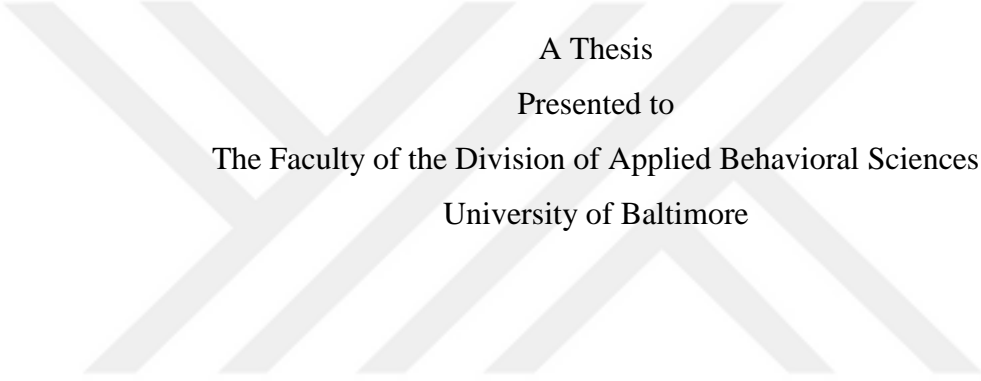


DEMOGRAPHIC FACTORS IN RELATION TO ACCULTURATION AND  
ACCULTURATIVE STRESS: A COMPARISON OF INTERNATIONAL AND  
DOMESTIC UNIVERSITY STUDENTS



A Thesis  
Presented to  
The Faculty of the Division of Applied Behavioral Sciences  
University of Baltimore

In Partial Fulfillment  
of the Requirements for the Degree of  
Master of Science

by  
Hande Guzel  
June 2016



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The Designated Thesis Committee Approves the Thesis Titled

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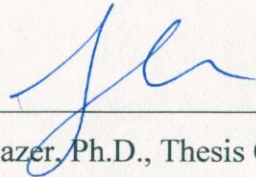
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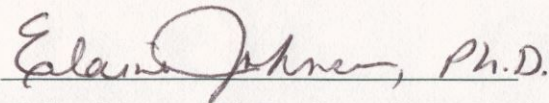
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## ABSTRACT

### DEMOGRAPHIC FACTORS IN RELATION TO ACCULTURATION AND ACCULTURATIVE STRESS: A COMPARISON OF INTERNATIONAL AND DOMESTIC UNIVERSITY STUDENTS

This study examined the relationship between 207 international and 173 domestic students' demographic factors on acculturation and acculturative stress. It also examined the extent to which cultural values, Uncertainty Avoidance (UA) and Power Distance (PD) might explain two types of acculturative stress: social interaction and localizing. Social interaction acculturative stress refers to the process by which people act and react to those around them, such as making friends or talking about themselves with others. Localizing acculturative stress refers to adjusting to a particular area, such as taking a local perspective on the culture or understanding the local value system. Students from a northern California university completed a self-report survey. Unlike most studies, the present study compares international students to domestic students to be sure that international students' acculturative stress is a result of living in a different culture and not just a matter of moving into a university setting (where nearly all students become independent of their caretakers). As expected, international students had higher acculturative stress than U.S. students, but this difference did not vary by marital status or length of stay. Also, women who came from high UA and large PD countries (vs. low UA and high PD countries) had greater social interaction acculturative stress. Thus, compared to students from the latter cultures, students who were from countries in which there are clear rules and regulations for how to behave and where there are clear demarcations of status experienced greater difficulty making friends, going to social events, and talking about themselves with others. These findings demonstrate that students' cultural backgrounds play an important role in their adaptation. This is an important finding as it signals that counselors in higher education institutes might need to collaborate with academic staff to help international students adjust. Female students from high UA and large PD countries may be especially in need of assistance to cope with acculturative stress. Additional implications and future research needs are discussed.

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## INTRODUCTION

The United States of America (USA) is a popular destination for international students (Yeh & Inose, 2003). In 2012/13, international students enrolled at U.S. colleges and universities (Institute of International Education, 2013) totaled 819,644. According to the 2013 Institute of International Education's (IIE) annual report, the number of international students studying in the USA increased by 7% over the prior year and reached the highest level recorded so far. International students constitute 4% of the total U.S. higher education population. Moreover, among international students, the largest group is from Asian countries, particularly China, India, and South Korea (IIE, 2013), and the second largest group is from Europe (Yeh & Inose, 2003).

Although international students come from different cultural backgrounds and speak different languages, generally, they experience similar adjustment problems (Mahmood, 2014). International students from different countries have been found to experience adjustment problems more than their domestic peers, who may also be adjusting to a new setting in higher education (Duru & Poyrazli, 2011). According to Tummala-Narra and Claudius (2013), international students face challenges including problems with immigration status, a new educational system, unfamiliar food and customs, limited economic resources, limited English proficiency, and separation from their families and friends. In addition to these problems, international students face the acculturation stressors of adjusting to a new culture (Yakunina, Weigold, & Weigold, 2013).

Acculturation refers to a process of cultural changes in one group due to contact with another group (Berry, 1997). International students studying in the USA have

reported acculturation related problems, such as loneliness, lack of confidence in English, lack of contact with the host culture (Simonovich, 2008), lack of social support, and stress related illnesses (Poyrazli, Kavanaugh, Baker, & Al-Timimi, 2004). These problems reflect students' sociocultural adaptation. According to Berry (2005), sociocultural adaptation refers to "how well an acculturating individual is able to manage daily life in the new cultural context" (p.709). A high level of sociocultural adaptation is rooted in a person's "acquisition of culture learning and social skills" (Mahmood, 2014, p. 4).

In contrast, acculturation problems might trigger acculturative stress (Duru & Poyrazli, 2007; Wilton & Constantine, 2003). Acculturative stress refers to the psychological impact of adapting to a new culture (Constantine, Okazaki, & Utsey, 2004). Also, acculturative stress points out negative consequences of contact between two different cultural groups (Mahmood, 2014). According to Wu and Mak (2012), acculturation results in different levels of acculturative stress, and this stress can contribute to and interact with students' overall stress. Some individuals are able to adapt successfully, so they have low levels of acculturative stress, while others are unable to cope and have high levels of acculturative stress (Berry, Kim, Minde, & Mok, 1987). There is minimal research identifying demographic factors that relate to self-identified international students' acculturative stress in the USA and how those factors might explain differences in their acculturation from that of self-identified domestic students.

The present study examines self-identified domestic and self-identified international students studying in the USA. For this study, self-identified domestic students were either born in the USA or, if they were born outside of the USA, they identify themselves as American by nationality (e.g., naturalized U.S. citizens). Self-

identified international students are those who were born outside of the USA and came to the USA to study at a U.S. university and hold a temporary visa, such as F (student) and J (exchange visitor) visas or those born in the USA who still identify themselves as international students (perhaps because they lived most of their lives outside the USA and have returned to the USA for their studies).

In this study, self-identification of students is independent of parental immigration status. For some self-identified domestic students, it is possible that their primary caregiver(s) never immigrated to or lived in the USA, but they still consider themselves domestic students. This would most likely be the case with non-traditional aged students (e.g., a student who is 40 years old, moved to the USA at age 18, his/her parents never lived in the USA, but the individual feels him/her self to be U.S. domestic). This is also someone who is NOT on an F or J visa. Likewise, children born in the USA to immigrant (legal or illegal, permanent or transient) parents may self-identify as U.S. domestic, even if they do not have U.S. citizenship or green cards for different reasons that are too numerous to address here.

Originally, I intended to examine the effects of parental immigration status on acculturation and acculturative stress for both international and domestic students. However, in the current data set, all caregivers of self-identified domestic students lived in the USA, though hypotheses were formulated prior to knowing this piece of information. Similarly, self-identified international students could feasibly have parents who do live in the USA, because at the time they entered the USA with their parents, the child (student) was not eligible to obtain U.S. citizenship as their parents were (see <https://www.uscis.gov/policymanual/HTML/PolicyManual-Volume12-PartA->

Chapter2.html and <https://www.uscis.gov/policymanual/HTML/PolicyManual-Volume12-PartH.html>). Likewise, some self-identified international students may have been born in the USA, but because of their parent's illegal immigration status, the child may be a citizen, while his or her parents are not.

This study compares the relationships between demographic factors and acculturative stress for self-identified international students and domestic students. In this study, acculturative stress is operationalized via Searle and Ward's (1990) sociocultural adaptation scale (SCAS). Therefore, the term "acculturative stress" is used interchangeably with sociocultural adaptation and adjustment throughout this thesis, where lower levels of acculturative stress are associated with higher sociocultural adaptation and adjustment. The 40-item SCAS assesses respondents' feelings about how they fit in with the host culture and with their life in the host culture. In order to compare acculturative stress between self-identified international and domestic students, only items related to social interaction (referred to as "social interaction acculturative stress") and the local culture (referred to as "localizing") were retained. Thus, the study compares international and domestic students on their levels of acculturation related to social interactions and localizing.

College students, domestic or international, are likely to experience acculturative stress during their transitions to college life. Some college students who are living at home adjust to the increased independence to fulfill academic needs, whereas other students, living away from home, are adjusting to that experience of separating from their families and their new social environment for the first time. These experiences, as well as losing one's familiar social network and creating new ones, are all sources of acculturative stress

(Ross, Niebling, & Heckert, 1999; Sullivan, 2010). In addition to these stressors, international students deal with language barriers, potentially less social support, and adjusting to a new culture (Duru & Poyrazli, 2007; Yeh & Inose, 2003). It is important to increase understanding on how both international and domestic students are adapting to a new environment and what demographic factors are related to this process.

Despite studies addressing the level of international students' acculturation or socio-cultural adaptation (e.g., Bektas, 2004; Wang & Mallinckrodt, 2006), most studies do not examine the role of demographic factors on adjustment to a new culture, or when they do, results tend to be inconsistent about their effect. Example demographics that have been studied in relation to immigrant and international student acculturation include age, sex, length of residence, and education (Duru & Poyrazli, 2007; Mokoukolo & Taillandier-Schmitt, 2008; Polek, Berge, & Van Oudenhoven, 2008; Ponterotto et al., 2001; Wilton & Constantine, 2003). Moreover, studies that look at college students' acculturation (e.g., Ponterotto et al., 2001; Wilton & Constantine, 2003) have tended to focus only on international students and do not consider whether acculturation for domestic students might be invariant or different.

Few studies have compared international and domestic students on acculturation. Fritz, Chin, and DeMarinis (2008) found that international students had more difficulties on social issues and being apart from family than domestic students, but the existing literature has generally not paid great attention to domestic students. Acculturation research has tended to focus on a person's identity to both host and home country, and only international students can report on both host and home country; domestic students can only report on home country. To be able to compare international and domestic

students, I focus only on how students identify with the host culture, in this case U.S. culture. It is important to compare self-identified domestic and international students in terms of demographic variables and the level of identification with the U.S. culture because not doing so might lead to erroneous conclusions that certain predictors of acculturation are relevant only to international sojourners, when they might not be. For example, students who were born and raised in the USA might vary in degree of identification with U.S. culture, and might also face acculturative stress when transitioning to college.

The literature review section describes the acculturation process, sociocultural adaptation, and acculturative stress. Findings from empirical studies linking various demographic factors will be highlighted and used to develop hypotheses that would support academic counselors' work with international and domestic students.

## **LITERATURE REVIEW**

### **Study Goal**

The purpose of this study is to examine the extent to which self-identified international students' demographic factors relate to acculturation, specifically their identity with the host culture and their level of acculturative stress in the USA. In addition, these relationships are compared with a sample of self-identified domestic students, that is, students who indicate that they were born and raised in the USA or identify themselves as American by nationality. The phrase "domestic student" is used interchangeably with "U.S. student" throughout this thesis. Researchers have mainly studied international students; there is some information comparing international students to domestic students on acculturation. This study will add new information to the research literature on acculturation and acculturative stress by making this comparison, which might provide stronger justification for the necessity to identify demographic factors that influence a student's acculturation. It would also enable counselors to help international students' adjustment when they are aware of demographic factors that might be influencing their style of acculturation and socio-cultural adjustment.

### **International Students in Counseling**

It is essential that counselors be prepared to help with international students' acculturative stress. With the diversification of the USA, counselors could meet students of any cultural background among international students. Counselors need to know what to expect or not to expect when meeting with international students (Olivas & Li, 2006). Research on international college students' psychological needs has shown that international students face adjustment difficulties more than their native-born counterparts

(Yakushko, Davidson, & Sanford-Martens, 2008). Some international students experience immense pressure to be academically successful and independent from their families, sponsoring organizations, or governments (Kilinc & Granello, 2003). However, moving to a new culture in and of itself can have harmful effects on international students' mental health. Psychologists have examined how international students adapt to their host culture and whether they seek help from counseling services (Constantine et al., 2004; Kilinc & Granello, 2003; Yakushko et al., 2008). Generally, international students are less likely than domestic students to use counseling services (Hyun, Quinn, Madon, & Lustig, 2007; Yakunina & Weigold, 2011). The first reason could be that international students are not aware of their need for mental health services (Hyun et al., 2007). Secondly, they could experience cultural stigmas for seeing a therapist (Constantine et al., 2004; Hyun et al., 2007). For example, Yakunina and Weigold (2011) wrote that Asian international students who hold negative attitudes toward counseling and who are not highly acculturated might be less likely to seek counseling services. Additionally, in their study, Kilinc and Granello (2003) suggest that Turkish international students' help-seeking behaviors may be related to age, sex, academic major, educational level, and acculturation level.

### **Acculturation**

Acculturation is a process that is the result of contact between individual members and groups from different cultures (Berry, 2005). Through this contact, cultural and psychological factors transmit and create changes in a person's adaptation to a culture and psychological mindset (Berry, 2005). At the individual level, acculturation creates changes in a person's behaviors, affects, and cognitions; at the group level, changes are

observed in social structures and institutions (Berry, 2005). The present study focuses on individual level acculturation.

The acculturation process includes two primary dimensions, (a) maintenance of original cultural identity and (b) maintenance of relations with other groups (Ward & Kennedy, 1994). Within these two dimensions are four categories or acculturation strategies: integration, separation, assimilation, and marginalization (Ward & Rana-Deuba, 1999). Integration refers to maintaining normative practices and attitudes from one's native culture while concurrently adopting normative practices and attitudes from one's host culture. With the separation strategy, individuals avoid involvement with people in the new culture, but maintain relationships with people from their original culture. Assimilation refers to a preference to interact with the larger society, accompanied by little interest in maintaining connections with the original culture. Finally, in marginalization, individuals neither seek to maintain their original culture nor interact with the new society (Berry, Phinney, Sam, & Vedder, 2006).

According to Ward and Kennedy (1994), sojourners who adopted an assimilation strategy experienced less social difficulty (e.g., better adaptation) whereas sojourners who adopted a separation strategy experienced the poorest sociocultural adaptation. In another study, Farver Xu, Bhadha, Narang, and Lieber (2007) found that parents who have adopted marginalization or separation reported more family conflict than parents who adopted an integrated or assimilated acculturation strategy. These results suggest that those who identify with the host culture experience less acculturative stress.

Several other factors have been found to influence acculturation strategies. They include demographics, such as sex, length of residence, education, ethnic identity, values,

and public or private life domain, as well as communication, participation in host culture, food choices, desire for children, and availability of co-ethnics (Shih, 2011; Simonovich, 2008). Some of these factors including sex, length of residence, and ethnic identity will be examined in the present study.

### **Sociocultural Adaptation and Acculturative Stress**

A closely related concept to acculturation is adaptation, and it refers to “the relatively stable changes that [have] take[n] place in an individual or group in response to external demands” (Berry, 2005, p. 709). Adaptation is a consequence that might have positive or negative values. Moreover, it is multifaceted because there are some differences between psychological and sociocultural adaptation (Berry, 2005). This study focuses on the individual level, specifically on psychological changes in adaptation.

Psychological adaptation results in “a set of internal psychological outcomes including a clear sense of personal and cultural identity, good mental health, and the achievement of personal satisfaction in a new cultural context” (Lian & Tsang, 2010, p. 83). Berry (1997) also discussed psychological adaptation as an achievement of personal satisfaction and explicit personal and cultural identity. Psychological adaptation changes over time, and individuals experience their greatest difficulties at the earliest stages of their interaction with a new culture (Ward & Kennedy, 1999). Research shows that personality, life changes, and social support variables affect psychological adaptation (Ward & Kennedy, 1994). For this reason, it is important for counselors to be prepared to assist clients with their level of identification with their host country. However, most of the research on acculturation counseling has focused on receptivity to counseling. For example, individuals who have higher levels of identification with the host culture have

more positive attitudes toward counseling services (Ponterotto et al., 2001). Ponterotto et al. (2001) found that among Italian American university and college students, women have a greater recognition of personal need for counseling and also more confidence about the benefits and usefulness of counseling than men. Among a Greek American sample, women who had highly adapted to the culture (vs. highly adapted men) were more open to discussing their personal problems. However, they did not find any sex-based attitude pattern among individuals who had lower level adaptation (Ponterotto et al., 2001).

People who have difficulty adapting to their host environment may experience acculturative stress. According to Berry (2005), acculturative stress is a “response to life events that are rooted in the experience of acculturation” (p. 708). Acculturation (i.e., adapting to a new culture) is frequently stressful because experiencing a new culture requires social, cultural, educational, emotional, and economic adjustments (Xu & Chi, 2013). When people have difficulty adapting to their host country, they experience separation or marginalization and these kinds of acculturation styles are linked to acculturative stress (Berry, 1997, 2005). For example, when individuals move into a new cultural environment, they experience cultural conflicts and become aware of the acculturative problems associated with intercultural contact (Berry, 2005). “The concept of acculturative stress refers to one kind of stress, that in which the stressors are identified as having their source in the process of acculturation” (Berry et al., 1987, p. 492). Acculturative stress is distinct from general life stress or hassles and affects individuals’ somatic, psychological, and social well-being (Alidoost, 2011). However, it is still “considered to be a more proximal factor than acculturation in explaining psychological distress among ethnic minorities and immigrants because it accounts for the stress[ors]

induced in the acculturation process” (Wu & Mak, 2012, p. 72). Scholars have suggested that levels of acculturative stress might change from individual to individual and are likely influenced by factors such as individuals’ psychological characteristics, attitudes of the dominant group, attitudes of their own cultural group, acculturation strategy, and demographic factors such as age, length of stay, sex, and marital status (Berry et al., 1987; Castillo, Zahn, & Cano, 2012).

Focusing specifically on students, Yakunina, Weigold, Weigold, Hercegovac, and Elsayed (2013) have shown that when international students arrive to the USA, they need to deal with problems such as locating housing and affordable transportation, adjusting to a new climate, communicating in English, and learning how to navigate the American educational system. For some individuals, these adjustments might be a challenge that takes a toll on their psychosocial and physiological well-being, but others might perceive them as challenges to be overcome and become more resilient (Xu & Chi, 2013). Also, international students may experience homesickness, difficulty in making friends, especially with American peers, negotiating conflicting cultural values, and coping with ethnic, racial and religious discrimination (Yakunina et al., 2013). Overall, acculturative stress may be considered a natural part of adaptation, but can also have harmful impacts that manifest as physical diseases and psychological disturbances (Yakunina et al., 2013).

### **Hypotheses**

Hypotheses for the present study are advanced, as follows:

**Cultural exposure and biographic data.** The few studies that compare international to domestic students on acculturative stress have shown that international students have a tendency to experience more psychological and adjustment problems than

American students (Kilinc & Granello, 2003; Poyrazli et al., 2004; Yeh & Inose, 2003). For example, compared to U.S. students, international students showed greater mental health and personal problems, such as language barriers, financial and academic difficulties, interpersonal problems with American peers, loss of social support, and homesickness (Yeh & Inose, 2003). In the present study, acculturative stress was measured using eight of the 40 items on the socio-cultural adaptation scale (Searle & Ward, 1990). On the basis of the above findings, the first hypothesis is a general one to confirm prior results.

*Hypothesis 1a:* International students will have more acculturative stress than domestic students.

*Hypothesis 1b:* International students will identify less with the host culture than domestic students.

**Parental acculturation.** There is little research on the effects of parental acculturation on student adjustment, but existing research suggests a possible connection. Association with the host culture and divergence from one's own ethnic community helps individuals adjust to a host culture, and studies of first, second, and third generation ethnic groups usually support this idea (Kagan & Cohen, 1990). "Younger ethnic individuals, whose ties to the native homeland are frequently less extensive than those of older immigrants, often behave, value, and think more like host members than do their more traditional elders" (Kagan & Cohen, 1990, p. 133). Second and third generation Mexican-American children who spoke English had better and quicker cultural adjustment than their non-English speaking peers (Kagan & Cohen, 1990). International students who were English speaking at home and with close American friends reported more

acculturation than students with non-English speaking parents or caretakers at home and without close American friends (Kagan & Cohen, 1990).

Similarly, Sodowsky and colleagues (1991) found that first-generation immigrants perceived significantly more prejudice and were less acculturated than those who were second, third, and fourth generations in their host culture. In a study of Asian Americans, Chen and colleagues (2014) found that second generation children scored higher on host national identification (language proficiency, media use, and social relationships) than first generation children. Second generation children also identified more with American culture, which was linked to better psychological adjustment. Although no studies have directly examined the extent to which a person's caregiver is acculturated into U.S. culture, it is likely that caregivers who were not born in the host culture are less able to support the child's acculturation into the host culture. Therefore, it is hypothesized that:

*Hypothesis 2:* For students who identify as either international or domestic, those whose caregivers have lived in the USA at some point in their lives (i.e., first, second, or third generation U.S. born or immigrant to the USA) will have greater identification with the host culture (an indicator of integration or assimilation) and less acculturative stress than students whose caregivers never immigrated to the USA (i.e., never lived in the USA).

**Length of stay.** Length of stay is another demographic factor that may be related to acculturation and acculturative stress. Wang, Hepner, Wang, and Zhu (2015) reveal that during the initial stage of cross-cultural transition, individuals show different levels of cross-cultural competence. Individuals' psychological problems often increase when they

feel threatened or overwhelmed as a result of their contact with a new culture, and these problems decrease over time (Berry, 2005). For example, Polish immigrants' identification and contact with the host (Dutch) culture increased with their length of stay (Polek et al., 2008). Black (1988) further notes that individuals' adjustment to a new culture goes through four phases. In the first phase, which could last a few weeks, individuals feel fascinated by their experiences in a new culture or country. In the second phase, individuals start feeling frustrated and hostile toward the people in the host culture and to the culture itself. The third phase begins when individuals learn appropriate behaviors for living in that particular culture. Lastly, in the fourth phase, individuals are relatively adjusted and are more capable of functioning effectively. This phased process of adjustment is evident in Wilton and Constantine's (2003) study in which they found that Latin American and Asian students reported lower levels of distress the longer they resided in the USA. Therefore, it is hypothesized that:

*Hypothesis 3:* International students' length of stay in the USA will negatively relate to acculturative stress and positively relate to identification with the host culture. In other words, the more time the international students have lived in the USA, the greater their identity with the host culture and the less acculturative stress.

**Marital status.** Marital status is another potential correlate of acculturative stress. Some findings suggest that marriage increases stress among international students. More than one fifth of the international graduate students in the USA are married (Myers-Walls, Frias, Kwon, Ko, & Lu, 2011). According to Myers-Walls et al. (2011), married international students have disagreements and conflicts in their relationships because of

living in the new culture, financial stressors, language difficulty, and lack of support. In his study with American sojourners, Cox (2004) found a nonsignificant trend for single participants to report more identification with the host culture and married participants to report higher scores for home (rather than host) identification. Other findings, however, suggest married individuals adapt better than single individuals. Jang, Kim, Chiriboga, and Kallimanis (2007) found among Korean American older adults, those with a high Korean and high American orientation were more likely to be married than those with a high Korean and low American orientation.

Among students, previous research also offers mixed findings. Poyrazli and Kavanaugh (2006) found that marital status and students' level of social adjustment difficulties were significantly related, with married students indicating lower levels of social adjustment difficulties. Moreover, in one study with Hispanic immigrant women, Negy, Hammons, Reig-Ferrer, and Carper (2010) found that women who felt supported by their partner or family members experienced less acculturative stress. In a similar vein, another study focusing on Asian students found that social support negatively correlated with acculturative stress and that married students reported higher levels of social support than single students (Poyrazli et al., 2004). These studies, then, suggest that, married students have less acculturative stress than single students. However, Duru and Poyrazli (2007) found that married students reported higher levels of acculturative stress. The researchers conjectured that while single students have to cope primarily with academic problems, married students have to cope with academic, cultural, financial, and family problems. Despite the equivocal results on international students, and given that literature on spousal or partner support shows ameliorative effect, it is hypothesized that:

*Hypothesis 4:* Married international students will have lower mean scores on acculturative stress and greater identification with the host culture than single international students.

**Role of sex.** Some studies that compared male and female international students did not find any differences between men and women in terms of acculturation or acculturative stress (Duru & Poyrazli, 2007; Yeh & Inose, 2003). However, Cakir and Guneri (2011) found that Turkish female (compared to male) immigrants to the United Kingdom or United States did not have positive acculturation (i.e., they did not identify with the host culture). They explain that women in Turkey, a paternalistic culture, might not be able to develop a sense of empowerment, which might explain the difference in their study from other studies. Empowerment refers to a process of “replenishment and enrichment rather than depletion in the process of overcoming” stressful events (Cakir & Guneri, 2011, p. 224). Psychological empowerment provides an important way to understand and improve positive adaptation for individuals who experience negative conditions (Cakir & Guneri, 2011). It is also possible that female international students are already more empowered than female immigrants who do not come to the USA to pursue a degree in higher education. Previous research has not compared international students to immigrants. Therefore, this study seeks to add incremental findings regarding female (vs. male) international students’ acculturative stress, which could serve as a foundation for further studies of international students in comparison to immigrants from the same countries.

*Research Question 1:* Do self-identified international and domestic female students differ from self-identified international and domestic male students on acculturative stress?

**Cultural differences.** When international students enter a new culture, they could experience uncertainty about the culture, which could create anxiety. This is evident in Yeh and Inose's (2003) findings showing that compared to students from Asia, Africa, and Central America, students from Europe were significantly less likely to experience acculturative distress. According to Hofstede (2001), every society reinforces its own ways to adapt to uncertainty. These ways differ both between and within traditional and modern societies. Uncertainty avoidance (UA), that is, a tendency to escape from ambiguous situations (Hofstede, 2001), is one type of (culture-level) adaptation. Different cultures reinforce different ways to react to ambiguous situations. Hofstede defined low uncertainty avoidance cultures as those where people are less resistant to change, they have lower levels of anxiety and strain, and they have greater subjective well-being than people in high uncertainty avoidant cultures. Cultures rated high on UA encourage certainty in social and institutional processes in order to enable individuals to know how to behave in various situations (Hofstede, 2001). On a scale of 0 to 100, a low score means that the people in the country are more comfortable with ambiguity, more likely to take risks, and less dependent on structured rules. Countries with high scores on UA reinforce stability, structured rules, and its people are less comfortable taking risks (Matusitz & Musambira, 2013).

Hofstede (2001) also discussed power distance. Power distance is "a measure of the interpersonal power or influence between B (boss) and S (subordinate) as perceived by

the less powerful of the two, S” (p. 83). Low power distant cultures emphasize equality and openness between B and S, whereas high power distant cultures emphasize hierarchy, power, and wealth (Hofstede, 2001). Power distance is defined as the degree to which less powerful members in the society accept and expect power as spread unequally (Hofstede, 2001). As seen in several studies, in countries where men and women are not equal and rules for interacting with others are strict, women are less likely to be independent decision-makers (Mann et al., 1998) and, if alone in a host culture, are likely to experience a great deal of acculturative stress (Lee & Padilla, 2014). However, there is little research on this topic; therefore, I pose the following question:

*Research Question 2:* Is there a difference between female international students’ acculturative stress as a result of their countries’ rankings on uncertainty avoidance and power distance culture values?

This study will add new information to the literature on acculturation and acculturative stress by making comparisons between international and domestic students on the demographic factors described above. Findings may be helpful for counselors by giving information about how demographic factors can influence international students’ adjustment, and providing guidance regarding areas where international students experience greater strain than domestic students.

## METHOD

### Procedures

The present study used archival data obtained from Dr. Sharon Glazer who supervised the data collection by Ms. Heather Simonovich for her Master's thesis between November 2004 and March 2005. Surveys were distributed directly to undergraduate and graduate U.S. students and international students in a northern California university classroom setting and also via the U.S. Postal Service to international students for whom the International Students Services office had addresses. There were two similar surveys, one for international students and one for U.S. students. The survey for domestic students did not include questions that were only relevant to international students, and the international students' survey did not include questions that were only relevant to U.S. students. In the U.S. students' survey, participants compared their experiences and behaviors with other people from the USA. In contrast, in the international students' survey, participants compared their experiences and behaviors with other people from their home country and also with people from the USA.

### Participants

The archival dataset used for this study included 406 students: 173 U.S. students and 233 international students. Twenty-six participants' data were eliminated because they completed less than two-thirds of the survey. The final dataset included 380 students: 173 U.S. and 207 international students. Among the U.S. students, 39.4% were male, and 60.6% were female. Among international students, 45.1% were male, and 54.9 % were female. The length of international students' current stay in the USA ranged from less than a year to 23 years ( $M= 4.33$ ,  $SD= 3.37$ ).

Per Table 1, most (60.5 %) international students were born in East Asia/Pacific Islands, 16.6% were born in West Asia, 10.2% were born in Europe, and 6.3% were born in Latin America/Caribbean. Furthermore, the majority (85.4%) of students who completed the U.S. student survey were born in the USA; 10.5% were born in East Asia/Pacific Islands (See Table 2 in Appendix A). Students who were born outside of the USA but completed the U.S. student survey did so because they self-identified as U.S. students.

Table 1  
*Regions of the World Where Participants were Born*

Region of the World	International Students		U.S. Students	
	Frequency	Percent	Frequency	Percent
USA/Canada	5	2.4	146	85.4
Latin America/Caribbean	13	6.3	2	1.2
Europe	21	10.2	1	0.6
Africa	1	0.5		
Middle East	7	3.4	2	1.2
West Asia	34	16.6	2	1.2
East Asia/Pacific Islands	124	60.5	18	10.5

Tables 3 and 4 present statistics about the self-identified international and domestic students' caregivers' immigration status (i.e., the number of generations in the USA). Caregiver refers to the primary person who raised and took care of the study participant. Typically, the caregivers are the parents. Among U.S. students, 43.3% of primary and 42.1% of secondary (meaning the 2<sup>nd</sup> most relevant person who raised the participant) caregivers are immigrants to the USA. For U.S. students, 29.2% of primary caregivers are third generation U.S. born, 15.2% are second generation U.S. born, and 12.3% are first generation U.S. born. Among the secondary caregivers of U.S. students, 37.2% are third generation, 7.6% are second generation, and 13.1% are first generation U.S. born.

Among international students, the majority of students' caregivers have never immigrated to the USA (87.2% for first caregiver and 88.2% for second caregiver); however, at least 12% of the international students' caregivers had immigrated to the USA. Specifically, among the person perceived as primary caregiver, 11.3% were immigrants to the USA, 1.0% were first generation U.S. born, and only 0.5% were third generation U.S. born. None of the international students had second generation U.S. born primary caregivers. Among secondary caregivers, 11.2% were immigrants to the USA, and only 0.6% were third generation U.S. born. None of the international students secondary caregivers were first or second generation U.S. born.

Table 3  
*Primary Caregiver*

Primary Caregiver	U.S. Students		Int. Students	
	Frequency	Percent	Frequency	Percent
First Generation U.S. Born	21	12.3%	2	1.0%
Second Generation U.S. Born	26	15.2%		
Third Generation U.S. Born	50	29.2%	1	0.5%
Immigrant to the USA	74	43.3%	22	11.3%
Never immigrated to the USA			170	87.2%

Table 4  
*Secondary Caregiver*

Secondary Caregiver	U.S. Students		Int. Students	
	Frequency	Percent	Frequency	Percent
First Generation U.S. Born	19	13.1%		
Second Generation U.S. Born	11	7.6%		
Third Generation U.S. Born	54	37.2%	1	0.6%
Immigrant to the USA	61	42.1%	19	11.2%
Never immigrated to the USA			149	88.2%

The majority of the U.S. students were single (90.17 %), and 4.04 % were married, remarried, or living with a partner. Among international students, 81.46 % were single, and 16.10% were married, remarried, or living with a partner. See Table 5 for more specific frequencies and percentages regarding marital status.

Table 5  
*Marital Status*

Marital Status	U.S. Students		Int. Students	
	Frequency	Percent	Frequency	Percent
Single	156	90.2%	167	81.5%
Married/Remarried/Living with partner	7	4.0%	33	16.1%
Legally Separated.Divorced	3	1.7%	1	0.5%
Other	7	4.0%	4	2.0%

### Measures

All participants were asked to complete a 10-page paper-pencil survey or an equivalent online survey on cultural values, work values, acculturation, sociocultural adaptation, and demographic information. Data gathered on cultural values and work values scales are not examined for this study. Appendix B presents the survey items included in the present study. The original surveys can be found in Simonovich (2008).

**Acculturation Index.** The Acculturation Index (AI) contains 21 cognitive and behavioral items (e.g., language, self-identity, cultural activities, clothing, and recreational activities; Ward & Kennedy, 1994). When responding to each of the 21 items, international participants were asked to consider two questions about their current life: (1) Are your experiences and behaviors generally similar to people from your home country? And (2) are your experiences and behaviors generally similar to people from the USA? In other words, for the item related to cultural activities, participants rated the similarity of cultural experiences to people from their home country and to people from the USA. Domestic participants were asked to consider the question about their current life: Are your experiences and behaviors generally similar to people from the USA? Participants evaluated their current life style and then rated their agreement on a 7-point scale from strongly disagree (1) to strongly agree (7). Higher mean scores represented stronger

identification with the home and/or host country. The co-national identification (i.e., identifying with one's home country) mean item score for international students was 4.70 (SD = .87), host-national identification (i.e., identifying with one's host country) mean item score for international students was 4.13 (SD = .90), and the mean item score for co-national identification among domestic students, again indicating identification with home country, was 4.34 (SD = .71). High internal consistency was found on this measure in the current sample. Among international students, the alpha reliability coefficient was .91 for co- (home)-national identification and .89 for host-national identification. For domestic students, the alpha reliability coefficient was .86 on identification with the USA.

**Acculturative Stress.** The Socio-Cultural Adaptation Scale (SCAS), developed by Searle and Ward (1990), was used to measure acculturative stress. The scale measures the extent to which participants feel they fit in with U.S. culture and with their life in the USA (e.g., making friends, adapting to local accommodations, understanding the local accent/language, and coping with academic work). On a 5-point scale, ranging from no difficulty (1) to extreme difficulty (5), participants evaluated the amount of difficulty they had adjusting to each of 40 life factors. Higher mean item scores represent more difficulty indicative of acculturative stress, and lower mean scores represent less difficulty, indicative of greater adjustment. After employing an exploratory factor analysis and identifying items relevant to both international and domestic students, this study retained eight of the original 40-items. Those eight items reflected one of two categories: social interaction and localizing. Social interaction refers to the process by which we act and react to those around us and includes four items that are related to social situations such as making friends, going to social events, or talking about yourself with others. Factor

loadings for the four items on social interaction acculturative stress ranged from .72 to .78 amongst international students and .71 and .80 amongst domestic students. The reliability for social interaction acculturative stress was .74 for international students and .75 for domestic students in the current sample. Localizing refers to adjusting to a particular area and includes four items that are related to local situations such as taking a local perspective on the culture, understanding the locals' worldview, or understanding the local value system. Factor loadings for those four items on localizing acculturative stress ranged from .84 to .89 amongst international students and .81 and .92 amongst domestic students. The reliability of localizing acculturative stress was .88 for international students and .89 for domestic students in the current sample.

**Uncertainty Avoidance and Power Distance.** In order to address research question 2, whether acculturative stress varies by countries' rankings on UA and PD culture values, I categorized international students' home countries as high, medium, or low on UA and PD based on Hofstede's (2001) rankings and website rankings of countries. To have adequate cell sizes, I created three clusters (see Table 6). The first cluster depicts low UA and high PD cultures and includes China, Vietnam, India, Malaysia, Philippines, Indonesia, and Kenya. The second cluster depicts high UA and medium PD cultures and includes Iran, Thailand, Taiwan, and Pakistan. The third cluster depicts high UA and high PD cultures and includes Argentina, Belarus, Brazil, Bulgaria, Colombia, Greece, Hungary, Japan, South Korea, Mexico, Burma, Poland, Russia, Serbia, Slovenia, Spain, and Turkey.

## Data Analysis

Independent samples 2-tailed *t*-test and Pearson correlation were used to test hypotheses 1 to 4. Analysis of variance (ANOVA) was used for the research questions. In order to address research question 2, I used a one-way ANOVA to test for differences among the three clusters: low UA and high PD, high UA and medium PD, and high UA and high PD on social interaction and localizing acculturative stress.

Table 6

*Countries Based on Uncertainty Avoidance (UA) and Power Distance (PD) Scores*

Low UA and High PD ( <i>n</i> =35)	High UA and Medium PD ( <i>n</i> =28)	High UA and High PD ( <i>n</i> =40)
China ( <i>n</i> =10)	Iran ( <i>n</i> =1)	Argentina ( <i>n</i> =1)
Vietnam ( <i>n</i> =4)	Thailand ( <i>n</i> =1)	Belarus ( <i>n</i> =1)
India ( <i>n</i> =12)	Taiwan ( <i>n</i> =25)	Brazil ( <i>n</i> =2)
Malaysia ( <i>n</i> =1)	Pakistan ( <i>n</i> =1)	Bulgaria ( <i>n</i> =2)
Philippines ( <i>n</i> =4)		Colombia ( <i>n</i> =2)
Indonesia ( <i>n</i> =3)		Greece ( <i>n</i> =1)
Kenya ( <i>n</i> =1)		Hungary ( <i>n</i> =1)
		Japan ( <i>n</i> =20)
		South Korea ( <i>n</i> =2)
		Mexico ( <i>n</i> =1)
		Burma ( <i>n</i> =1)
		Poland ( <i>n</i> =1)
		Russia ( <i>n</i> =1)
		Serbia ( <i>n</i> =1)
		Slovenia ( <i>n</i> =1)
		Spain ( <i>n</i> =1)
		Turkey ( <i>n</i> =1)

## RESULTS

### Cultural Exposure and Biographic Data

Hypothesis 1a stated that international students will have more acculturative stress than domestic students. An independent samples *t*-test yielded support for hypothesis 1a,  $t(377) = -3.55, p < .05$ ;  $t(376) = -2.48, p < .05$ . As shown in Table 7, international students had significantly more acculturative stress than domestic students on both social interaction ( $M = 2.23, SD = .82$  versus  $M = 1.94, SD = .75$ ) and localizing ( $M = 2.01, SD = .85$  versus  $M = 1.79, SD = .82$ ) measures.

Table 7  
*Means and Standard Deviations (SDs) of Students' Acculturative Stress*

Variable	International Students			U. S. Students		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Social interaction	2.23 <sup>a</sup>	0.82	206	1.94 <sup>a</sup>	0.75	173
Localizing	2.01 <sup>b</sup>	0.85	205	1.79 <sup>b</sup>	0.82	173

*Note.* Shared superscripts indicate that the means significantly differ from each other.

Hypothesis 1b stated that international students will identify less with the host culture (U.S. culture) than domestic students will. An independent samples *t*-test, however, yielded no significant difference between international students ( $M = 4.41, SD = .67$ ) and domestic students ( $M = 4.34, SD = .71$ ),  $t(373) = -.95, ns$ .

### Parental Acculturation

Hypothesis 2 stated that among students, who self-identify as either international or domestic, for whom one or both caregivers are first, second, or third generation U.S. born or immigrants to the USA will (a) identify more with the host country (i.e., the USA) and (b) have less acculturative stress than students whose caregivers never immigrated to the USA. Because in this sample, all caregivers of students who identify as domestic were living in the USA, this hypothesis could be tested only for the international students.

Hypothesis 2 was partially supported. Per Table 8, international students whose first primary caregivers were immigrants to the USA ( $M = 4.84$ ,  $SD = .81$ ) reported greater identification with the USA than international students whose first primary caregivers never immigrated to the USA (i.e., they never lived in the USA) ( $M = 4.35$ ,  $SD = .64$ ;  $t(190) = 3.33$ ,  $p < .05$ ). Identification with the USA did not differ between international students whose second primary caregivers were immigrants to the USA ( $M = 4.59$ ,  $SD = .67$ ) and international students whose second primary caregivers never immigrated to the USA ( $M = 4.37$ ,  $SD = .66$ ,  $t(165) = 1.35$ , *ns*).

Table 8  
*International Students' Identification with Host Country (the USA) by Caregivers' Immigrant Status to the USA*

Variable	First caregiver			Second caregiver		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Immigrant	4.84 <sup>a</sup>	0.81	24	4.59	0.67	20
Nonimmigrant	4.35 <sup>a</sup>	0.64	168	4.37	0.66	147

*Note.* A nonimmigrant refers to someone who never lived as a resident or as an immigrant in the USA. Means that share the same superscript are significantly different from each other.

The second part of the hypothesis, which stated that international students whose caregivers are first, second, or third generation U.S. born and immigrants to the USA, will have less acculturative stress than students' whose caregivers never immigrated to the USA (i.e., not U.S. nationals), was not supported. Per Table 9, the means are in the predicted direction, with international students whose first caregiver was an immigrant to the USA, ( $M = 2.12$ ,  $SD = .92$ ) having less social interaction acculturative stress than those whose first caregiver never immigrated to the USA ( $M = 2.22$ ,  $SD = .80$ ),  $t(193) = -.58$ , *ns*, but the difference was not significant. Also, international students whose second caregiver was an immigrant to the USA ( $M = 2.21$ ,  $SD = .97$ ) did not differ on social

interaction acculturative stress from international students whose second caregiver was never an immigrant to the USA ( $M = 2.17$ ,  $SD = .77$ ),  $t(167) = .24$ , *ns*.

Table 9

*International Students' Social Interaction Acculturative Stress by Caregivers' Immigrant Status to the USA*

Variable	First caregiver			Second caregiver		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Immigrant	2.12	0.92	25	2.21	0.97	20
Nonimmigrant	2.22	0.80	170	2.17	0.77	149

*Note.* A nonimmigrant refers to someone who never lived as a resident or as an immigrant in the USA.

Likewise, per Table 10, localizing acculturative stress did not differ between international students whose first primary caregiver was an immigrant to the USA ( $M = 2.00$ ,  $SD = 1.02$ ) and international students whose first primary caregiver never immigrated to the USA ( $M = 1.99$ ,  $SD = .82$ ),  $t(192) = .04$ , *ns*. Localizing acculturative stress also did not differ significantly between international students whose second primary caregiver was an immigrant to the USA ( $M = 1.87$ ,  $SD = .98$ ) and those whose second primary caregiver never immigrated to the USA ( $M = 2.00$ ,  $SD = .84$ ),  $t(166) = -.61$ , *ns*.

Table 10

*International Students' Localizing Acculturative Stress by Caregivers' Immigrant Status to the USA*

Variable	First caregiver			Second caregiver		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Immigrant	2.00	1.02	25	1.87	0.98	20
Nonimmigrant	1.99	0.82	169	2.00	0.84	148

*Note.* A nonimmigrant refers to someone who never lived as a resident or as an immigrant in the USA.

### **Length of Stay**

Hypothesis 3 stated that international students' length of stay in the USA will negatively relate to acculturative stress. It was expected that the more time students lived

in the USA, the more they would have identified with the USA and the less social interaction and localizing acculturative stress they would have reported. Pearson correlation analyses did not reveal a significant correlation between length of stay and acculturative stress (See Table 11).

Although not hypothesized, host country identity negatively correlated with social interaction and localizing acculturative stress. Furthermore, localizing acculturative stress and social interaction acculturative stress positively correlated with each other.

Table 11  
*Descriptive Statistics and Intercorrelations among Study Variables for International Students (n = 207)*

Variables	Mean	SD	1	2	3	4
1.Length of stay(months)	51.97	40.42	--			
2.Social interaction	2.23	0.82	-.01	<b>.74</b>		
3.Localizing	2.01	0.85	-.12	.43*	<b>.88</b>	
4.Host country identity	4.41	0.67	.07	-.21*	-.32*	<b>.91</b>

$p^* < .05$ . Coefficients in bold represent reliability coefficients.

### Marital Status

Hypothesis 4 stated that married international students will demonstrate less acculturative stress and greater identification with the host culture than single international students. Independent samples  $t$ -tests did not support Hypothesis 4 (see Table 12). Married international students ( $M = 2.20$ ,  $SD = .78$ ;  $M = 2.05$ ,  $SD = .77$ ) did not differ significantly from single international students ( $M = 2.22$ ,  $SD = .82$ ;  $M = 1.99$ ,  $SD = .86$ ) on either social interaction and localizing acculturative stress, respectively,  $t(198) = .14$ ;  $t(197) = -.31$ ,  $ns$ . Also, married international students ( $M = 4.35$ ,  $SD = .65$ ) did not differ significantly from single international students ( $M = 4.43$ ,  $SD = .69$ ) in terms of identification with the host culture,  $t(194) = .60$ ,  $ns$ .

Table 12  
*Means (SDs) of Married and Single International Students' Acculturative Stress*

Variable	Married			Single		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Social interaction	2.20	0.78	33	2.22	0.82	167
Localizing	2.05	0.77	32	1.99	0.86	167

### Role of Sex

Research question 1 asked if self-identified international and domestic female students differ from male international and domestic students on acculturative stress. Two-way ANOVA was conducted to examine main effects for sex (male or female) and student type (international or domestic) on acculturative stress. Significant main effects emerged for both sex  $F(1,370) = 6.60, p < .05$  and student type  $F(1, 370) = 6.66, p < .05$  on social interaction acculturative stress. Male students had higher social interaction acculturative stress than female students. International students (as was found through the *t*-tests for Hypothesis 1) had higher mean scores on both social interaction and localizing acculturative stress than did domestic students (See Tables 13 & 14). The interaction between sex and student type was not significant on either acculturative stress component.

Table 13  
*Analysis of Variance for Social Interaction Acculturative Stress*

Source of variation	<i>SS</i>	<i>Df</i>	<i>MS</i>	<i>F</i>	$\omega^2$
Main effects					
Sex (a)	3.99	1	3.99	6.59*	.02
Student type (b)	6.66	1	6.66	10.99*	.03
a x b	1.22	1	1.22	2.01	.00
Residual	224.36	370	0.61		
Total	1882.48	374			

\* $p < .05$

Table 14  
*Analysis of Variance for Localizing Acculturative Stress*

Source of variation	SS	Df	MS	F	$\omega^2$
Main effects					
Sex (a)	0.63	1	0.63	.89	.00
Student type (b)	3.60	1	3.60	5.13*	.01
a x b	0.37	1	0.37	.52	.00
Residual	259.53	369	0.70		
Total	1633.37	373			

\* $p < .05$

### Cultural Differences

Research question 2 asked if female international students' acculturative stress differs due to their home countries' scores on uncertainty avoidance (UA) and power distance (PD). A one-way ANOVA revealed a significant effect for countries' UA/PD category on social interaction acculturative stress ( $F(2,100) = 3.21, p < .05$ ; see Table 15). A Bonferroni *post hoc* test revealed that social interaction acculturative stress was significantly lower for the low UA high PD cluster ( $M = 1.95, SD = .61$ ) than for the high UA high PD cluster ( $M = 2.41, SD = .84$ )  $p < .05$ . Mean scores on localizing acculturative stress did not differ across culture clusters,  $F(2,99) = .41, ns$ .

Table 15  
*Acculturative Stress Mean Scores Across Three Cultural Clusters*

Variables	Acculturative Stress		
	HUAHPD	HUAMPD	LUAHPD
Social interaction			
<i>M</i>	2.41 <sup>a</sup>	2.26	1.95 <sup>a</sup>
<i>SD</i>	0.84	0.92	0.61
<i>n</i>	40	28	35
Localizing			
<i>M</i>	2.11	1.95	1.97
<i>SD</i>	0.89	0.71	0.79
<i>n</i>	40	28	34

Note. <sup>a</sup>The shared superscript denotes a significant difference between the means,  $p < .05$ .

HUAHPD= High Uncertainty Avoidance High Power Distance

HUAMPD= High Uncertainty Avoidance Medium Power Distance

LUAHPD= Low Uncertainty Avoidance High Power Distance

## DISCUSSION

The primary purpose of this study was to examine the extent to which demographic factors, including sex, length of stay, marital status, and parental background relate to international students' acculturation to and acculturative stress in the USA. Moreover, these relationships were compared to a sample of domestic students in order to demonstrate that international students' acculturative stress is, in fact, due to being an international student and not merely because the person is a student. Until now, most researchers (e.g., Duru & Poyrazli, 2007; Yeh & Inose, 2003) have studied international students without comparing their responses to those of domestic students. One study that compared international students and permanent U.S. resident students did not find any significant differences between international students and permanent U.S. citizen students in terms of their state of mood and irritability, but international students found it harder to acculturate than U.S. students (Fritz et al., 2008). Fritz et al.'s (2008) study added new information to the research literature on acculturation and acculturative stress by comparing international and domestic students, providing further evidence that acculturative stress is a unique response that counseling psychologists must be made aware of and study in order to help international students adjust to their host culture.

### **Acculturative Stress, Acculturation, and Demographic Factors**

**Cultural exposure and biographic data.** It was expected that international students in the USA would have more acculturative stress and less identification with the host (U.S.) culture compared to their U.S. domestic counterparts. Hypothesis 1 was partially supported; international students had more acculturative stress than domestic students, as measured in terms of social interaction and localizing. This result supports

previous findings (Duru & Poyrazli, 2007; Poyrazli et al., 2004; Yeh & Inose, 2003) asserting that international students in the USA have a greater tendency than domestic students to experience psychological and adjustment problems. However, there were no differences between international students and domestic students in terms of identification with the host culture. In other words, both student populations had similar levels of identification with the USA. International students are likely to be familiar with the U.S. culture before their arrival. Once in the host country, they may find that making cognitive and behavioral changes to align with U.S. culture is desirable and possible and may “adopt” these attributes rather easily. Thus, they may report similar levels of identification with the USA on the Acculturation Index. However, making these changes may be both difficult and stressful. The items retained from the Acculturative Stress scale reflect both personal and cultural challenges. Going to social events and making friends in a new culture may be more difficult and challenge international students at a deeper level than reporting an “identification” with a new culture. A shy person, for example, can identify with a new culture, but still experiences a significant stressor when working to form friendships in the new culture. Fritz et al. (2008) found that Asian students had a harder time to make new friends than European or U.S. students. Making friends is not easy, and it could be harder for people from some cultures than other cultures.

**Parental acculturation.** It was expected that self-identified international and domestic students’ caregivers who are first, second, and third generation U.S. born and immigrants to the USA will have greater host national identification and less acculturative stress (social interaction and localizing) than students’ whose caregivers never immigrated to the USA. Domestic students’ data could not be included in this analysis because their

parents were all U.S. born or immigrated to the USA. For this reason, only international students' data were used, and the hypothesis was partly supported. International students whose primary caregivers were immigrants to (or born in) the USA had greater host national identification than those whose caregivers never immigrated to the USA. This result supports previous research findings that found that international students who are English speaking at home had greater host national identification than students with non-English speaking parents at home because speaking the host language facilitates and contributes to cultural adjustment such as acculturation (Kagan & Cohen, 1990). Although it is not definitively known if the students who are more self-identified with the host culture spoke English at home, the mere connection with the USA clearly played a role in their identification. In addition, the study revealed that primary caregivers influence students' identification with the host culture, but secondary caregivers do not. Only the primary caregiver's status made a difference in students' identification.

Parental acculturation did not affect students' acculturative stress, on either social interaction or localizing dimensions. While caregiver acculturation related to student acculturation/identification, once again, acculturation strategy (i.e., extent to which students identify with the host and home cultures) did not translate to differences in acculturative stress. Acculturative stress is likely a result of more factors than simply one's degree of "identification" with the host culture.

**Length of stay.** It was expected that international students' length of stay in the USA would negatively relate to acculturative stress and positively with host country identification. The more time the student had lived in the USA, the more s/he was expected to identify with the USA and the less acculturative stress s/he would experience.

However, no significant relationship was found between length of stay and either identification with the host culture or acculturative stress. These results do not support previous findings that had shown that international students report lower levels of distress if they resided in the USA for longer periods (Kuo & Roysircar, 2004; Wilton & Constantine, 2003). Similarly, Ward and Kennedy (1999) also found that the difficulties students experience decrease significantly over time. Moreover, Cox (2004) found that people with longer sojourns experienced more identification with the host culture. The present study's results, however, are consistent with Ward and Searle's (1991) research. Ward and Searle did not find a significant relationship between length of stay and psychological and sociocultural adjustment amongst university and secondary school students in New Zealand. Perhaps these equivocal results are due to certain cultural and individual factors combining in ways that decrease acculturative stress for some international students and increasing it for others, regardless of length of stay. In short, multiple additional factors may influence how and whether length of stay affects adaptation and acculturative stress.

Although not hypothesized, a negative correlation was noted between host country identity and both social interaction acculturative stress ( $r = -.21, p < .05$ ) and localizing acculturative stress ( $r = -.32, p < .05$ ) for international students (see Table 11). The more students identified with the USA, the less acculturative stress they had. This is consistent with research cited earlier, which has shown that people who adopt an assimilation strategy have better mental health outcomes than those who use other strategies (Ward & Kennedy, 1994). Therefore, acculturation strategies may be more important than length of

stay for international students' adjustment, which would be a fruitful topic for future research.

There was also a significant but modest positive correlation ( $r = .43, p < .05$ ) between social interaction and localizing acculturative stress, indicating that these two factors are related, but are different constructs. Future research might illuminate the degree to which one's ability to relate to local culture influences a potentially more complex challenge of social interaction.

**Marital status.** Hypothesis 4, that married international students would report less acculturative stress and greater identification with the host culture than single international students, was not supported. Married and single international students did not differ on identification with the host culture, localizing and social interaction acculturative stress. This result does not support previous findings (Duru & Poyrazli, 2007), indicating that married students report higher levels of acculturative stress. It is important to consider, however, that there were equivocal results on international students in the literature. On the one hand, Eustace (2007) concluded that married students were less likely to experience acculturative stress than single students because, as Poyrazli et al. (2004) noted, married students had higher levels of social support. On the other hand, Oropeza, Fitzgibbon, and Baron (1991) asserted that married international students might experience greater adjustment difficulties. In fact, Duru and Poyrazli (2007) found that single students are less likely to experience acculturative stress because they only cope with academic problems and do not have to cope with family problems. The equivocal results notwithstanding, it is important to note that there were many more single (vs. married,  $n = 167$  vs. 33, respectively) international students in the study. Moreover, it is

important to note that marriage itself can be a reason why there are equivocal results. Some marriages lend more social support, so married international students could experience less acculturative stress compared to single international students, while other marriages may provide more additional stress rather than additional support. For instance, in one study, Yellig (2010) suggests that married students can experience more stress because they are feeling responsible for other family members. Yellig also reported that the quality of the marriage is a stress moderator, such that individuals experience less anxiety if they have higher levels of marital relationship quality.

**Role of sex.** Experiencing acculturative stress is a normal process for both female and male students. Two research questions were posed in this study: (1) How do self-identified international and domestic male and female students compare on acculturative stress? (2) Do female international students differ on acculturative stress as a function of their countries' rankings on uncertainty avoidance and power distance culture values? The answer to question 1 is that a comparison of male and female students on the basis of whether they were domestic or international students did not yield significant differences on acculturative stress. However, regardless of sex, as noted in support of Hypothesis 1, international students had greater acculturative stress than domestic students. Moreover, when combining international and domestic students, male students had higher social interaction acculturative stress than female students. An interaction effect of student type and sex might not have emerged due to small group sizes. Nonetheless, this result corroborates previous research findings that there is a difference between male and female students in general on acculturative stress (Crockett et al., 2007; Lee & Padilla, 2014). More specifically, Crockett et al. (2007) found that among Mexican American college

students, Latino men and women experience acculturative stress, but Latino men experienced being bicultural as more stressful than did women. Furthermore, in their study in the USA, Lee and Padilla (2014) found that Korean males experienced more acculturative stress than Korean females, especially in terms of dealing with language and cultural differences. However, in this study males had greater social interaction acculturative stress whether they were international or domestic students. One possible explanation is that women, whether international or domestic, may have better coping skills and may be more open to seeking support than men (Ye, 2006).

**Cultural differences.** The second question asked if female international students reported different levels of acculturative stress based upon their cultural background. The analysis suggests that female international students from cultures with high UA and large PD (see Table 6), such as Argentina, Japan, and South Korea, had greater social interaction acculturative stress than female international students from cultures that were low on UA value and high on PD value, such as China, Vietnam, and India. In other words, students from high UA and large PD cultures reported experiencing greater difficulty making friends, going to social events, and talking about themselves with others than students who are from low UA and high PD cultures. According to Hofstede (2001), people who are from high UA cultures tend to see difference as dangerous, so the current results, wherein the women from high UA cultures had greater social interaction acculturative stress than others, is consistent with his assertions. International students from high UA cultures, based on Hofstede, tend to be less comfortable taking risks, and they usually desire more stability. Similarly, Van Vianen, De Pater, Kristof-Brown, and Johnson (2004) state that “high levels of uncertainty heighten personal discomfort and,

therefore, produce poorer adjustment to the host culture” (p. 698). In contrast, people in cultures with low UA value tend to be more comfortable with ambiguity and like to take risks. This description of low UA cultures might explain why international students who are coming from China, Vietnam, and India have less acculturative stress than their counterparts. People from some cultures or national groups might be more adaptable to a new culture than others because they have cultural knowledge and intercultural skills (Ward & Kennedy, 1999). For example, Singaporean students had fewer difficulties overseas than students from New Zealand because Singapore itself is a multicultural and cosmopolitan society (Ward & Kennedy, 1999). However, caution is warranted in generalizing these cultural characteristics to forecast acculturative stress because the sample in the current study consisted of individuals who came from a fewer array of low UA/high PD countries (i.e., 35 people from 7 countries) than high UA/high PD countries (40 people from 17 countries).

### **Implications of Findings**

Findings from the present study have important implications for personnel in higher education, such as faculty, advisers, and counselors. The fact that international students reported more acculturative stress than their domestic counterparts suggests that international students may need more support from the institution to cope with the unique stressors they may be facing. Because the international student population in the USA is high, constituting 4.8% of the student body in higher education (or 974,926 out of 20,300,000 students in colleges and universities), it is essential for these students to have resources to help them cope or manage the situations they will face when attending a U.S. institution of higher education. Moreover, the findings from this study suggest that

international students' difficulties probably stem from different stressors than do domestic students' difficulties. The situational stressors that may be uniquely experienced by international students might include language barriers; cultural differences in terms of values, practices, norms, and beliefs; education system; and the physical environment. For this reason, counselors should be prepared to understand these sources of stress and help international students deal with their acculturative stress while the students are attending school. International students may not be aware of their needs for mental health services (Hyun et al., 2007), but counselors can use their time and knowledge to show why mental health services are important and how international students can benefit from them.

Moreover, male students reported more social interaction acculturative stress than female students, which means that they might need more help with social situations such as making friends or going to social events. This effect was found for the total sample, meaning that it is not just male international students who experience these difficulties. This highlights the important role of sex in stress related to social interactions. Having a caregiver who has immigrated to the USA was associated with international students' identification with the host culture. However, it did not make a difference in terms of acculturative stress. Counselors should be ready to investigate acculturative stress whether or not students, with caregivers who immigrated to the USA, report high levels of identification with the host culture.

Although not derived directly from the study results, it is recommended that counselors collaborate with academic staff to help international students adjust. For example, the university counseling center could develop programs that decrease international students' stress levels about being in the new educational system and using a

new language. Moreover, the offerings of such engagements should probably occur frequently (Tidwell & Hanassab, 2007). Counselors and academic staff should be knowledgeable about international students' acculturation issues and help them adapt to their host environment (Tidwell & Hanassab, 2007). Furthermore, Yakushko et al. (2008) suggest "counseling center staff and other professionals who work with international students on U.S. campuses may need to create a greater resource network for international students by training faculty, physicians, and others involved in the care of these students to recognize symptoms of psychological distress and to point them in the direction of valuable campus services" (p. 15).

Likewise, it is recommended that international students could use blogging for social support when they are adjusting to a new culture. They can share their experiences and help others to deal with uncertainty and anxiety. According to Nardon, Aten, and Gulanowski (2015), expatriates gain knowledge, new perspectives, and new understanding through blogging, and they feel comforted. Moreover, Nardon et al. (2015) suggest that blogging could be an alternative to face-to-face communication to provide social support for adjustment.

Finally, the research showed that female international students coming from countries high on UA and high on PD have greater social interaction acculturative stress than female students from low UA and high PD countries. This result provides a new depth to simply labeling students international or domestic; it provides greater awareness that students' cultural backgrounds play an important role in their adaptation. This cultural nuance is important because it could also explain why international students' acculturation might differ and why students from some countries might have more difficulty than

others. In other words, culture appears to play a role in understanding these difficulties as well as understanding how individuals cope with stressors in a host culture. Using this finding, academic staff and counselors can look into how to approach international students who are coming from low vs. high UA countries. These staff members might provide different strategies for international students who are coming from these different countries.

### **Limitations and Future Research**

This study has a number of limitations. First, data were collected in California, which is the state that hosts the most international students according to the Institute of International Education (2013). For example, about 13 % of California's population is Asian, which means Asian international students can easily access support and guidance. Second, the present dataset is made up of international students primarily from Asian countries, which means that the conclusions should be considered tentatively, as more varied representation of cultures are needed to reduce potential bias. In other words, it might be difficult to make some generalizations about all international students in the USA. Future studies should attempt to survey a larger number of international students studying in the USA from the Middle East, Africa, South and Central America, and Australia. Further studies also should gather more information about domestic students' adaptation process to college or university. Although domestic students are staying in the same country, they still have to adapt to life at a university. College students often leave their homes to attend college. Their acculturative stress and adjustment to college life may also be a kind of culture shock that, while not necessarily different at the national level, is different at social and contextual levels. In the present study, students at the university

where the data were collected were most likely commuters to the university, as the university had few on-campus residences. Nonetheless, it is not known if the students commuted from their home base where they grew up (i.e., still living with their caregivers) or if they had moved out and were living on their own. These are limitations to the study that would warrant control in future research.

A third potential constraint is that most of the students in the dataset were single, which means it was not possible to make a more powerful comparison of single and married students' acculturative stress. Zhang (2012) states that research shows a mixed result about the effect of marital status on acculturative stress among international students. Zhang found no differences between single or married international students on acculturative stress. Klineberg and Hull (1978) and Pruitt (1978) also did not find any differences between married and single students. Conversely, De Verthelyi (1995) discussed that married international students might experience a higher level of acculturative stress than single international students because when they spend their time with their spouse they are not able to socially interact with other international or domestic students. Thus, this lack of interaction with other students might cause increased social isolation among married international students. Future research should look more deeply into the marital life effect such as marital stressors and marital support on acculturative stress because factors beyond being married itself could be an explanation for mixed results.

Research to date has also yielded equivocal findings regarding the effects of length of stay in the USA on international students' adaptation patterns. Future research should

look into factors that might interact with length of stay, such as personal characteristics like shyness or assertiveness and cultural variables such as UA or PD.

Fourth, the entire socio-cultural adaptation measure was not used for the analysis because some items were only relevant to international students (e.g., understanding the local accent/language). As a result, after an exploratory factor analysis, only eight items were used for both the domestic and international student groups. Those eight items had strong and unambiguous factor loadings, ranging from .84 to .90 on localizing acculturative stress and .70 to .79 on social interaction acculturative stress. Moreover, the final alpha reliability coefficients for the constructs were good, ranging from .74 to .89. Those eight items were suitable to make a comparison between international and domestic students' acculturative stress. Future studies should attempt to find or create different measures to assess not only international students' acculturative stress, but also domestic students' acculturative stress. Moreover, future studies could use specific measures for international students such as the Acculturative Stress Scale for International Students, the Adjustment Difficulties Scale, or the Cultural Adjustment Difficulties Checklist (Duru & Poyrazli, 2011; Poyrazli et al., 2004; Wilton & Constantine, 2003).

Finally, this study employed a cross-sectional design, which makes it impossible to obtain a real cause-and-effect relationship. To address this limitation, future research could employ a longitudinal design that tracks the same study participants over a single year or several years from the time they enter the USA and measure (observe) changes that happened over time. For example, future studies could compare international students' level of acculturative stress at the time they begin university studies in the USA and the time they finish them. According to Wilton and Constantine (2003), Latin

American and Asian students reported lower levels of distress if they stayed in the USA for longer periods. Studies of this type could give more information about the degree of their stress and how it can be managed over time.

### **Conclusion**

The above limitations notwithstanding, the present study clearly shows that international students have greater localizing and social interaction acculturative stress than domestic students. Secondly, the study suggests that having one caregiver who knows the U.S. culture provides international students with an advantage, such as that they identify more with the host country (but they do not show lower acculturative stress compared to those with nonimmigrant caregivers). The implication of identification with the host country on acculturative stress, however, is still not clear. The present findings suggest that it may not have a relationship with acculturative stress. However, the number of students with a caregiver who was an immigrant to the USA or a U.S. national was too small to provide any firm conclusions. Further, the finding that female international students who hail from a low UA/high PD culture, such as China, Vietnam, and India, have less social interaction acculturative stress than female international students from high UA/high PD culture, such as Argentina, Japan, and South Korea, suggests that counselors should be conscientious about the international students' cultural background and not just take note of the fact that s/he is international. Culture of origin, along with other demographic variables, might also play an important role.

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## APPENDIX A

Table 2  
*Country of Birth*

Country	U.S. Students		Int. Students	
	Frequency	Percent	Frequency	Percent
USA	146	85.4%	4	2.0%
Argentina			1	0.5%
Belarus			1	0.5%
Brazil			2	1.0%
Bulgaria			2	1.0%
Canada			1	0.5%
China/People's Republic of China/Hong Kong			23	11.2%
Colombia			2	1.0%
Cyprus			1	0.5%
El Salvador	1	0.6%		
Fiji Islands			1	0.5%
France			2	1.0%
Germany	1	0.6%	1	0.5%
Greece			1	0.5%
Guyana			1	0.5%
Honduras			1	0.5%
Hungary			1	0.5%
India			30	14.6%
Indonesia			7	3.4%
Iran			1	0.5%
Japan			27	13.2%
Kenya			1	0.5%
Korea	1	0.6%	10	4.9%
Macau			1	0.5%
Malaysia			2	1.0%
Mexico			4	2.0%
Myanmar/Burma			2	1.0%
Nepal			1	
Nicaragua	1	0.6%		
Norway			1	0.5%
Pakistan	2	1.2%	4	2.0%
Palestine	1	0.6%	2	1.0%
Peru			2	1.0%
Philippines	4	2.3%	6	2.9%
Poland			2	1.0%
Russia			2	1.0%
Saudi Arabia			1	0.5%
Serbia and Montenegro			1	0.5%
Slovenia			1	0.5%

Table 2. Cont'd

Country	U.S. Students		Int. Students	
	Frequency	Percent	Frequency	Percent
Spain			2	1.0%
Sweden			2	1.0%
Taiwan	1	0.6%	36	17.6%
Thailand	1	0.6%	3	1.5%
Turkey			3	1.5%
U.K.			1	0.5%
Vietnam			5	2.4%



## APPENDIX B

## Survey Items

Below are the survey items retained for the current study, not including demographics described in the Method section.

1. *Acculturation to the USA*

On a scale of 1 (Strongly Disagree) to 7 (Strongly Agree), international students rated whether their “experience and behaviors regarding [items listed below] are similar to most....” people from the respondents home country and people from the USA.

Domestic students rated the extent to which the listed behaviors are similar to most people from the USA.

1. Clothing
2. Pace of Life
3. General Knowledge
4. Food
5. Religious Beliefs
6. Material Comfort (standard of living)
7. Recreational activities
8. Self-identity
9. Family Life
10. Accommodations/residence
11. Values
12. Friendships
13. Communication Styles
14. Cultural Activities
15. Language
16. Perception of Co-nationals
17. Perception of Host Nationals
18. Political Ideology
19. World View
20. Social Customs
21. Employment Activities

## *2. Acculturative Stress*

The acculturative stress measure is a 40-item measure adopted from Searle and Ward (1990). Based on the factor analyses, I retained the following eight items. All items were rated on a scale of 1 (no difficulty) to 5 (extreme difficulty), international students rated the amount of difficulty they have when adjusting to the U.S. culture and their life in the USA. Domestic students rated the amount of difficulty they experienced in different areas of their lives in the USA. Items 1 to 4 constitute the Social Interaction subscale and Items 5 to 8 constitute the Localizing subscale, as obtained in the exploratory factor analysis.

1. Making friends
2. Making yourself understood
3. Going to social events/gatherings/functions
4. Talking about yourself with others
5. Understanding the locals' world view
6. Taking the local perspective on the culture
7. Understanding the local value system
8. Seeing things from the locals' point of view