapter

This chapter reports the results of this study in three sections. The first section presents the descriptive profile of the research sample. Results of 24 hypotheses using two-way analyses of variance are discussed in the second section. Finally, additional analyses on six major themes of acculturative stress and their representative items constitute the third section of this chapter. Only significant tables are included in the analyses of this chapter.

Participants' Profile

The descriptive data reported in this study were based on the final sample of 138 participants (a return rate of 65.0%). Participants were 42.7% Malay (n = 59), 34.1% Chinese (n = 47), and 23.2% Indian (n = 32) students enrolled during the Fall, 1997 semester at Western Michigan University (Table 25, Appendix F). The mean age for the three ethnic groups was 25 years (SD = 6.78) with their age ranged between 18 and 37 (Table 26, Appendix F). In this sample, 35.5% were females (n = 49), and 64.5% were males (n = 89) (Table 27, Appendix G).
The distribution of respondents' fields of study reported in this research project were 45.7% (n = 63) enrolled in the Business Management or Economics programs, 29.7% (n = 41) enrolled in the Computer Science and Engineering programs, and 24.6% (n = 34) enrolled in the Education and Social Sciences programs (Table 28, Appendix G). Of these groups, 87.0% (n = 120) were undergraduates and 13.0% (n = 18) were graduate students (Table 29, Appendix H). It is interesting to note that 68.8% (n = 95) were private-sponsored students in comparison to 31.2% (n = 43) who were either government or semi-government sponsored students (Table 30, Appendix H). The majority of respondents, 64.5% (n = 89) reported they were from the city or urban settings, in comparison to 35.5% (n = 49) who reported they were from small town or village settings prior to coming to the United States (Table 31, Appendix I).

It should be noted that the majority of respondents, 65.2% (n = 90) scored more than 550 points on their TOEFL, in comparison to 34.8% (n = 48) who scored less than 550 points (Table 32, Appendix I). Finally, among the three ethnic groups, 42.0% (n = 58) reported their family monthly income levels were more than RM2,500, 33.3% (n = 46) reported their family monthly income levels were between RM1,500 and RM2,500, and 24.6% (n = 34) reported their family monthly income levels were equal or less than RM1,500 (Table 33, Appendix J).
Evaluation of Hypotheses

This section of the chapter reports the results of 24 hypotheses which were tested to determine if there were significant mean differences in the six themes of acculturative stress among Malay, Chinese, and Indian groups enrolled during the Fall, 1997 semester at Western Michigan University. A two-way analysis of variance (ANOVA) and the post hoc test using the Scheffe method from the Statistical Package for Social Sciences (SPSS) for Windows 6.1 were used to test the interaction and mean differences. All hypotheses were tested using .05 level of significance.

Null Hypotheses #1 – 6

There will be no significant differences in the six themes of acculturative stress scores on: (1) Perceived Discrimination, (2) Homesickness, (3) Perceived Hate, (4) Perceived Fear, (5) Culture Shock, and (6) Guilt across the three Malaysian ethnic groups and across two levels of their TOEFL scores.

The two-way interaction ANOVA $F(2, 137) = 0.35$ on the Perceived Discrimination theme is not significant ($p = 0.71$) at the .05 alpha level. The analysis indicates no interactions among Malay, Chinese, and Indian groups and across two levels of TOEFL scores on Perceived Discrimination.
Since $p = 0.71$ is larger than the alpha level set at .05, the null hypothesis is not rejected (Table 34, Appendix K).

As shown in Table 1, the two-way interaction ANOVA $F(2, 137) = 3.52$ on the Homesickness stress theme was significant ($p = 0.03^*$) at the .05 alpha level. A post hoc analysis using the Scheffe method indicates an interaction between ethnicity and two levels of TOEFL scores on the Homesickness theme. Since $p = 0.03^*$ is less than the alpha level set at .05, the null hypothesis for interaction is rejected. The analysis confirms that there are differences among three Malaysian ethnic groups and across two levels of their TOEFL scores.

Table 1

A Two-way ANOVA Between Three Ethnic Groups and Across Two Levels of TOEFL Scores on Homesickness

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td>7.17</td>
<td>2</td>
<td>3.59</td>
<td>0.28</td>
<td>0.76</td>
</tr>
<tr>
<td>TOEFL</td>
<td>0.87</td>
<td>1</td>
<td>0.87</td>
<td>0.07</td>
<td>0.79</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>90.71</td>
<td>2</td>
<td>45.36</td>
<td>3.52</td>
<td>0.03*</td>
</tr>
<tr>
<td>Total</td>
<td>1799.77</td>
<td>137</td>
<td>13.14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at alpha .05 level.
A post hoc analysis using the Scheffe method indicates that there are differences between the Indian group with low TOEFL scores and the Indian group with high TOEFL scores on the Homesickness theme. There are also differences between the Chinese group with low TOEFL scores and the Indian group with low TOEFL scores.

As shown in Table 2, the two-way interaction ANOVA $F(2, 137) = 0.42$ on the Perceived Hate stress theme is not significant ($p = 0.65$) at the .05 alpha level. The analysis indicates no interactions between Malay, Chinese, and Indian groups and across two levels of TOEFL scores on the Perceived Hate theme. Since $p = 0.65$ is larger than the alpha level set at .05, the null hypothesis for interaction is not rejected.

Table 2

A Two-way ANOVA Between Three Ethnic Groups and Across Two Levels of TOEFL Scores on Perceived Hate

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td>263.70</td>
<td>2</td>
<td>131.85</td>
<td>7.42</td>
<td>0.00*</td>
</tr>
<tr>
<td>TOEFL</td>
<td>22.75</td>
<td>1</td>
<td>22.75</td>
<td>1.28</td>
<td>0.26</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>15.08</td>
<td>2</td>
<td>7.54</td>
<td>0.42</td>
<td>0.65</td>
</tr>
<tr>
<td>Total</td>
<td>2646.24</td>
<td>137</td>
<td>19.32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at alpha .05 level.
However, the observed main effects value $p(0.00^*)$ on ethnicity is significant at the alpha .05 level. A post hoc analysis using the Scheffe method demonstrates a mean difference between Malay ($M = 13.97$) and Indian ($M = 10.47$) groups on the Perceived Hate theme.

As shown in Table 3, the two-way interaction ANOVA $F(2, 137) = 2.33$ on the Perceived Fear stress theme is not significant ($p = 0.10$) at the .05 alpha level. The analysis indicates no interactions among Malay, Chinese, and Indian groups across two levels of TOEFL scores. Since $p = 0.10$ is larger than the alpha level set at .05, the null hypothesis for interaction is not rejected. No conclusion can be drawn about the differences between the three ethnic groups and across two levels of TOEFL scores on the Perceived Fear theme.

Table 3

A Two-way ANOVA Between Three Ethnic Groups and Across Two Levels of TOEFL Scores on Perceived Fear

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td>158.18</td>
<td>2</td>
<td>79.09</td>
<td>10.47</td>
<td>0.00*</td>
</tr>
<tr>
<td>TOEFL</td>
<td>38.02</td>
<td>1</td>
<td>38.02</td>
<td>5.03</td>
<td>0.03*</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>35.14</td>
<td>2</td>
<td>17.57</td>
<td>2.33</td>
<td>0.10</td>
</tr>
<tr>
<td>Total</td>
<td>1228.64</td>
<td>137</td>
<td>8.97</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at alpha .05 level.
However, the observed main effects value $p (0.00^*)$ on ethnicity and $p (0.03^*)$ on TOEFL was significant at the alpha .05 level. A post hoc analysis using the Scheffe method demonstrates mean differences between Malay ($M = 9.73$) and Indian ($M = 7.03$) groups, as well as between Malay ($M = 9.73$) and Chinese ($M = 8.29$) groups on the Perceived Fear theme. The analysis also indicates mean differences between two groups of low TOEFL scores (<500) and high TOEFL scores (>500).

As shown in Table 4, the two-way interaction ANOVA $F (2, 137) = 1.46$ on the Culture Shock theme is not significant ($p = 0.24$) at the .05 alpha level. The analysis indicates no interactions between Malay, Chinese, and Indian groups and across two levels of TOEFL scores. Since $p = 0.24$ is larger than the alpha level set at .05, the null hypothesis for the interaction is not rejected. No conclusion can be drawn about the differences between the three ethnic groups and across two levels of TOEFL scores on the Culture Shock theme.

However, the observed main effects value $p (0.01^*)$ on ethnicity was significant at the alpha .05 level. A post hoc analysis using the Scheffe method indicates a mean difference between the Malay ($M = 7.83$) and Indian ($M = 6.37$) groups on the Culture Shock theme.

The two-way interaction ANOVA $F (2, 137) = 0.96$ on the Guilt theme is not significant ($p = 0.38$) at the .05 alpha level. A post hoc analysis using the Scheffe method indicates no interactions among Malay, Chinese, and
Indian groups across two levels of TOEFL scores on the Guilt theme. Since $p = 0.38$ is larger than the alpha level set at .05, the null hypothesis for the interaction is not rejected. No conclusion can be drawn about the differences between three ethnic groups and across two levels of TOEFL scores on the Guilt stress theme. No other differences are noted (Table 35, Appendix K).

Table 4

A Two-way ANOVA Between Three Ethnic Groups and Across Two Levels of TOEFL Scores on Culture Shock

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td>55.73</td>
<td>2</td>
<td>27.87</td>
<td>4.37</td>
<td>0.01*</td>
</tr>
<tr>
<td>TOEFL</td>
<td>2.21</td>
<td>1</td>
<td>2.21</td>
<td>0.35</td>
<td>0.56</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>18.62</td>
<td>2</td>
<td>9.31</td>
<td>1.46</td>
<td>0.24</td>
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<tr>
<td>Total</td>
<td>917.37</td>
<td>137</td>
<td>6.69</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at alpha .05 level.

Null Hypotheses #7-12

There will be no significant differences in the six themes of acculturative stress scores: (1) Perceived Discrimination, (2) Homesickness,
(3) Perceived Hate, (4) Perceived Fear, (5) Culture Shock, (6) Guilt across gender and across three levels of age.

As shown in Table 5, the two-way interaction ANOVA $F(2, 137) = 0.19$ on the Perceived Discrimination theme is not significant ($p = 0.83$) at the .05 alpha level. A post hoc analysis using the Scheffe method indicates no interactions among gender and across three levels of age. Since $p = 0.83$ is larger than the alpha level set at .05, the null hypothesis for the interaction is not rejected. No conclusion can be drawn about the differences between gender and across two levels of age on the Perceived Discrimination theme.

Table 5

A Two-way ANOVA Among Gender and Across Three Levels of Age on Perceived Discrimination

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
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<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Gender</td>
<td>26.56</td>
<td>1</td>
<td>26.56</td>
<td>0.93</td>
<td>0.34</td>
</tr>
<tr>
<td>Age</td>
<td>377.06</td>
<td>2</td>
<td>188.53</td>
<td>6.58</td>
<td>0.00*</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>10.84</td>
<td>2</td>
<td>5.42</td>
<td>0.19</td>
<td>0.83</td>
</tr>
<tr>
<td>Total</td>
<td>4197.83</td>
<td>137</td>
<td>30.64</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at alpha .05 level.
However, the observed main effects value p (0.00*) on age was significant at the alpha .05 level. A post hoc analysis using the Scheffe method indicates a mean difference between students who are below 20 years old (M = 22.88) and students who are above 26 years old (M = 17.31) on the Perceived Discrimination stress theme. The analysis also indicate a mean difference between students who are below 20 years old (M = 22.88) and students who are between 21 and 25 years of age (M = 19.57).

As shown in Table 6, the two-way interaction ANOVA F (2, 137) = 0.51 on the Homesickness theme is not significant (p = 0.59) at the .05 alpha level. A post hoc analysis using the Scheffe method indicates no interactions among gender and across three levels of age. Since p = 0.59 is larger than the alpha level set at .05, the null hypothesis for interaction is not rejected.

Table 6
A Two-way ANOVA Among Gender and Across Three Levels of Age on Homesickness

<table>
<thead>
<tr>
<th>Source</th>
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<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
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</thead>
<tbody>
<tr>
<td>Main Effects</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Gender</td>
<td>3.75</td>
<td>1</td>
<td>3.75</td>
<td>0.30</td>
<td>0.58</td>
</tr>
<tr>
<td>Age</td>
<td>137.45</td>
<td>2</td>
<td>68.72</td>
<td>5.51</td>
<td>0.00*</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>12.84</td>
<td>2</td>
<td>6.42</td>
<td>0.51</td>
<td>0.59</td>
</tr>
<tr>
<td>Total</td>
<td>1799.77</td>
<td>137</td>
<td>13.14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at alpha .05 level.
However, the observed main effects value $p (0.00^*)$ on age was significant at the alpha .05 level. A post hoc analysis using the Scheffe method indicates a mean difference between students who are below 20 years old ($M = 12.41$) and students who are above 26 years old ($M = 8.61$) on the Homesickness stress theme.

As shown in Table 7, the two-way interaction ANOVA $F (2, 137) = 0.23$ on the Perceived Hate theme is not significant ($p = 0.79$) at the .05 alpha level. A post hoc analysis using the Scheffe method indicates no interactions among gender and across three levels of age. Since $p = 0.79$ is larger than the alpha level set at .05, the null hypothesis for interaction is not rejected. No conclusion can be drawn about the differences between gender and across two levels of age on the Perceived Hate stress theme.

<table>
<thead>
<tr>
<th>Source</th>
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<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>3.51</td>
<td>1</td>
<td>3.51</td>
<td>0.19</td>
<td>0.66</td>
</tr>
<tr>
<td>Age</td>
<td>252.82</td>
<td>2</td>
<td>126.41</td>
<td>7.01</td>
<td>0.00*</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>8.29</td>
<td>2</td>
<td>4.15</td>
<td>0.23</td>
<td>0.79</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2646.24</td>
<td>137</td>
<td>19.32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at alpha .05 level.
However, the observed main effects value \( p (0.00^*) \) on age was significant at the alpha .05 level. A post hoc analysis using the Scheffe method indicates a mean difference between students who are below 20 years old (\( M = 14.73 \)) and students who are more than 26 years old (\( M = 10.38 \)) on the Perceived Hate theme. The analysis also indicate a mean difference between students who are below 20 years old (\( M = 14.73 \)) and students who are between 21 and 25 years old (\( M = 12.03 \)).

As shown in Table 8, the two-way interaction ANOVA \( F (2, 137) = 0.20 \) on the Perceived Fear theme is not significant (\( p = 0.82 \)) at the .05 alpha level. A post hoc analysis using the Scheffe method indicates no interactions among gender and across three levels of age. Since \( p = 0.82 \) is larger than the alpha level set at .05, the null hypothesis for interaction is not rejected. No conclusion can be drawn about the differences between gender and across two levels of age on the Perceived Fear theme.

However, the observed main effects value \( p (0.00^*) \) on age and \( p (0.05^*) \) on gender are significant at the alpha .05 level. A post hoc analysis using the Scheffe method indicates a mean difference between students who are below 20 years old (\( M = 9.91 \)) and students who are more than 26 years old (\( M = 6.54 \)). The analysis also indicate a mean difference between students who are below 20 years old (\( M = 9.91 \)) and students who are between 21 and 25 years old (\( M = 8.43 \)).
Table 8

A Two-way ANOVA Among Gender and Across Three Levels of Age on Perceived Fear

<table>
<thead>
<tr>
<th>Source</th>
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<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>32.69</td>
<td>1</td>
<td>32.69</td>
<td>4.06</td>
<td>0.05*</td>
</tr>
<tr>
<td>Age</td>
<td>129.64</td>
<td>2</td>
<td>64.82</td>
<td>8.05</td>
<td>0.00*</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>3.29</td>
<td>2</td>
<td>1.64</td>
<td>0.20</td>
<td>0.82</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1228.64</td>
<td>137</td>
<td>8.97</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at alpha .05 level.

As shown in Table 9, the two-way interaction ANOVA $F(2, 137) = 0.25$ on the Culture Shock theme is not significant ($p = 0.78$) at the .05 alpha level. The analysis indicates no interaction among gender and across three levels of age. Since $p = 0.79$ is larger than the alpha level set at .05, the null hypothesis for interaction is not rejected. No conclusion can be drawn about the differences between gender and across two levels of age on the Culture Shock stress theme.

However, the observed main effects value $p(0.00*)$ on gender and $p(0.04*)$ on age are significant at the alpha .05 level. A post hoc analysis using the Scheffe method indicates a mean difference between students who are below 20 years old ($M = 8.18$) and students who are more
than 26 years old ($M = 6.08$). The analysis also indicate a mean difference between students who are below 20 years old ($M = 8.18$) and students who were between 21 and 25 years old ($M = 6.86$) on the Culture Shock stress theme.

Table 9

A Two-way ANOVA Among Gender and Across Three Levels of Age on Culture Shock

<table>
<thead>
<tr>
<th>Source</th>
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<th>p</th>
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<td><strong>Main Effects</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>5.02</td>
<td>1</td>
<td>5.02</td>
<td>0.78</td>
<td>0.38</td>
</tr>
<tr>
<td>Age</td>
<td>58.36</td>
<td>2</td>
<td>29.18</td>
<td>4.53</td>
<td>0.01*</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>3.28</td>
<td>2</td>
<td>1.64</td>
<td>0.25</td>
<td>0.78</td>
</tr>
<tr>
<td>Total</td>
<td>917.37</td>
<td>137</td>
<td>6.69</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at alpha .05 level.

As shown in Table 10, the two-way interaction ANOVA $F (2, 137) = 0.36$ on the Guilt theme is not significant ($p = 0.69$) at the .05 alpha level. A post hoc analysis using the Scheffe method indicates no interaction among gender and across three levels of age. Since $p = 0.69$ is larger than the alpha level set at .05, the null hypothesis for interaction is not rejected. No
conclusion can be drawn about the differences between gender and across
two levels of age on the Guilt stress theme.

Table 10

A Two-way ANOVA Among Gender and Across
Three Levels of Age on Guilt

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>8.58</td>
<td>1</td>
<td>8.58</td>
<td>3.42</td>
<td>0.07</td>
</tr>
<tr>
<td>Age</td>
<td>39.49</td>
<td>2</td>
<td>19.75</td>
<td>7.86</td>
<td>0.00*</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>1.80</td>
<td>2</td>
<td>0.90</td>
<td>0.36</td>
<td>0.69</td>
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<tr>
<td>Total</td>
<td>381.30</td>
<td>137</td>
<td>2.78</td>
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<td></td>
</tr>
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</table>

*Significant at the .05 level.

However, the observed main effects value p (0.00*) on age is significant
at the alpha .05 level. A post hoc analysis using the Scheffe method indicates
a mean difference between students who are below 20 years old (M = 5.18)
and students who are more than 26 years old (M = 3.46) on the Guilt stress
theme. The analysis also indicate a mean difference between students
who are below 20 years old (M = 5.18) and students who are between 21 and
25 years old (M = 4.16).
Null Hypotheses #13-18

There will be no significant differences in the six themes of acculturative stress scores: (1) Perceived Discrimination, (2) Homesickness, (3) Perceived Hate, (4) Perceived Fear, (5) Culture Shock, and (6) Guilt among two types of sponsorships and across three levels of majors.

As shown in Table 11, the two-way interaction ANOVA $F(2, 137) = 3.34$ on the Perceived Discrimination theme is significant ($p = 0.04^*$) at the .05 alpha level. A post hoc analysis using the Scheffe method indicates an interaction between the two types of sponsorships and across three types of academic majors.

Table 11

A Two-way ANOVA Among Two Types of Sponsorships and Across Three Levels of Majors on Perceived Discrimination

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
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<th>p</th>
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</thead>
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<td>Main Effects</td>
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<td></td>
</tr>
<tr>
<td>Sponsor</td>
<td>14.17</td>
<td>1</td>
<td>14.17</td>
<td>0.47</td>
<td>0.49</td>
</tr>
<tr>
<td>Major</td>
<td>49.23</td>
<td>2</td>
<td>24.61</td>
<td>0.83</td>
<td>0.44</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>199.03</td>
<td>2</td>
<td>99.52</td>
<td>3.34</td>
<td>0.04*</td>
</tr>
<tr>
<td>Total</td>
<td>4197.83</td>
<td>137</td>
<td>30.64</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the .05 level.
However, the interaction is not strong enough to detect differences using the post hoc analysis by the Scheffe method. Since $p = 0.04^*$ is less than the alpha level set at .05, the null hypothesis for interaction is rejected. No other differences are noted.

As shown in Table 12, the two-way interaction ANOVA $F(2, 137) = 3.21$ on the Homesickness theme is significant ($p = 0.04^*$) at the .05 alpha level. A post hoc analysis using the Scheffe method indicates an interaction between two types of sponsorships and across three types of academic majors.

### Table 12

**A Two-way ANOVA Among Two Types of Sponsorships and Across Three Levels of Majors on Homesickness**

<table>
<thead>
<tr>
<th>Source</th>
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<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main Effects</strong></td>
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<td></td>
</tr>
<tr>
<td>Sponsor</td>
<td>9.82</td>
<td>1</td>
<td>9.82</td>
<td>0.77</td>
<td>0.38</td>
</tr>
<tr>
<td>Major</td>
<td>24.04</td>
<td>2</td>
<td>12.02</td>
<td>0.94</td>
<td>0.39</td>
</tr>
<tr>
<td><strong>2-way Interactions</strong></td>
<td>81.84</td>
<td>2</td>
<td>40.92</td>
<td>3.21</td>
<td>0.04*</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1799.77</td>
<td>137</td>
<td>13.14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the .05 level.*
However, the interaction is not strong enough to detect differences with the post hoc analysis using the Scheffe method. Since $p = 0.04^*$ is less than alpha level set at .05, the null hypothesis for interaction is rejected. No other differences are noted.

As shown in Table 13, the two-way interaction ANOVA $F(2, 137) = 0.99$ on the Perceived Hate theme is not significant ($p = 0.37$) at the .05 alpha level.

Table 13

A Two-way ANOVA Among Two Types of Sponsorships and Across Three Levels of Majors on Perceived Hate

<table>
<thead>
<tr>
<th>Source</th>
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<th>p</th>
</tr>
</thead>
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<td>Main Effects</td>
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<td></td>
</tr>
<tr>
<td>Sponsor</td>
<td>15.81</td>
<td>1</td>
<td>15.81</td>
<td>0.85</td>
<td>0.3</td>
</tr>
<tr>
<td>Major</td>
<td>134.35</td>
<td>2</td>
<td>67.18</td>
<td>3.61</td>
<td>0.03*</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>37.21</td>
<td>2</td>
<td>18.61</td>
<td>0.99</td>
<td>0.37</td>
</tr>
<tr>
<td>Total</td>
<td>2646.24</td>
<td>137</td>
<td>19.32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the .05 level.

A post hoc analysis using the Scheffe method indicates no interaction among two types of sponsorships and across three levels of majors. Since the $p = 0.37$ is greater than alpha level set at .05, the null hypothesis for
interaction is not rejected. No conclusion can be drawn about the differences between two types of sponsorships and across three levels of majors on the Perceived Hate stress theme. However, the observed main effects value $p = 0.03^*$ on academic major is significant at the alpha .05 level. A post hoc analysis using the Scheffe method indicates a mean difference between students who are majoring in business management or economics ($M = 13.41$) and students who are majoring in computer science or engineering ($M = 11.02$) on the Perceived Hate stress theme.

As shown in Table 14, the two-way interaction ANOVA $F (2, 137) = 4.54$ on the Perceived Fear theme is significant ($p = 0.01^*$) at the .05 alpha level.

Table 14

<table>
<thead>
<tr>
<th>Source</th>
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<td>Main Effects</td>
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<td></td>
</tr>
<tr>
<td>Sponsor</td>
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<td>1</td>
<td>21.99</td>
<td>2.76</td>
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</tr>
<tr>
<td>Major</td>
<td>82.66</td>
<td>2</td>
<td>41.33</td>
<td>5.19</td>
<td>0.01*</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>72.37</td>
<td>2</td>
<td>36.18</td>
<td>4.54</td>
<td>0.01*</td>
</tr>
<tr>
<td>Total</td>
<td>1228.64</td>
<td>137</td>
<td>8.97</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the .05 level.
A post hoc analysis using the Scheffe method indicates an interaction among types of sponsorships and across three types of majors. The analysis confirms that there are differences between the Malay and Chinese group who are majoring either in engineering or computer science. There are also differences between the Malay group who is majoring either in engineering or computer science and the Chinese group who is majoring either in business management or economics. Since \( p = 0.01^* \) is less than the set alpha value at 0.05, the null hypothesis for interaction is rejected.

As shown in Table 15, the two-way interaction ANOVA \( F(2, 137) = 2.39 \) on the Culture Shock theme is not significant \( (p = 0.09) \) at the .05 alpha level. A post hoc analysis using the Scheffe method indicates no interactions among types of sponsorship and across three levels of major on the Culture Shock theme. Since \( p = 0.09 \) is greater than the alpha level set at 0.05, the null hypothesis for interaction is not rejected. No conclusion can be drawn about the differences between types of sponsorships and across three levels of majors on Culture Shock.

However, the observed main effects value \( p (0.01^*) \) on three types of major is significant at the alpha .05 level. A post hoc analysis using the Scheffe method indicates a mean difference between students who are majoring either in business management or economics \( (M = 7.82) \) and
students who are majoring either in education or social sciences \( (M = 6.32) \) on the Culture Shock stress theme.

Table 15

<table>
<thead>
<tr>
<th>Source</th>
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<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
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<td></td>
</tr>
<tr>
<td>Sponsor</td>
<td>18.38</td>
<td>1</td>
<td>18.38</td>
<td>2.99</td>
<td>0.09</td>
</tr>
<tr>
<td>Major</td>
<td>58.45</td>
<td>2</td>
<td>29.22</td>
<td>4.76</td>
<td>0.01*</td>
</tr>
<tr>
<td><strong>2-way Interactions</strong></td>
<td>29.47</td>
<td>2</td>
<td>14.74</td>
<td>2.39</td>
<td>0.09</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>917.37</td>
<td>137</td>
<td>6.69</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the .05 level.

As shown in Table 16, the two-way interaction ANOVA \( F (2, 137) = 4.86 \) on the Guilt theme is significant \( (p = 0.01^* \) at the .05 alpha level. A post hoc analysis using the Scheffe method indicates an interaction among two types of sponsorship and across three levels of major on the Guilt theme. The analysis indicates that there are differences between private-sponsored and government-sponsored students who are majoring either in education or social sciences. Since \( p = 0.00^* \) is less than the alpha level set at 0.05, the null hypothesis for interaction is rejected. The analysis confirms that there is a
difference between different types of sponsorship and majors on the Guilt stress theme.

Table 16

A Two-way ANOVA Among Two Types of Sponsorship and Across Three Levels of Major on Guilt

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
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<td>Main Effects</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsor</td>
<td>3.35</td>
<td>1</td>
<td>3.35</td>
<td>1.26</td>
<td>0.26</td>
</tr>
<tr>
<td>Major</td>
<td>0.43</td>
<td>2</td>
<td>0.21</td>
<td>0.08</td>
<td>0.92</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>25.92</td>
<td>2</td>
<td>12.96</td>
<td>4.86</td>
<td>0.00*</td>
</tr>
<tr>
<td>Total</td>
<td>381.30</td>
<td>137</td>
<td>2.78</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the .05 level.

Null Hypotheses #19-24

There will be no significant differences in the six themes of acculturative stress scores on: (1) Perceived Discrimination, (2) Homesickness, (3) Perceived Hate, (4) Perceived Fear, (5) Culture Shock, and (6) Guilt among two types of residential setting and across three levels of family income.

The two-way interaction ANOVA $F(2, 137) = 1.44$ on the Perceived Discrimination theme is not significant ($p = 0.24$) at the .05 alpha level. A post hoc analysis using the Scheffe method indicates no interactions among two
types of residential settings and across three levels of family income on the Perceived Discrimination stress theme. Since \( p = 0.24 \) is greater than the alpha level set at 0.05, the null hypothesis for interaction is not rejected. No conclusions can be drawn about the differences among two types of residential setting and across three levels of family income on Perceived Discrimination. No other differences are noted (Table 36, Appendix L).

The two-way interaction ANOVA \( F(2,137) = 0.74 \) on the Homesickness theme is not significant \( (p = 0.48) \) at the .05 alpha level. A post hoc analysis using the Scheffe method indicates no interactions among two types of residential setting and across three levels of family income on Homesickness stress theme. Since \( p = 0.48 \) is greater than the alpha level set at 0.05, the null hypothesis for interaction is not rejected. No conclusions can be drawn about the differences among two types of residential setting and across three levels of family income on the Homesickness stress theme. No other differences are noted (Table 37, Appendix L).

The two-way interaction ANOVA \( F(2, 137) = 1.53 \) on the Perceived Hate theme is not significant \( (p = 0.22) \) at the .05 alpha level. A post hoc analysis indicates no interactions among two types of residential setting and across three levels of family income on the Perceived Hate stress theme. Since \( p = 0.22 \) is greater than the alpha level set at 0.05, the null hypothesis for interaction is not rejected. No conclusions can be drawn about the differences
among two types of residential setting and across three levels of family income on the Perceived Hate stress theme. No other differences are noted (Table 38, Appendix M).

The two-way interaction ANOVA $F(2, 137) = 1.00$ on the Perceived Fear theme is not significant ($p = 0.37$) at the .05 alpha level. A post hoc analysis using the Scheffe method indicates no interactions among two types of residential setting and across three levels of family income on the Perceived Fear stress theme. Since $p = 0.37$ is greater than alpha .05, the null hypothesis for interaction is not rejected. No conclusions can be drawn about the differences among two types of residential setting and across three levels of family income on the Perceived Fear stress theme. No other differences are noted (Table 39, Appendix M).

As shown in Table 17, the two-way interaction ANOVA $F(2, 137) = 3.33$ on the Culture Shock theme is significant ($p = 0.04^*$) at the .05 alpha level. A post hoc analysis using the Scheffe method indicates an interaction between three types of residential setting and across three levels of family income on the Culture Shock stress theme. The analysis confirms that there is a difference between three types of residential setting and three levels of family income on the Culture Shock stress theme. However, the interaction is not strong enough to detect differences with the post hoc analysis using the
Scheffe method. Since $p = 0.04^*$ is less than the alpha level set at 0.05, the null hypothesis for interaction is rejected. No other differences are noted.

Table 17

A Two-way ANOVA Among Two Types of Residential Setting and Across Three Socio-Economic Levels on Culture Shock

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>5.34</td>
<td>2</td>
<td>2.67</td>
<td>0.41</td>
<td>0.67</td>
</tr>
<tr>
<td>Setting</td>
<td>5.87</td>
<td>1</td>
<td>5.87</td>
<td>0.89</td>
<td>0.34</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>43.57</td>
<td>2</td>
<td>21.78</td>
<td>3.33</td>
<td>0.04*</td>
</tr>
<tr>
<td>Total</td>
<td>917.37</td>
<td>137</td>
<td>6.69</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at alpha .05 level.

The two-way interaction ANOVA $F(2, 137) = 1.30$ on the Guilt theme is not significant ($p = 0.27$) at the .05 alpha level. A post hoc analysis indicates no interactions among two types of residential setting and across three levels of family income on the Guilt stress theme. Since $p = 0.27$ is greater than the alpha level set at 0.05, the null hypothesis for interaction is not rejected. No conclusions can be drawn about the differences among two types of residential setting and across three levels of family income on the Guilt stress theme. No other differences are noted (Table 40, Appendix N).
Additional Analyses on Six Themes of Acculturative Stress and Their Representative Items on Three Malaysian Ethnic Groups

Table 18 reports the analyses of the six acculturative stress themes among three ethnic groups according to their subtotal scores, means, and standard deviations on the ASSIS.

Table 18

A Summary of Six Themes of Acculturative Stress Among Three Ethnic Groups According to Their Subtotal Scores, Means, and Standard Deviations

<table>
<thead>
<tr>
<th>Themes</th>
<th>Malay</th>
<th>Chinese</th>
<th>Indian</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD</td>
<td>20.85</td>
<td>2.61*</td>
<td>19.78</td>
<td>2.47</td>
</tr>
<tr>
<td>PH</td>
<td>13.97</td>
<td>2.79*</td>
<td>12.17</td>
<td>2.43</td>
</tr>
<tr>
<td>HS</td>
<td>11.30</td>
<td>2.82*</td>
<td>10.78</td>
<td>2.69</td>
</tr>
<tr>
<td>PF</td>
<td>9.73</td>
<td>2.43*</td>
<td>8.29</td>
<td>2.07</td>
</tr>
<tr>
<td>CS</td>
<td>7.83</td>
<td>2.61*</td>
<td>6.70</td>
<td>2.23</td>
</tr>
<tr>
<td>GT</td>
<td>4.29</td>
<td>2.14</td>
<td>4.25</td>
<td>2.12</td>
</tr>
</tbody>
</table>

Note. * Indicates higher level of acculturative stress perceived by different ethnic groups. PD = Perceived Discrimination; PH = Perceived Hate; HS = Homesickness; PF = Perceived Fear; CS = Culture Shock; GT = Guilt. S/T = Subtotal.
In comparison to the Chinese and Indian groups, the Malay group mean score is higher on five themes of acculturative stress. The five themes are: (1) Perceived Discrimination ($M = 2.61$), (2) Perceived Hate ($M = 2.79$), (3) Homesickness ($M = 2.82$), (4) Perceived Fear ($M = 2.43$), and (5) Culture Shock ($M = 2.61$). The Indian group scores higher mean on Guilt ($M = 2.17$). The Chinese have lower mean scores on all major themes statistically.

Table 19 reports the means and standard deviations of the Perceived Discrimination theme of acculturative stress representative items on three Malaysian ethnic groups. The following eight representative items describe how each group experiences a variety of racial discrimination in educational and social settings. Of the three groups, Malays have higher means on 5 of 8 representative items of the Perceived Discrimination theme: (1) I am treated differently because of my race ($M = 2.58$), (2) I feel that I received unequal treatment ($M = 2.64$), (3) I am denied what I deserved ($M = 2.86$), (4) I am treated differently because of my color ($M = 2.47$), and (5) I feel that my people are discriminated against ($M = 2.73$). The Indian group indicates high scores on 3 of 8 representative items; (1) Others are biased toward me ($M = 2.72$), (2) I am treated differently in social situations ($M = 2.75$), and (3) Many opportunities are denied to me ($M = 2.53$). The Chinese group does not report high scores on any representative item.
Table 19
Perceived Discrimination Representative Items With Means and Standard Deviations of Three Ethnic Groups

<table>
<thead>
<tr>
<th>Perceived Discrimination</th>
<th>M, (n=59)</th>
<th>C, (n=47)</th>
<th>I, (n=32)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Many opportunities are denied to me.</td>
<td>2.47</td>
<td>1.06</td>
<td>2.34</td>
</tr>
<tr>
<td>I am treated differently in social situation.</td>
<td>2.63</td>
<td>1.06</td>
<td>2.45</td>
</tr>
<tr>
<td>Others are biased toward me.</td>
<td>2.51</td>
<td>0.99</td>
<td>2.68</td>
</tr>
<tr>
<td>I feel that I received unequal treatment.</td>
<td>2.64*</td>
<td>0.94</td>
<td>2.63</td>
</tr>
<tr>
<td>I am denied what I deserved.</td>
<td>2.86*</td>
<td>0.95</td>
<td>2.40</td>
</tr>
<tr>
<td>I feel that my people are discriminated against.</td>
<td>2.73*</td>
<td>1.01</td>
<td>2.66</td>
</tr>
<tr>
<td>I am treated differently because of my race.</td>
<td>2.58*</td>
<td>1.10</td>
<td>2.38</td>
</tr>
<tr>
<td>I am treated differently because of my color.</td>
<td>2.47*</td>
<td>1.01</td>
<td>2.23</td>
</tr>
</tbody>
</table>

Note. * Indicates higher level of acculturative stress perceived by three ethnic groups. M = Malay; C = Chinese; I = Indian.
Table 20 reports the means and standard deviations of the Perceived Hate theme of acculturative stress representative items by three Malaysian ethnic groups. The five representative items describe how each group perceived rejection in the verbal and non-verbal communication and behaviors of their American peers.

Table 20

Perceived Hate Theme of Acculturative Stress and Representative Items With Means and Standard Deviations of Three Ethnic Groups

<table>
<thead>
<tr>
<th>Perceived Hate</th>
<th>M, (n=59)</th>
<th>C, (n=47)</th>
<th>I, (n=32)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>People showed hatred toward me non-verbally.</td>
<td>2.85*</td>
<td>1.11</td>
<td>2.51</td>
</tr>
<tr>
<td>People show hatred toward me verbally.</td>
<td>2.37*</td>
<td>0.99</td>
<td>2.36</td>
</tr>
<tr>
<td>People show hatred to me through actions.</td>
<td>2.56*</td>
<td>1.04</td>
<td>2.40</td>
</tr>
<tr>
<td>Others are sarcastic toward my cultural values.</td>
<td>2.37</td>
<td>0.99</td>
<td>2.36</td>
</tr>
<tr>
<td>Others don’t appreciate my cultural values.</td>
<td>3.05*</td>
<td>1.30</td>
<td>2.53</td>
</tr>
</tbody>
</table>

Note. * Indicates higher level of acculturative stress perceived by the three ethnic groups. M = Malay; C = Chinese; I = Indian.
Of the three groups, the Malay group reports higher mean scores on 4 of 5 items; (1) People show hatred toward me non-verbally \((M = 2.58)\), (2) People show hatred toward me verbally \((M = 2.37)\), (3) People show hatred to me through actions \((M = 2.56)\), and (4) Others don’t appreciate my cultural values \((M = 3.05)\). The Indian group reports higher mean scores on one representative item; (1) Others are sarcastic toward my cultural values \((M = 2.37)\), whereas the Chinese group does not report high scores on all items.

Table 21 reports the means and standard deviations of the Homesickness theme of acculturative stress representative items by three Malaysian ethnic groups. The four representative items describe how each group deals with the loss of emotional and social support systems due to separation from significant others. Of the three groups, the Malay group has higher mean scores on 2 of 4 items: (1) I feel sad leaving my relatives behind \((M = 2.91)\), and (2) I miss the country and people of my origin \((M = 3.61)\). The Indian group has higher mean scores on 2 of 4 items; (1) Homesickness bothers me \((M = 2.91)\), and (2) I feel sad living in unfamiliar surroundings \((M = 2.53)\), whereas the Chinese group does not report higher scores on any of the items.

Table 22 reports the means and standard deviations of the Perceived Fear acculturative stress theme representative items computed on three Malaysian ethnic groups. The four items describe how each group deals with
feeling of insecurity living in unfamiliar surroundings, high rates of crime and violence, racial discrimination, and hostile relations in American society. Of the three groups, the Malays group has higher mean scores on all items: (1) I fear for my safety because of my cultural background \((M = 2.51)\), (2) I generally keep low profile due to fear \((M = 2.49)\), (3) I feel insecure here \((M = 2.27)\), and (4) I frequently relocate for fear of others \((M = 2.44)\).

Table 21

<table>
<thead>
<tr>
<th>Homesickness Theme of Acculturative Stress Representative Items With Means and Standard Deviations of Three Ethnic Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homesickness</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>I feel sad leaving my relatives behind.</td>
</tr>
<tr>
<td>M, (n=59)</td>
</tr>
<tr>
<td>M, SD</td>
</tr>
<tr>
<td>C, (n=47)</td>
</tr>
<tr>
<td>M, SD</td>
</tr>
<tr>
<td>I, (n=32)</td>
</tr>
<tr>
<td>M, SD</td>
</tr>
<tr>
<td>I feel sad leaving my relatives behind.</td>
</tr>
<tr>
<td>2.91* 1.33</td>
</tr>
<tr>
<td>2.68 1.19</td>
</tr>
<tr>
<td>2.75 1.13</td>
</tr>
<tr>
<td>Homesickness bothers me.</td>
</tr>
<tr>
<td>2.66 1.46</td>
</tr>
<tr>
<td>2.49 1.06</td>
</tr>
<tr>
<td>2.91* 1.33</td>
</tr>
<tr>
<td>I feel sad living in unfamiliar surroundings.</td>
</tr>
<tr>
<td>2.24 1.21</td>
</tr>
<tr>
<td>2.42 0.83</td>
</tr>
<tr>
<td>2.53* 1.41</td>
</tr>
<tr>
<td>I miss the people of my origin.</td>
</tr>
<tr>
<td>3.61* 1.31</td>
</tr>
<tr>
<td>3.11 1.07</td>
</tr>
<tr>
<td>3.16 1.27</td>
</tr>
</tbody>
</table>

Note. * Indicates higher level of acculturative stress perceived by the three ethnic groups. M = Malay; C = Chinese; I = Indian.
Table 22

Perceived Fear Theme of Acculturative Stress Representative Items With Means and Standard Deviations of Three Ethnic Groups

<table>
<thead>
<tr>
<th>Perceived Fear</th>
<th>M, (n=59)</th>
<th>C, (n=47)</th>
<th>I, (n=32)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M  SD</td>
<td>M  SD</td>
<td>M  SD</td>
</tr>
<tr>
<td>I fear for my safety because of my different cultural background.</td>
<td>2.51* 1.16</td>
<td>2.02 0.89</td>
<td>1.65 0.78</td>
</tr>
<tr>
<td>I generally keep a low profile due to fear.</td>
<td>2.49* 1.18</td>
<td>2.17 0.96</td>
<td>2.09 0.93</td>
</tr>
<tr>
<td>I feel insecure here.</td>
<td>2.27* 0.98</td>
<td>2.00 0.81</td>
<td>1.94 1.10</td>
</tr>
<tr>
<td>I frequently relocate for fear of others.</td>
<td>2.44* 1.04</td>
<td>2.08 0.80</td>
<td>1.59 0.75</td>
</tr>
</tbody>
</table>

Note. * Indicates higher level of acculturative stress perceived by the three ethnic groups. M = Malay; C = Chinese; I = Indian.

Table 23 reports the means and standard deviations of the Culture Shock theme of acculturative stress representative items by three Malaysian ethnic groups. The three items describe how each group deals with stress after migrating to America where they experience differences in climate, food, social values, modes of behavior, and verbal and non-verbal communication. Of the three groups, the Malay group has higher mean scores on all items.
(1) Multiple pressures are placed on me after migration ($M = 2.68$), (2) I feel uncomfortable to adjust to new cultural values ($M = 2.51$), and (3) I feel uncomfortable to adjust to new food ($M = 2.66$).

**Table 23**

<table>
<thead>
<tr>
<th>Culture Shock</th>
<th>M, (n=59)</th>
<th>C, (n=47)</th>
<th>I, (n=32)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>I feel comfortable to adjust to new food.</td>
<td>2.66*</td>
<td>1.24</td>
<td>2.04</td>
</tr>
<tr>
<td>Multiple pressures are placed on me after migration.</td>
<td>2.68*</td>
<td>1.06</td>
<td>2.34</td>
</tr>
<tr>
<td>I feel uncomfortable to adjust to new cultural values.</td>
<td>2.51*</td>
<td>1.25</td>
<td>2.28</td>
</tr>
</tbody>
</table>

Note. * Indicates higher level of acculturative stress perceived by different ethnic groups. M = Malay; C = Chinese; I = Indian.

Table 24 reports the means and standard deviations of the Guilt theme representative of acculturative stress items. The two items describe how each group deals with feeling of betrayal to their native culture when adopting values and lifestyles of the host culture. Of the three groups, the Malay group has higher mean score on item: I feel guilty to leave my family and...
friends behind ($M = 2.20$), while the Indian group developed higher mean score on item: I feel guilty that I am living a different lifestyle here ($M = 2.43$). The Chinese group does not report high scores on both items.

Table 24

Guilt Theme of Acculturative Stress Representative Items With Means and Standard Deviations of Three Ethnic Groups

<table>
<thead>
<tr>
<th>Guilt</th>
<th>M, (n=59)</th>
<th>C, (n=47)</th>
<th>I, (n=32)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel guilty to leave my family and friends behind.</td>
<td>2.20*</td>
<td>2.13</td>
<td>2.06</td>
</tr>
<tr>
<td></td>
<td>1.20</td>
<td>0.82</td>
<td>1.21</td>
</tr>
<tr>
<td>I feel guilty that I am living a different lifestyle here.</td>
<td>2.02</td>
<td>2.28</td>
<td>2.44*</td>
</tr>
<tr>
<td></td>
<td>0.99</td>
<td>1.04</td>
<td>1.10</td>
</tr>
</tbody>
</table>

Note. * Indicates higher level of acculturative stress perceived by the three ethnic groups. M = Malay; C = Chinese; I = Indian.

The two items describe how each group deals with feelings of betrayal to their native culture when adopting values and lifestyles of the host culture.

Of the three groups, the Malay group has higher mean score on item: I feel guilty to leave my family and friends behind ($M = 2.20$), while the Indian group developed higher mean score on item: I feel guilty that I am living a different lifestyle here ($M = 2.43$). The Chinese group does not report high scores on both items.
CHAPTER V

SUMMARY, CONCLUSIONS, DISCUSSION, AND
RECOMMENDATIONS

This chapter is divided into four related subtopics. It will begin with an overview of the study. Following this summary are conclusions of the research findings. A discussion of the research findings based on the analyses of data is then presented. Finally, recommendations for further research are made.

Summary

The primary goal of this study was to identify and examine the differences between the six acculturative stress themes among three Malaysian ethnic groups enrolled at Western Michigan University during the Fall, 1997 semester. Secondarily, the study attempted to identify whether the following demographic variables: (a) gender, (b) academic major, (c) financial sponsorships, (d) family socio-economic status, (e) type of residential setting, and (f) TOEFL scores had an effect on Malaysian students in relation to the six acculturative stress themes.
A total of 147 Malaysian students agreed to participate in the study and completed the Acculturative Stress Scale for International Students (ASSIS). Five surveys that were completed incorrectly were eliminated from the data analysis. Since this study focused on the concerns of three Malaysian ethnic groups, four students were eliminated from the analysis based on their racial background. As a result, responses from 138 completed surveys were used to identify the acculturative stress themes among Malay (n = 59), Chinese (n = 47), and Indian (n = 32) students. Participants’ age ranged from 18 to 37 years with a mean age of 25 years (SD = 6.78), and consisted of 35.5% (n = 49) female and 64.5% (n = 89) male.

The ASSIS, developed by Sandhu and Asrabadi (1994), is a 36-item, paper-and-pencil test designed to measure international students concerns on a variety of psychological issues related to their stay in a university environment outside of their home country. These items include concerns that students have about: (a) “being discriminated” - feeling being treated differently in social situations, (b) “homesickness” - feeling sad about leaving relatives behind, (c) “being hated” - feeling people showing hatred toward them verbally and non-verbally, (d) “fear” - feeling insecure and fear of personal safety, (e) “culture shock” - feeling uncomfortable in adjusting to new cultural values, and (f) “guilty” - feeling guilty leaving family and friends behind, and adopting a different lifestyle.
Responses to the demographic profile questionnaire and ASSIS were coded and processed using the SPSS 6.1 for Windows 95. Frequencies and percentages were reported on demographic characteristics. Mean scores and standard deviations were computed on the six acculturative stress themes and their representative items reported by the three Malaysian ethnic groups. Two-way analyses of variance were used to determine interactions among ethnic groups and demographic variables in relation to the six themes of acculturative stress. Post hoc analyses using the Scheffe method were tested to identify mean differences among the eight groups of independent variables in the study. An alpha level of .05 was established for all comparisons.

Conclusions

Even though previous studies have found evidence those international Asian students experienced personal and emotional issues in U.S. colleges and universities, limited data exist on the Malaysian student population. The Malaysian students represent a large group of international student population at Western Michigan University and in several major universities across the country. The impact of their adjustment issues is equally important for the understanding of the psycho-educational and psychosocial development of international students in U.S. colleges and
First, the study indicated there were differences in the six themes of acculturative stress (Perceived Discrimination, Homesickness, Perceived Hate, Perceived Fear, Culture Shock, Guilt) among the three Malaysian ethnic groups. Two-way analyses of variance confirmed that Malay students experienced higher levels of stress and difficult adjustment on the majority of the six acculturative stress themes on the ASSIS than did the Chinese and Indian groups at Western Michigan University. The Malay students mean scores were higher on five themes of acculturative stress: (1) Perceived Discrimination, (2) Perceived Hate, (3) Homesickness, (4) Perceived Fear, and (5) Culture Shock (Table 18).

Second, the study found differences in the six themes of acculturative stress across three age levels. The analyses confirmed that there were mean differences between younger students (below 20 years of age) and older students (above 26 years of age) on all acculturative stress themes.

Third, the study indicated differences between students' types of sponsorships and the three types of majors on Perceived Discrimination, Homesickness, Perceived Hate, Perceived Fear, Culture Shock, and Guilt acculturative stress themes. The analyses confirmed there were interactions between government-sponsored and private-sponsored students and among
three types of majors on Perceived Discrimination, Homesickness, Perceived Fear, and Guilt acculturative stress themes.

Fourth, the study indicated an interaction between two types of residential settings (rural versus city) and across three socio-economic levels on the Culture Shock theme.

Finally, the study found the Homesickness stress theme constituted the highest means ($M = 2.77$) of acculturative stress among the three Malaysian ethnic groups. It can be concluded that feeling homesick was the main concern to Malay, Chinese, and Indian groups at Western Michigan University. This was followed by Perceived Discrimination ($M = 2.52$), Perceived Hate ($M = 2.51$), Culture Shock ($M = 2.37$), Guilt ($M = 2.17$) and Perceived Fear ($M = 2.15$).

Discussion

The results of this study revealed many similarities with the findings of other studies conducted on Malaysian and international Asian students in relation to their adjustment problems and acculturative stress in U.S. colleges and universities. For instance, Suradi (1984) reported common findings when conducting a study of adjustment problems on Malay students' adjustment problems at a mid-western university. Problems experienced by Malay students include, homesickness, the need to develop new peer
relationships, and adjusting to the new culture. Michailidis (1996) added problems experienced by international students include language difficulties, culture shock, and discrimination.

Several important factors may have contributed to the conclusion of the first finding. One of the factors may be due to the history of the colonization period in Malaysia and its impact on the Malay ethnicity and culture. The Malay people, the indigenous group of the country, have been colonized by many "foreign powers", such as the Siams (Thailand), the Portugese, the Dutch, the Japanese, and the British since the beginning of the 14th century. During each of the colonization period, the Malay people were bound to adapt to the colonial's way of life and thinking. For example, during the Siams' colonization period, the Malay government was compelled to pay taxes to the Thailand government and regarded them as being more superior. In return, the Malay people and the government will be protected from the enemies. Then, the Malay people were forced to be loyal to the British Queen and her representatives when the British came to rule the country. The Malays were being perceived as an inferior culture and therefore, needed to be protected. However, they were not given the opportunity and the facility to better educate themselves. Instead, they were stereotyped as "lazy" and "stupid."
The effect of colonization and the lack of education might have influenced the Malays emotionally, mentally, and psychologically. The Malays might still perceive other cultures as more superior than theirs. Often times, they might feel they receive unequal treatment, or being denied of what they deserved.

The following factors may contribute to why younger Malaysian students who are living away from home for the first time may find themselves having difficult problem adjusting to college life. First, they are lacking in parental guidance and support. In the home country, family is considered part of their lives. Second, dealing with the newly found freedom may add to the educational pressure that they are currently experiencing. In the initial stage, these students would go through the development of culture shock with the insulation of their own culture. They might be aware of the apparent cultural differences that begin to intrude their sense of identity and well being that resulted to feeling uncomfortable adjusting to the host culture. Finally, younger students experience the sense of ambiguity and loss of personal status when they have to transfer their present role into a new cultural environment and function within that role in the new culture. Often times, students are confused when dealing with cultural issues that are totally diverse from their own.
Pedersen (1991) described that the culture shock experienced by international students could be associated to the "role shock" and "education shock." Both role shock and education shock is likely to be particularly pronounced among older Malaysian students at Western Michigan University. Some of them might have taken leaves from jobs in their home countries to continue their studies in U.S. colleges and universities, hence, they may require more time in adjusting to the academic life in the United States. It may take a while for some of them to adjust to the "student" role.

Othman (1979) reported that Malay students expressed greater concern with social-personal relationships than their American peers. The majority of students reported that the inability to communicate effectively in English had resulted to feeling inferior of their American peers. Most American students reported having some difficulty in understanding Malay students during conversations. In contrast, Malaysian students felt their inability to communicate effectively in English had caused them to being treated differently in social situations.

The result of this study seems to be consistent with other research studies on Malaysian students' adjustment problems in other U.S. colleges and universities (Che D in, 1984; Jaafar, 1982). These studies revealed that Malay students encountered more difficulties than did the American students in adjusting to the college life. Malay students despite their age levels, often
feel alienated and experience a low self-esteem when interacting with American students whose communication style vary from their own. They are likely to talk more softly, maintain consistent politeness and respectfulness, than the typical Americans who are more likely to speak louder and with “longer” sentences.

By the standards that prevail in many other countries, the “openness” that Americans often display is viewed as rudeness or lack of sensitivity. As a result, Malay students might feel being “discriminately” treated when Americans seemed to speak “explicitly” and insist on direct statements or questions during conversation. These cultural differences seemed to directly impact the Malay students’ perceptions of themselves in social settings.

Culture shock is the popular label for the negative aspect of cultural adjustment. It is commonly viewed as a normal process of adaptation to cultural stress that generally involves such symptoms as depression, helplessness, irritability, and a longing for a more predictable and gratifying environment. Culture shock experienced by Malaysian students could be precipitated by the anxiety that result from losing one’s cultural values to the values of the host culture. Disorientation caused by misunderstanding or not understanding the cues of the host culture might develop a psychological disorientation. Malaysian students who were from small towns and with low socio-economic levels, might have limited knowledge and experience about
the American culture than did their friends who were from the city and with higher socio-economic status, prior to coming to the United States.

Since the Homesickness theme has the highest group mean score among the six acculturative stress themes, it can be concluded that feeling of homesickness is of the highest level of concern across all three Malaysian ethnic groups. These students might have had personal experiences with a variety of homesickness feelings. For example, Malay and Indian students who scored highest means on questions, "I feel sad leaving my relatives behind," and "I feel sad living in unfamiliar surroundings," respectively might define these situations as the loss of emotional and social support systems, due to separation from significant others while living in the host culture.

Malaysian students who experience difficulties in building friendships with American peers might interpret the social distance as an act of unfriendliness. Language and cultural differences could create further social barriers between international Asian students and their American counterparts. Schram and Lauver (1988) mentioned that American students tend to be complacent with their situation and do not feel the need to go out of their way to socialize with international Asian students. Their friendships with the international Asian students are often perceived as "superficial." Burbach (1972) noted that the end result of this "superficial" friendship might
lead to several elements of homesickness and alienation. International students would experience feelings of powerlessness, meaningless, and social estrangements in U.S. colleges and universities. These findings are consistent with previous studies on international students' acculturative stress in U.S. colleges and universities.

Despite the fact that the total number of international Asian students is increasing in this country, there have been limited studies conducted with respect to providing information to facilitate their adaptation (Martin & Midgley, 1994; Mehta, 1993; Michailidis, 1996; Ozaki, 1988). International Asian students are often faced with prejudices and stereotyping even though they represent different ethnic-racial backgrounds, and typically experience different types of psychological concerns, worries, and needs. The majority of American students generalize international Asian students as coming from similar cultural backgrounds, and therefore should present similar psychological problems in U.S. colleges and universities (Crano and Crano, 1993; Pedersen, 1991; Sandhu & Asrabadi, 1989; Selvadurai, 1991; Sheehan & Pearson, 1995; Surdam & Collins, 1984).

Consequently, there has been limited empirically based knowledge about the unique psychological needs and concerns of Malaysian students in U.S. colleges and universities. A comprehensive review of the literature since 1970 found only five studies that were directly focused on Malaysian
students' adjustment problems in U.S. colleges and universities (Che Din, 1984; Othman, 1980; Salleh, 1984; Suradi, 1984; Taib, 1978).

Suradi (1984) in his study on Malaysian students' adjustment problems at Western Michigan University noted that the lack of empirically based knowledge about Malaysian students' psychological well being and cultural backgrounds, have often led to generalizations and prejudices. He suggested that additional research on Malaysian students would help answer some questions pertaining to their adjustment problems on U.S. campuses.

Recommendations

The most typical problem confronting Malaysian students has to do with adjusting to the culture they select for their education. The stress of this adjustment affects these students in a variety of ways and to varying degrees. Therefore, it would be important for sponsors, policy makers, educational leaders, professors, counselors, researchers, and parents to look into this problem seriously. Signs of stress reported by Malaysian students' efforts to function effectively at Western Michigan University and the host culture could provide important information to the learning experience of other international Asian students in U.S. colleges and universities. The following recommendations are proposed.
To the Sponsoring Agencies in Malaysia

1. The results of this study revealed that Malay students experience higher levels of acculturative stress on Perceive Discrimination, Perceived Fear, Perceived Hate, Homesickness, and Culture Shock stress themes than Chinese and Indian groups. Feelings of being discriminated against, hated, feared, or homesick in the host country must be viewed in the larger context of cultural adjustment, which is a psychological process. Therefore, orientation programs for prospective students to the United States should focus on the psychological process and the attitudinal and emotional adjustment of the individual to the new cultural environment. The social process should focus on how individuals integrate themselves into the social interaction of the new culture in three phases: (1) initial adjustment, (2) handling crisis, and (3) regaining adjustment. These students should be equipped with the knowledge and skills necessary to carry out their daily activities after entering the host culture.

To the Malaysian Student Department

The Malaysian Student Department was established by the Malaysian government to cater to the welfare needs of Malaysian students in U.S. colleges and universities. Currently, there are three Malaysian Student Departments in the United States. These departments are located in Los
Angeles, Chicago, and Washington D.C. The following services could be introduced:

1. The responsibilities of the Malaysian Student Departments' officers could be expanded to serve all Malaysian students. These services could include private-sponsored students as well as the government-sponsored students. Both private-sponsored and government-sponsored students experience similar acculturative stress issues in U.S. colleges and universities.

2. The Malaysian Student Departments' officers could be trained in counseling and student personnel services. They might be able to assist students with their educational, vocational, and personal problems more effectively. Through professional counselor training these officers could better recognize the severity of acculturative issues that might be experiencing by both government-sponsored and private-sponsored students upon arriving to the host country. This might provide them provide strategic interventions in dealing with adjustment issues among Malaysian students.

To Western Michigan University

There has been a steady increase of Malaysian student enrollment at WMU for the past decade ever since the establishment of a "twinning
program" between WMU and Sunway College - a private college in Kuala Lumpur, Malaysia. Results from this study reveal that the majority of Malaysian students are struggling with issues related to acculturative stress on the WMU campus. The following steps could be undertaken by university administration to look further into this matter:

1. University administrators could address some of these issues by encouraging and supporting interaction between international and American student groups on campus. A focus group might provide the support system for international students to share and discuss issues related to their psychological adjustments at Western Michigan University. A study conducted by Talbot, Robyn, and Ninggal (1997) revealed international Asian students are looking for social support groups to deal with their acculturative stress issues on campus. These students suggested that this could be done during orientation programs and throughout the semester.

2. Faculty and staff could play a role in encouraging interaction among international and American students through various goal-oriented activities, such as during orientation programs, classroom activities, social functions, and sporting events. These employees could be trained and qualified to work with different ethnic groups, and to project an understanding and awareness of diversity. An orientation program for the newly arrived students might include information dealing with academic and
social adjustment issues. The orientation and group leaders might represent a variety of ethnic groups as well as American peers.

In addition, more programs for married students' spouses and children could also be developed, since their families and friends are far away. They may face unusual difficulties in being acculturated into the local community.

3. The current study has practical implications for the university counseling center. Foreign students face unique problems and issues of adjustment. Unlike their American peers, international students face major adjustments related to the host culture. Initial adjustment to the host culture includes language problems, loneliness, culture shock, and shock to one's self-esteem. Consistent with previous studies, international students are commonly faced with problems related to "culture shock" and "psychological adjustment" in U.S. colleges and universities.

Faced with recently arrived and unhappy students, counselors could help make clear to the students that nearly all international students confront feelings of unhappiness and frustration that will probably pass with time. Counselors need to be cognizant of and employ special intervention techniques that are oriented to the specific cultural values of their clients. For example, modifications are possible with respect to a number of aspects of communication styles. Malaysian students typically talk more softly than
Americans do, and therefore, counselors could adjust their vocal volume accordingly. In line with the creative and proactive approach, it is important that counseling services for international students be offered on a continuous basis.

To Future Researchers

The cross-cultural studies of acculturative stress among international students in U.S. colleges and universities could provide important information about the different ways in which psychological stresses are manifested across cultures. Perhaps of even greater importance and relevance to those directly involve with international students is the information about the variations in cultural norms. Since this literature is valuable and offers important insights about international students' psychological well being, the special issues and problems faced by a particular ethnic group could present major information to the body of research. Recommendations for future research include:

1. Replicate this study with other international student groups at Western Michigan University or in other U.S. colleges and universities. Replication can make a valuable contribution by producing new and surprising evidence or findings that may be conflicting with previous research. This study can help confirm the validity of the new evidence. Findings on
one racial or ethnic group may or may not be valid for other groups. Replications provide a valuable tool for determining the degree to which research findings can be generalized across population. It could also be used to check the trend or change over time. For example, research findings on international students' adjustment problems that were valid 20 years ago may be invalid today.

2. To conduct further investigation on other Malaysian students in other U.S. colleges and universities. Since this study is limited to Malaysian students at Western Michigan University, the validity of the research might be limited to those students. Therefore, further investigation could be conducted with other Malaysian student populations in other U.S. colleges and universities.

3. To involve more graduate students in the study. Potential differences between undergraduate and graduate students may provide an interesting finding on how Malaysian students go through their educational and social experiences in U.S. colleges and universities.
Appendix A

Approval Letter From the Human Subjects
Institutional Review Board

116
Date: 22 October 1997

To: John Geisler, Principal Investigator  
Mohd. Tajudin Ninggal, Student Investigator

From: Richard Wright, Chair

Re: HSIRB Project Number 97-10-10

This letter will serve as confirmation that your research project entitled “The Role of Ethnicity Among International Students in Adjustment to Acculturative Stress” has been approved under the exempt category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you may only conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: 22 October 1998
Appendix B

A Letter to Dr. D. S. Sandhu Seeking Permission to Use the Acculturative Stress Scale for International Students (ASSIS)
September 4, 1997

Dr. Daya S. Sandhu, Professor
Dept. of Educational and Counseling Psychology
320, Education Building
University of Louisville, KY 40292

Dear Dr. Sandhu,

Seeking Permission to Use the Acculturative Stress Scale for International Students (ASSIS).

Thank you so very much for returning my phone call. Your prompt response is very much appreciated. As per our phone conversation earlier today, I am seeking permission to use your ASSIS instrument in my research study entitled, "The Role of Ethnicity Among International Students in Adjustment to Acculturative Stress."

I am a doctoral student from Malaysia, and am currently working on my doctoral degree in the Department of Counselor Education and Counseling Psychology at Western Michigan University, Kalamazoo, Michigan.

I strongly agree with your idea that studies on international students' psychological well being need careful attention. It is conscientiously important that researchers use an appropriate instrument that would be able to provide a composite measure in reflecting international students psychological needs and concerns in U.S. colleges and universities.

I admire your effort and look forward to hearing from you at your earliest convenience.

Thank you.

Sincerely,

(Mohd Tajadin Hj Ningsal)
Appendix C

A Reply Letter From Dr. D. S. Sandhu Granting the Permission to Use the ASSIS
September 16, 1997

Mr. Tajudin Ninggal (Dean)
1940 Howard Street
Apt. 469
Kalamazoo, MI 49008

Dear Mr. Ninggal:

We are pleased to learn of your interest in our research about international students. As requested, I am mailing you a copy of our “Development of an acculturative stress scale for international students: Preliminary findings.” If you need written permission to use this scale, please consider this letter as conferring such consent. However, permission to use the scale in no way invalidates the copyright.

If you decide to use this scale for your research, please also get the necessary permission from the publisher by writing to,

Dr. Carol H. Ammons, Editor
Psychological Reports
Box 9229
Missoula, Montana 59807

Upon completion of your research, we will appreciate it if you send a copy of your research results and give us appropriate credit according to the APA Manual (4th ed.).

We thank you for your interest in our work and always look forward to hearing from you.

With our best wishes.

Sincerely,

Daya Singh Sandhu Ed.D., NCC, NCCC, NSCS
Chair and Associate Professor
E-mail DSSAND01@Univ_vm.louisville.edu
(502) 852-6646 Fax (502) 852-0629
Enclosures: 1. Personal data sheet
2. Directions to answer original and final items
3. Original 125 items and final 36 items of the Acculturative Stress Scale for International Students
Appendix D

A Letter of Invitation to Participants
October 22, 1997.

Dear Fellow Malaysians:

I am a Malaysian student currently pursuing on my doctoral degree in Counselor Education and Supervision, in the Department of Counselor Education and Counseling Psychology. I am conducting a study on the adjustment problems of Malaysian students at Western Michigan University. The primary purpose of this study is to identify and examine the relationship between acculturative stress and ethnicity of three Malaysian groups: (1) Malays, (2) Chinese, and (3) Indians who are currently enrolled at this university. Secondarily, the study will examine the relationship among six major recurring themes of acculturative stress with demographic attributes such as gender, academic majors, financial sponsorships, socio-economic status, residential settings, and the Test of English as a Foreign Language (TOEFL).

Enclosed is a set of questionnaires which has been specially designed to help international students identify their acculturative stress or concerns while studying in U.S. colleges and universities. Your specific responses will contribute greatly to the understanding of the current problems which Malaysian students may be experiencing while studying at Western Michigan University. However, you may refuse to participate or quit at any time without affecting your standing at WMU.

The information you provide here will be strictly confidential and to be used for this research only. I shall be grateful if you would fill up the enclosed questionnaire and return it in the enclosed stamped envelope by October 30, 1997. After this study is completed, a copy of my dissertation will be available at the Education Library, Sangren Hall.

Thank you so much for your cooperation and time in this study. Below are contact numbers if you have any questions/concerns regarding the study: Dr. John Geisler (387-5100), HSIRB (387-8293), the Vice President for Research (387-8298), or myself at 387-7539.

Sincerely,

John S. Geisler, Ed.D., L.P.C., N.C.C.,
Professor and Principal Investigator,
Department of Counselor Education &
Counseling Psychology, WMU.

Mohd. Tajudin Ninggiar (Dean)
Doctoral Student, CECP Dept.,
WMU.
Appendix E

Demographic Profile Sheet
Dear Participant,

The purpose of this survey is to identify and examine the relationship between acculturative stress and ethnicity among three Malaysian ethnic groups who are currently enrolled at Western Michigan University. In order for this research to be meaningful, it is necessary that you respond to a few personal descriptors. Please place an (X) next to the appropriate category listed below or write in the information requested.

1. Gender:
   Male ______ or Female ________

2. Age:
   Years _______ Months ________

3. Graduate ____________ or Undergraduate Student ____________

4. Ethnic group: (choose one)
   Malay __________________
   Chinese _______________
   Indian ________________
   Others ________________ (please specify)

5. Major area of studies: (choose one)
   Business Management or Economics ______________
   Computer Science or Engineering ______________
   Education or Social Sciences ________________
   Others ________________________________________ (please specify)

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6. Please check the source/s of your financial support while studying in the United States: (choose one)

- Family
- Government/Semi Government (please specify) (eg., JPA, MARA, PETRONAS, UPM, UIA, UTM)
- Others (please specify) (eg., bank loan, grant)

7. Family's total income per month: (choose one)

- Total income less than RM1,500
- Total income between RM1,500 – RM2,500
- Total income more than RM2,500

8. Types of residential settings in Malaysia: (choose one)

- Village/Small Town
- City/Urban

9. TOEFL scores prior coming to WMU:

- Below 550 points
- Above 550 points

Thank you for your cooperation.
Appendix F

Distributions of Respondents' Ethnicity and Age
Table 25
Distributions of Respondents' Ethnicity

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malay</td>
<td>59</td>
<td>42.8</td>
</tr>
<tr>
<td>Chinese</td>
<td>47</td>
<td>34.1</td>
</tr>
<tr>
<td>Indian</td>
<td>32</td>
<td>23.2</td>
</tr>
<tr>
<td>Total</td>
<td>138</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 26
Distributions of Respondents' Age

<table>
<thead>
<tr>
<th>Age Level</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>below 21 years old</td>
<td>34</td>
<td>24.6</td>
</tr>
<tr>
<td>21 – 25 years old</td>
<td>91</td>
<td>65.9</td>
</tr>
<tr>
<td>over 25 years old</td>
<td>13</td>
<td>9.4</td>
</tr>
<tr>
<td>Total</td>
<td>138</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Appendix G

Distributions of Respondents' Gender and Fields of Study
Table 27

Distributions of Respondents' Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>89</td>
<td>64.5</td>
</tr>
<tr>
<td>Female</td>
<td>49</td>
<td>35.5</td>
</tr>
<tr>
<td>Total</td>
<td>138</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 28

Distributions of Respondents' Fields of Study

<table>
<thead>
<tr>
<th>Major Fields of Study</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business &amp; Economics</td>
<td>63</td>
<td>45.7</td>
</tr>
<tr>
<td>Engineering &amp; Computer Science</td>
<td>41</td>
<td>29.7</td>
</tr>
<tr>
<td>Education &amp; Social Sciences</td>
<td>34</td>
<td>24.6</td>
</tr>
<tr>
<td>Total</td>
<td>138</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Appendix H

Distributions of Respondents' Academic Classifications and Sponsorships
Table 29

Distributions of Respondents' Academic Classifications

<table>
<thead>
<tr>
<th>Classification</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate</td>
<td>120</td>
<td>87.0</td>
</tr>
<tr>
<td>Graduate</td>
<td>18</td>
<td>13.0</td>
</tr>
<tr>
<td>Total</td>
<td>138</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 30

Distributions of Respondents' Financial Sponsorships

<table>
<thead>
<tr>
<th>Sponsorships</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private</td>
<td>95</td>
<td>68.8</td>
</tr>
<tr>
<td>Government/Semi Government Agencies</td>
<td>43</td>
<td>31.2</td>
</tr>
<tr>
<td>Total</td>
<td>138</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Appendix I

Distributions of Respondents' Types of Residential Settings and TOEFL Scores
Table 31
Distributions of Respondents’ Types of Residential Settings

<table>
<thead>
<tr>
<th>Types of Settings</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Village/Small Town</td>
<td>49</td>
<td>35.5</td>
</tr>
<tr>
<td>City/Urban</td>
<td>89</td>
<td>64.5</td>
</tr>
<tr>
<td>Total</td>
<td>138</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 32
Distributions of Respondents’ TOEFL Scores

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (&lt; than 500 points)</td>
<td>48</td>
<td>34.8</td>
</tr>
<tr>
<td>High (&gt; than 500 points)</td>
<td>98</td>
<td>65.2</td>
</tr>
<tr>
<td>Total</td>
<td>138</td>
<td>100.0</td>
</tr>
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</table>
Appendix J

Distributions of Respondents' Families
Income Levels
Table 33

Distributions of Respondents' Families
Monthly Income Levels

<table>
<thead>
<tr>
<th>Income Level</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than RM1,500</td>
<td>34</td>
<td>24.6</td>
</tr>
<tr>
<td>RM1,500 to RM2,500</td>
<td>46</td>
<td>33.3</td>
</tr>
<tr>
<td>More than RM2,500</td>
<td>58</td>
<td>42.0</td>
</tr>
<tr>
<td>Total</td>
<td>138</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Note. RM3.6 = 1.00 US
Appendix K

Two-way ANOVA Between Three Ethnic Groups and Across Two Levels of TOEFL Scores on Perceived Discrimination and Guilt
### Table 34

**A Two-way ANOVA Between Three Ethnic Groups and Across Two Levels of TOEFL Scores on Perceived Discrimination**

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td>20.32</td>
<td>2</td>
<td>10.16</td>
<td>0.33</td>
<td>0.72</td>
</tr>
<tr>
<td>TOEFL</td>
<td>47.72</td>
<td>1</td>
<td>47.72</td>
<td>1.53</td>
<td>0.22</td>
</tr>
<tr>
<td><strong>2-way Interactions</strong></td>
<td>21.54</td>
<td>2</td>
<td>10.77</td>
<td>0.35</td>
<td>0.71</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>4197.83</td>
<td>137</td>
<td>30.64</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the .05 level.*

### Table 35

**A Two-way ANOVA Between Three Ethnic Groups and Across Two Levels of TOEFL Scores on Guilt**

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td>0.49</td>
<td>2</td>
<td>0.25</td>
<td>0.09</td>
<td>0.92</td>
</tr>
<tr>
<td>TOEFL</td>
<td>2.08</td>
<td>1</td>
<td>2.08</td>
<td>0.74</td>
<td>0.39</td>
</tr>
<tr>
<td><strong>2-way Interactions</strong></td>
<td>5.44</td>
<td>2</td>
<td>2.72</td>
<td>0.96</td>
<td>0.38</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>381.30</td>
<td>137</td>
<td>2.78</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the .05 level.*
Appendix L

Two-way ANOVA Between Types of Residential Settings and Across Three Levels of Socio-Economics on Perceived Discrimination and Homesickness
Table 36
A Two-way ANOVA Between Two Types of Residential Settings and Across Three Levels of Socio-Economics on Perceived Discrimination

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>0.78</td>
<td>2</td>
<td>0.78</td>
<td>0.13</td>
<td>0.99</td>
</tr>
<tr>
<td>Setting</td>
<td>4.12</td>
<td>1</td>
<td>4.12</td>
<td>0.13</td>
<td>0.72</td>
</tr>
<tr>
<td><strong>2-way Interactions</strong></td>
<td>89.78</td>
<td>2</td>
<td>44.89</td>
<td>1.44</td>
<td>0.24</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>4197.83</td>
<td>137</td>
<td>30.64</td>
<td></td>
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</tr>
</tbody>
</table>

*Significant at .05 alpha level.

Table 37
A Two-way ANOVA Between Two Types of Residential Settings and Across Three Levels of Socio-Economics on Homesickness

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Setting</td>
<td>18.72</td>
<td>1</td>
<td>18.72</td>
<td>1.45</td>
<td>0.23</td>
</tr>
<tr>
<td>Income</td>
<td>61.33</td>
<td>2</td>
<td>30.67</td>
<td>2.39</td>
<td>0.09</td>
</tr>
<tr>
<td><strong>2-way Interactions</strong></td>
<td>19.06</td>
<td>2</td>
<td>9.53</td>
<td>0.74</td>
<td>0.48</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1799.77</td>
<td>137</td>
<td>13.14</td>
<td></td>
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</tr>
</tbody>
</table>

*Significant at .05 alpha level.
Appendix M

Two-way ANOVA Between Types of Residential Settings and Across Three Levels of Socio-Economics on Perceived Hate and Perceived Fear
Table 38
A Two-way ANOVA Between Two Types of Residential Settings and Across Three Levels of Socio-Economics on Perceived Hate

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>1.71</td>
<td>2</td>
<td>0.85</td>
<td>0.44</td>
<td>0.96</td>
</tr>
<tr>
<td>Setting</td>
<td>26.52</td>
<td>1</td>
<td>26.52</td>
<td>1.37</td>
<td>0.24</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>59.32</td>
<td>2</td>
<td>29.66</td>
<td>1.53</td>
<td>0.22</td>
</tr>
<tr>
<td>Total</td>
<td>2646.24</td>
<td>137</td>
<td>19.32</td>
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<td></td>
</tr>
</tbody>
</table>

*Significant at .05 alpha level.

Table 39
A Two-way ANOVA Between Two Types of Residential Settings and Across Three Levels of Socio-Economics on Perceived Fear

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>1.59</td>
<td>2</td>
<td>0.79</td>
<td>0.88</td>
<td>0.92</td>
</tr>
<tr>
<td>Setting</td>
<td>16.68</td>
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<td>16.68</td>
<td>1.85</td>
<td>0.18</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>18.08</td>
<td>2</td>
<td>9.04</td>
<td>1.00</td>
<td>0.37</td>
</tr>
<tr>
<td>Total</td>
<td>1228.64</td>
<td>137</td>
<td>8.97</td>
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</tr>
</tbody>
</table>

*Significant at .05 alpha level.
Appendix N

A Two-way ANOVA Between Types of Residential Settings and Across Three Levels of Socio-Economics on Guilt
Table 40

A Two-way ANOVA Between Two Types of Residential Settings and Across Three Levels of Socio-Economics on Guilt

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
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<td>5.84</td>
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<td>0.12</td>
</tr>
<tr>
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<td>1.79</td>
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<tr>
<td>2-way Interactions</td>
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<td>3.56</td>
<td>1.30</td>
<td>0.27</td>
</tr>
<tr>
<td>Total</td>
<td>381.30</td>
<td>137</td>
<td>2.78</td>
<td></td>
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</tbody>
</table>

*Significant at the .05 level.
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