

ACCULTURATIVE STRESS AMONG INTERNATIONAL COLLEGE STUDENTS

by

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ABSTRACT

The purpose of the current study was to explore levels of acculturative stress among foreign-born undergraduate students. Additionally, the current study examined the relation between region of origin and level of acculturative stress. As hypothesized, mean levels of self-reported acculturative stress were higher in the current sample when compared to the original sample of the *Acculturative Stress Scale for International Students* (ASSIS; Sandhu & Asrabadi, 1994). Additionally, as hypothesized, higher mean scores were reported on the (a) Homesickness, (b) Stress Due to Change/Culture Shock, and (c) Nonspecific Concerns subscales of the ASSIS compared to the other four subscales. Finally, partial support was found for the third hypothesis. While there was not a statistically significant difference on total acculturative stress scores between participants from European and non-European regions of origin, those from non-European regions did report statistically higher scores on the Nonspecific Concerns subscale compared to those from European regions.

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CHAPTER I: INTRODUCTION

Acculturation

Definition of Acculturation

Acculturation occurs when individuals or a group leave their home community and interact with another culture (Hickey, 2015). Acculturation is a process that involves integrative changes between one's culture of origin and the new culture, for example, meeting new social and communication norms, adopting new beliefs and practices, as well as developing new mindset. According to Gbadamosi (2018), people's culture of origin greatly influence how they prioritize or feel attached to certain activities, and the way they build connections while living in the new culture. Berry theorized that the process of acculturation occurs in four different styles for different individuals: (a) integration; (b) separation; (c) assimilation; and (d) marginalization (Jones, 2014). Integration refers to people being able to accept the host culture while maintaining their native culture. Separation happens when people keep their native cultural identity while rejecting the host culture. Assimilation is a style of acculturation in which people adopt the norm of the host culture, and leaves their native beliefs and values behind. Marginalization is also referred to as individualism, a type of acculturation in which people rejects both their native culture as well as the new culture. People highly values their individual uniqueness (Jones, 2014).

Factors Affecting Acculturation

Acculturative stress refers to negative experiences involving anxiety and distress, which occur during the process of adjusting to a new culture (Bai, 2016). Researchers

have found certain sources that may contribute to acculturation stress: (a) social customs; (b) language proficiency; (c) socioeconomic status and financial problems; (d) academic struggles; (e) perceived discrimination; (f) homesickness; and (g) lack of social support (e.g., Lee et al., 2004; Nilsson et al., 2008; Tung, 2011). In addition, factors like legal status, reasons for immigration, and traumatic experiences before and after immigration may also compound acculturative stress (Elizalde-Utnick, 2010). Acculturative stress can persist in immigrants for as long as 3 to 4 years.

Consequences of Acculturative Stress

Research has suggested that acculturative stress may contribute to emotional maladjustment which manifests in symptoms such as anxiety, depression, and fear. Children from immigrant families who experienced increased levels of perceived discrimination and elevated psycho-physical symptoms are more likely to withdraw socially, drop out of school, and exhibit problematic behaviors (Elizalde-Utnick, 2010). Research has found that international students also are at increased risk for experiencing coping difficulties and mental health problems (e.g., Constantine et al., 2004; Lee et al., 2004). Additionally, they have been found to report loneliness and perceived discrimination (e.g., Valenzuela et al., 2015).

Acculturative Stress among International College Students

Studies have shown that international students are vulnerable to experiencing acculturative stress that might impact their social functioning (e.g., Chavajay & Skowronek, 2008; Constantine et al., 2004). Because international students are often challenged with unfamiliar academic and social demands, it is not uncommon for them to

experience peer alienation due to lack of similar references in conversation, which may impede them from establishing close friendships (e.g., Rivas et al., 2019; Wadsworth et al., 2008). Perceived discrimination from peers may not only negatively affect their learning outcome but also might discourages them from engaging with the local community (Wadsworth et al., 2008). International students usually had high expectation of success in school in their country of origin. When they perceive that they are encountering academic difficulties, or not being treated fairly, they may experience psychological distress and social dissatisfaction (Tung, 2011).

Regional Differences in Acculturative Stress among International Students

Subgroup differences in acculturative stress have been found among international students studying abroad (e.g., Akhtar & Kröner-Herwig, 2015; Rivas et al., 2019; Yeh & Inose, 2003). While not all have found significant differences in acculturative stress by country or region of origin (Chavajay & Skowronek, 2008), several studies exploring acculturative stress among international students studying in U. S. universities have reported that students from European countries experience lower levels of acculturative stress than those from other regions of the world (e.g., Bai, 2016; Poyrazli et al, 2004; Yeh & Inose, 2003). Constantine et al. (2004) found that that region of origin had a significant relation to self-reported levels of acculturative stress among international students studying in the U.S., $F(10, 622) = 4.86, p = .001$. Specifically, they found that African students ($M = 91.73, SD = 20.95$) self-reported statistically higher rates of acculturative stress than did student from Latin American and Asian countries. They also reported that international students from Latin America countries ($M = 83.07, SD =$

23.33) has significantly higher acculturative stress scores than did Asian students ($M = 73.96$, $SD = 25.38$). Bai (2016) also found a significant difference in acculturative stress by country of origin among international students studying at universities in the U.S., $F(5, 145) = 2.488$, $p = 0.034$. Specifically she reported that students from Middle Eastern countries ($M = 104.75$) had statistically significant higher levels of acculturative stress than students from European countries ($M = 77.16$). Akhtar and Kröner-Herwig (2015) studied international students attending universities in Germany. They found that students from African ($M = 104.84$, $SD = 27.09$) and Asian ($M = 98.53$, $SD = 25.96$) countries reported significantly higher level of acculturative stress than students did from Latin American ($M = 92.82$, $SD = 26.41$) and European ($M = 86.59$, $SD = 24.09$) countries. Rienties et al. (2012) noted that it is important for universities in host counties to gain an understanding of international students' acculturative needs, and provide them support systems that are culture-sensitive.

Homesickness and Guilt

Without families and adequate social support around, international students have to be highly independent. Homesickness has been found to be a prominent factor related to acculturative stress (e.g., Akhtar & Kröner-Herwig, 2015). Akhtar and Kröner-Herwig (2015) studied 652 international students studying in German universities. They used the *Acculturative Stress Scale for International Students* (ASSIS, Sandhu & Asrabadi, 1994) to assess acculturative stress. They found that the Homesickness subscale, which uses a 5 point Liker-scale, was the highest ranked area ($M = 2.66$, $SD = 0.93$) of the seven areas assessed on the ASSIS. In a study exploring acculturative stress among 130 international

students studying in the U.S., Chavajay and Skowronek (2008) also found the Homesickness subscale to be ranked the highest ($M = 3.0$, $SD = 0.9$) out of the seven *ASSIS* subscales. Fritz et al. (2008) studied 246 students (both international and U.S. residents) attending a community college in the U.S. No significant differences were found between international students as a group and American students regarding experiencing difficulties being apart from their families and friends. However, when they subdivided the international students into two groups (Asian and European students) significant differences emerged. Specifically, European students ($M = 2.1$, $SD = 0.6$) reported more difficulties associated with being apart from their families than Asian ($M = 1.8$, $SD = 0.7$) or American students ($M = 1.7$, $SD = 0.6$) did, $p < 0.05$. Although international students leave their families behind to pursue further study in a foreign country, the Guilt subscale was not found to be a main sources of acculturative stress among the participant in Akhtar and Kröner-Herwig (2015, $M = 2.03$, $SD = 0.88$, ranked 6th out of 7 subscales) nor Chavajay and Skowronek (2008, $M = 1.9$, $SD = 0.9$, ranked 7th out of 7 subscales) studies using the *ASSIS*.

Perceived Discrimination/Rejections

It is not always easy for international students to adapt to the culture of their host country. Multiple barriers may arise when international students interact with people from their host country. For example, Wadsworth et al. (2008) noted that due to language barriers, international students sometimes find themselves being interpreted differently by their American peer students. Wadsworth et al. (2008) studied 218 international students attending a university in the U.S. They explored the relation between discrimination

using the Perceived Discrimination and Hostility subscale from the *ASSIS* (Sandhu & Asrabadi, 1994) and an author constructed measure of acculturation adapted from two other measures, *Bicultural Involvement Questionnaire* (Birman, 1998, as cited in Wadsworth et al., 2008) and *Short Acculturation Scale for Hispanics* (Marin et al., 1987, as cited in Wadsworth et al., 2008). They found a significant negative correlation between perceived discrimination and level of acculturation ($r = -0.19, p < 0.01$). Additionally, Wadsworth et al. (2008) found that perceived discrimination ($\beta = -0.41, p < 0.01$) adversely affected the educational experiences of international students. Nilsson and colleagues (2008) surveyed 76 Asian international students studying in the U.S. using the Perceived Prejudice subscale of the *American-International Relations Scale* (Sodowsky & Plake, 1991, as cited in Nilsson et al., 2008) and the *College Stress Inventory* (Solberg, et al., 1993, as cited in Nilsson et al., 2008). They found that perceived prejudice was significantly related to stress, $t = 6.30, p < 0.001$.

Although Sandhu & Asrabadi (1994) found that the Perceived Discrimination subscale accounted for 38.3% of the variance in the total score on the *ASSIS*. The international student in both Chavajay and Skowronek (2008; $M = 2.4, SD = 0.7$) and Akhtar and Kröner-Herwig (2015; $M = 2.32, SD = 0.76$) ranked the Perceived Discrimination 4th out of the 7 subscales on the *ASSIS*. Akhtar and Kröner-Herwig (2015) also found that the international students who stayed in a host country for more than 6 months reported significantly higher scores on the Perceived Discrimination subscale compared to those who stayed 6 months or less ($t = 3.75, p < 0.001$). Using open

ended questions, Chavajay and Skowronek (2008) found that 48% of the international students in their study reported the “others had treated them in negative ways” (p. 831).

Perceived Hate/Rejections.

School support and peer student relationship also affect educational experiences of international students. International students may perceive that the cultural values they grew up with are not appreciated or understood in social interactions with peers in their host country. For example, students raised in collectivistic cultures may feel that the reserved approaches advocated in their home culture do not work well if social communications are more individualistic in their host country (Constantine et al., 2004). Akhtar and Kröner-Herwig (2015) found that the Perceived Hate/ Rejection subscale was ranked 5th ($M = 2.26$, $SD = 0.81$) out of the 7 subscales of the *ASSIS*. Interestingly, Chavajay and Skowronek (2008) also found Perceived Hate/ Rejection subscale to be ranked 5th ($M = 3.0$, $SD = 0.9$) out of the 7 *ASSIS* subscales among their sample.

Fear

Fear refers to the insecure emotions caused by the belief that someone or something is not safe, likely to be unpleasant or dangerous. It is closely related to the judgement of the crime rate and violence from the American neighborhood, racial discrimination or social-political hostility imposed on the person’s ethnicity and social identity. According to Akhtar and Kröner-Herwig (2015), the Fear subscale ($M = 1.86$, $SD = 0.76$, ranked 7th out of 7) was found to be the least reported source of acculturative stress among international students in their study. Chavajay and Skowroner (2008) also

observed that the Fear subscale ($M = 1.9$, $SD = 0.6$) was ranked last out of the 7 subscales on the *ASSIS*.

Stress Due to Cultural Changes or Culture Shock

International students have to cope with cultural transitions regarding differences in social systems, racial issues, and cultural values. According to Akhtar and Kröner-Herwig (2015), cultural distance between the host country and home country influence the way people feel towards life necessities such as food, weather, daily routines as well as religious belief and political ideologies. In their study, the Stress Due to Change/Culture Shock ($M = 2.37$, $SD = 0.82$) subscale was rated the 3rd highest among the 7 areas of acculturation stress assessed on the *ASSIS*. Akhtar and Kröner-Herwig (2015) also found that international students staying in Germany for over 6 months reported significantly higher level of cultural shock than students staying there for 6 months or shorter ($t = 2.39$, $p < 0.05$). Chavajay and Skowronek (2008) found the Stress Due to Change/Culture Shock subscale to be ranked the 2nd highest ($M = 2.6$, $SD = 0.8$) out of the 7 *ASSIS* subscales.

Other Issues

Sandhu and Asrabadi (1994) noted that there were questions that made significant contributions to the overall acculturative stress scores on the *ASSIS* but were distinct from the other six subscales. They referred to these as nonspecific concerns and they included things such as (a) level of perceived proficiency with the host country's language, (b) insecurities about participating in social activities, and (c) concerns about other people's perceptions of their culture and/or ethnicity. According to Akhtar and Kröner-Herwig

(2015), the Nonspecific Concerns ($M = 2.53$, $SD = 0.76$) subscale had the 2nd highest mean score of the 7 subscales on the *ASSIS* for the participants in their study. Similarly, Chavajay and Skowronek (2008) found the Nonspecific Concerns subscale ($M = 2.5$, $SD = 0.6$) was ranked 3rd out of the 7 subscales on the *ASSIS*. On open-ended questions, these authors further found that 82% of the international students in their sample reported most of their acculturative stresses came from social engagement.

Researchers have taken different approaches to examining the relation between acculturative stress and proficiency in the host country's primary language. Yeh and Inose (2003) studied 359 international students attending a large urban university in the U.S. While the *ASSIS* uses one question to address perceived fluency in English, these authors created a scale with three questions assessing self-reported fluency in English. They found that perceptions of English fluency were significantly related to the overall score for acculturative stress on the *ASSIS*, $t = -4.69$, $p < 0.001$. Bai (2016) studied 152 international students studying in the U.S. She used international students TOEFL scores to assess level of English proficiency. She did not find English proficiency to be significantly related to the total acculturative stress score on the *ASSIS*. ($r = -0.13$).

Summary

Acculturative stress has been found to affect international students studying abroad (e.g., Nilsson et al., 2008; Valenzuela et al., 2015; Wadsworth et al., 2008). The *ASSIS* is one of the measures that has been used to evaluate the level of acculturative stress among international students (e.g., Akhtar & Kröner-Herwig, 2015; Bai, 2016; Chavajay & Skowronek, 2008; Constantine et al., 2004; Poyrazli, et al., 2004; Sandhu &

Asrabadi, 1994; Yeh & Inose, 2003). According to the author of the *ASSIS*, the total score ranges from 36 to 180, and higher score indicated higher level of acculturative stress (Sandhu & Asrabadi, 1998). A score of 66 indicated the average level of acculturative stress on the *ASSIS*, and scores of 109 and above indicated extreme acculturative stress. In the studies reviewed for this project that used the *ASSIS* (e.g., Akhtar & Kröner-Herwig, 2015; Bai, 2016; Chavajay & Skowronek, 2008; Constantine et al., 2004; Poyrazli, et al., 2004), all reported higher mean scores than the mean reported by the original authors (Sandhu & Asrabadi, 1994; 1998). The means from those five studies ranged from 81-95 with studies published more recently reporting the highest scores. For example, Bai (2016), reported that the mean level of acculturative stress was statistically higher in her sample compared to the students in the original studies by Sandhu and Asrabadi (1994; 1998).

Some of the researchers using the *ASSIS* have explored differences among the seven subscales of the measure (e.g., Akhtar & Kröner-Herwig, 2015; Chavajay & Skowronek, 2008). While Sandhu and Asrabadi (1994) reported that the Perceived Discrimination subscale accounted for the highest amount of variance (38%) in the total score on the *ASSIS*, both Akhtar & Kröner-Herwig (2015) and Chavajay & Skowronek, (2008) found that it had the 4th highest mean scores for the international students in their studies. They both found that the Homesickness scale had the highest mean score reported by the participants in their studies. Chavajay & Skowronek, (2008) found that Stress Due to Change/Culture Shock was the 2nd highest followed by Nonspecific

Concerns. Akhtar and Kröner-Herwig (2015) found Nonspecific Concerns to be 2nd, while Stress Due to Change/Culture Shock was 3rd.

Region of origin also has been found to be related to international students' perceptions of acculturative stress (e.g., Akhtar & Kröner-Herwig, 2015; Bai, 2016; Constantine et al., 2004; Yeh & Inose, 2003). Previous studies have found that international students from Non-European countries report higher levels of acculturative stress than those from European countries (e.g., Akhtar & Kröner-Herwig, 2015; Bai, 2016; Constantine et al., 2004; Poyrazli et al., 2004; Yeh & Inose, 2003). For example, Middle Eastern (Bai, 2016) and Asian (Poyrazli et al., 2004) international students studying in the U.S. were found to report significantly greater level of acculturative stress than students did from European countries. International students studying in the U.S. from African countries were found to report more acculturative stress than their peers did from Asian or Latin American countries (Constantine et al., 2004).

Purpose of the Current Study

The purpose of the current study was to explore levels of acculturative stress among foreign-born college students studying at a midsized, public university using the *ASSIS* (Sandhu & Asrabadi, 1994; 1998). Additionally, the current study examined the relation between of region of origin and level of acculturative stress reported on the *ASSIS*.

Hypotheses

Hypothesis 1. It was predicted that the mean level of acculturative stress in the current study of foreign-born university students studying in the U.S. would be

significantly higher than the mean reported by the authors of the *ASSIS* (Sandhu & Asrabadi, 1994; 1998).

Hypothesis 2. It was predicted that there would be difference in the level of acculturative stress reported on the seven subscales of the *ASSIS*. Specifically, it was predicted that the Homesickness, Stress Due to Change/Culture Shock, and Nonspecific Concerns subscales would have the highest levels of self- reported acculturative stress.

Hypothesis 3. It was predicted that foreign-born students from European regions of origin would report significantly lower levels of acculturative stress on the *ASSIS* compared to foreign-born students from non-European regions of origin.

CHAPTER II: METHODS

Participants

The participants were 27 undergraduate foreign-born students enrolled at midsized university in the Southeast. They were recruited from the Psychology Department's research subject pool through the SONA system. Most of the participants (52%) were 18-19 years old; 41% of the participants were 20-21 years old, 4% of the participants were 22-24 years old and 4% were 25 years old or older. The majority of the participants were men (59%), and 41% were women. Most of the participants were freshmen (41%); 30% of the participants were sophomores, 22% were juniors and 7% were seniors. The majority of participants were from Non-European (78%) regions; 22% of the participants were from European regions. Of those who were not from European regions, 33% of the participants were from the Middle East, 19% were from Asia, 15% were from Africa, 7% were from Latin America and one person indicated being from the Caribbean.

Measures

Demographics

The following demographic information was collected and analyzed in this study: (a) age; (b) gender; (c) educational status; and (d) region of origin. The question addressing age was presented in the following age ranges: (a) 18-19; (b) 20-21; (c) 22-24; and (d) ≥ 25 years old. The question addressing educational status included (a) freshmen, (b) sophomore, (c) junior, and (d) senior. Participants were asked to indicate their region of origin from the following choices: (a) Africa; (b) Asia; (c) Europe; (d) Latin America

(Central or South America); (e) Middle East; and (f) Other. If participants selected other they were asked to type in their region of origin.

Acculturative Stress

The current study used the *Acculturative Stress Scale for International Students* (ASSIS; Sandhu & Asrabadi, 1994) to examine the level of acculturative stress reported by foreign-born undergraduate students studying at MTSU. The questionnaire included 36 items classified into the following seven subscales: (a) perceived discrimination; (b) homesickness; (c) perceived hate/rejection; (d) fear; (e) stress due to change/culture shock; (f) guilt; and (g) nonspecific concerns. Participants rated each item on a 5-point Likert scale (1 = *strongly disagree*, 3 = *not sure*, and 5 = *strongly agree*). The authors of the ASSIS conducted a factor analysis which revealed six primary factors. A seventh scale, Nonspecific Concerns was constructed from items that could not be grouped with the other six factors but made a significant contribution to the overall score. The authors of this measure reported strong internal consistency for the overall scale, $\alpha = .95$ (Sandhu & Asrabadi, 1994). Of the studies discussed in this project, all reported strong internal consistency reliability scores ranging from 0.91 to 0.95 (e.g., Bai, 2016; Chavajay & Skowronek, 2008; Constantine et al, 2004; Poyrazil et al., 2004; Yeh & Inose, 2003). In the current study, the internal consistency of the overall scale was high, $\alpha = .95$.

Perceived Discrimination. The perceived discrimination subscale includes 8 items assessing perceived discrimination by others or other groups (i.e. “Others are biased towards me.” “Many opportunities are denied to me.”). This subscale accounted for 38.3% of the variance in the totals score (Sandhu & Asrabadi, 1994). A moderate

level of internal consistency reliability was reported by Chavajay and Skowronek (2008) for this subscale, $\alpha = 0.87$. In the current study, the internal consistency was the same, $\alpha = .87$.

Homesickness. The Homesickness subscale measures includes 4 items assessing degree of longing for one's home country and the people left behind (i.e. "Homesickness bothers me." "I miss the people and country of my origin."). This subscale accounted for 9.0% of the variance in the total score (Sandhu & Asrabadi, 1994). A weak level of internal consistency reliability ($\alpha = 0.63$) was reported by Chavajay and Skowronek (2008) for this subscale. In the current study, the internal consistency was higher, $\alpha = .78$.

Perceived Hate/Rejections. The 5 items on this subscale assess perceived confrontation with resentment, rejection, or hostility (i.e. "Others are sarcastic toward my cultural values." "People show hatred toward me through actions."). This subscale accounted for 7.2% of the variance in the total score (Sandhu & Asrabadi, 1994). An adequate level of internal consistency reliability for research purposes was reported by Chavajay and Skowronek (2008), $\alpha = 0.70$. In the current study, the internal consistency was higher, $\alpha = .85$.

Fear. The 4 items on this subscale assess the fears international student may have (i.e. "I feel for my personal safety because of my cultural background." "I frequently relocate for fear of others."). Sandhu and Asrabadi, (1994) found that the Fear subscale accounted for 6.1% of the variance in the total score. A weak level of internal consistency reliability ($\alpha = 0.56$) was reported for this scale by Chavajay and Skowronek (2008). In the current study, the internal consistency was higher, $\alpha = .78$.

Stress Due to Change/Culture Shock. This subscale includes 3 items assessing emotions such as anxiety or physical tension (i.e. “Multiple pressures are placed upon me after migration.” “I feel uncomfortable adjusting to new cultural values.”). This subscale accounted for 3.7% of the variance in the total score (Sandhu & Asrabadi, 1994). A weak level ($\alpha = 0.54$) of internal consistency reliability was reported by Chavajay and Skowronek (2008) for this subscale. In the current study, the internal consistency was similar, $\alpha = .49$.

Guilt. The guilt subscale includes 2 items assessing how international students feel of guilty regarding something he/ she has done or has failed to do (i.e. “I feel guilty to leave my family and friends behind.” “I feel guilty that I am living a different lifestyle here”). This subscale accounted for 3.2% of the variance in the total score (Sandhu & Asrabadi, 1994). An adequate level ($\alpha = 0.72$) of internal consistency reliability for research purposes was reported for this subscale by Chavajay and Skowronek, (2008). In the current study, the internal consistency was higher, $\alpha = .80$.

Nonspecific Concerns. This subscale is also referred to as miscellaneous, and consists of 10 items assessing extra concerns international students might have during the acculturating process (“I feel angry that my people are considered inferior here”, “It hurts when people don’t understand my cultural values”). This subscale accounted for another 3.1% of the variance in the total score (Sandhu & Asrabadi, 1994). An adequate level of internal consistency reliability for research purposes also was reported for this subscale by Chavajay and Skowronek (2008), $\alpha = 0.72$. In the current study, the internal consistency was higher, $\alpha = .81$.

Procedure

Approval was obtained from the Institutional Review Board prior to data collection (IRB Protocol ID 22-20497q). International students were recruited from the Psychology Department's research pool using the SONA system. The study was administered online through Qualtrics. Before beginning the survey, participants were asked to provide informed consent and to verify that they were not born in the U.S. Next, they were presented with the demographic questions followed by the *ASSIS* (Sandhu & Asrabadi, 1994). At the end of the survey, information about local and online counseling resources was provided.

CHAPTER III: RESULTS

Hypothesis 1

It was predicted that the mean level of acculturative stress in the current study of foreign-born university students studying in the U.S. would be significantly higher than the mean reported by the authors of the *ASSIS* (Sandhu & Asrabadi, 1994; 1998). For hypothesis 1, a *t test* was used to compare the mean total score in the current study to what was reported by the authors of the *ASSIS*. Support was found for hypothesis 1. The mean ($M = 80.07$, $SD = 26.14$) for overall level of self-reported acculturative stress on the *ASSIS* in the current study was significantly higher than the mean ($M = 66.32$) reported by the authors of the *ASSIS*, $t(26) = 2.73$, $p = .011$.

Hypothesis 2

It was predicted that there would be difference in the level of acculturative stress reported on the seven subscales of the *ASSIS* (Sandhu & Asrabadi, 1994). Specifically, it was predicted that the (a) Homesickness, (b) Stress Due to Change/Culture Shock, and (c) Nonspecific Concerns subscales would have the highest levels of self-reported acculturative stress among the participants in the current study. Hypothesis 2 was supported. Means, standard deviations and rank orders for all seven of the *ASSIS* subscales are reported in Table 1.

Table 1.

Descriptive Statistics for the Subscales of the ASSIS

<i>ASSIS</i>	<i>M</i>	<i>(SD)</i>	Rank Order
Overall score	80.07	(26.14)	
Homesickness	2.55	(1.01)	1 st
Stress Due to Change/Culture Shock	2.42	(0.93)	2 nd
Nonspecific Concerns	2.26	(0.77)	3 rd
Perceived Discrimination	2.20	(0.86)	4 th
Guilt	2.15	(1.06)	5 th
Fear	2.03	(0.89)	6 th
Perceived Hate/Rejections	2.01	(0.85)	7 th

Note. $N = 27$. 5-point Likert scale (1 = *strongly disagree*, and 5 = *strongly agree*).

Hypothesis 3

It was predicted that foreign-born students from European regions of origin would report significantly lower levels of acculturative stress on the *ASSIS* compared to students from non-European regions of origin. For hypothesis 3, an ANOVA was used to evaluate the differences in the mean total score on the *ASSIS* as well as the seven subscales between these two groups. Partial support was found for hypothesis 3. Regarding the *ASSIS* (Sandhu & Asrabadi, 1994) total acculturative stress score, although not statistically significant, participants from European regions of origin ($M = 62.33$, $SD =$

14.84) reported lower scores than those from non-European regions of origin ($M = 85.14$, $SD = 26.68$), $F(1, 26) = 3.96$, $p = .058$. Participants from European regions of origin reported statistically significant lower levels of acculturative stress on the Nonspecific Concerns subscale compared to students from non-European regions of origin, (see Table 2). No other statistical differences between the two groups were found for the remaining subscales of the *ASSIS*; however, participants from European regions of origin did report lower acculturative stress scores on these subscales compared to those from non-European regions of origin.

Table 2.

ASSIS Differences by Region of Origin

<i>ASSIS</i>	<u>European</u>		<u>non-European</u>	<i>F</i>	
	<i>M</i>	<i>(SD)</i>	<i>M</i>		<i>(SD)</i>
Perceived Discrimination	1.63	(0.50)	2.36	(0.88)	3.76
Homesickness	2.29	(1.26)	2.62	(0.95)	0.48
Perceived Hate/Rejections	1.73	(0.47)	2.10	(0.93)	0.83
Fear	1.50	(0.50)	2.18	(0.92)	2.94
Stress Due to Change/Culture Shock	2.11	(0.40)	2.51	(1.03)	0.84
Guilt	1.75	(0.82)	2.26	(1.11)	1.09
Nonspecific Concerns	1.57	(0.55)	2.45	(0.72)	7.78**

Note. $N = 27$. * $p \leq .5$. ** $p \leq .01$.

CHAPTER IV: DISCUSSION

The findings of in the current study are similar to other research regarding acculturative stress among foreign-born college students studying abroad using the *ASSIS* (Sandhu & Asrabadi, 1994). Specifically, consistent with other researchers (e.g., Akhtar & Kröner-Herwig, 2015; Bai, 2016; Chavajay & Skowronek, 2008; Constantine et al., 2004; Poyrazli, et al., 2004), the average level of acculturative stress reported by participants in this study was significantly higher than the average level of overall acculturative stress reported by the original authors of the *ASSIS* (Sandhu & Asrabadi, 1994). Additionally, similar to past researchers (e.g., Akhtar & Kröner-Herwig, 2015; Chavajay & Skowronek, 2008), foreign-born students in the current study reported higher levels of Homesickness, Stress Due to Chang/Culture Shock, and Nonspecific Concerns compared to the other areas of acculturative stress assessed on the *ASSIS*. Interestingly, perceived discrimination was ranked as the 4th highest reported area by participants in this study and was the same result found by Akhtar and Kröner-Herwig (2015) as well as Chavajay and Skowronek (2008).

Different from some previous research (e.g., Akhtar & Kröner-Herwig, 2015; Bai, 2016; Constantine et al., 2004; Poyrazli, et al., 2004), in the current study, overall level of acculturation stress were not statistically different between participants from European and non-European regions of origin. Chavajay and Skowronek (2008), however, also found a lack of statistical difference between these groups. This study did find that foreign-born students from non-European regions experienced statistically higher level of acculturative stress due to Nonspecific Concerns compared with their peers from

European regions of origin. As the authors of the *ASSIS* noted, the items on this scale make significant contributions to the overall acculturative stress scores but are distinct from the other six subscales (Sandhu & Asrabadi, 1994).

Limitations of the Current Study

The current study has several limitations. First, the sample size was small and from one university. The sample may not be representative of all foreign-born or international students studying in the U.S. This limits the generalizability of these findings. The findings of the current study should be interpreted with caution (e.g., Akhtar & Kröner-Herwig, 2015; Bai, 2016).

Second, the differences in the overall level of acculturative stress were analyzed based on region of origin. For example, international students from Japan, China or South Korea were homogeneously labelled as Asian in this research. This may limited interpretation of data. Analysis at the level country of origin might reveal more valuable insight based on cultural diversity.

Third, there may be issues with the *ASSIS* (Sandhu & Asrabadi, 1994) that affect the interpretation of the findings in this study. For example, although the *ASSIS* was reported by the original authors to have readability level at the eighth grade level (Sandhu & Asrabadi, 1994, as cited in Yeh & Inose, 2003), linguistic differences among participants could still be an issue that might interfere with the current findings (e.g., Akhtar & Kröner-Herwig, 2015; Bai, 2016). Additionally, the numbers of the items on the *ASSIS* may not be enough to capture the complicated nature of international students' dynamic experiences with acculturative stress (e.g., Chavajay & Skowronek, 2008).

Finally, data regarding factors such as gender, the length of staying in America, level of English language proficiency, and the use of counselling services were not analyzed in the current study. Previous studies have found that international students staying in Germany for more than six months had higher levels of perceived discrimination experiences (Akhtar & Kröner-Herwig, 2015). Additionally, both language competence and social connectedness have been shown to be important mediating factors experiencing acculturative stress (Chavajay & Skowronek, 2008).

Future Directions

Researchers should continue to explore factors that are significantly related to acculturation stress among unique groups of international students. Akhtar and Kröner-Herwig (2015) suggested that longitudinal studies should be conducted to help reveal a clearer picture of the developmental stages of acculturative stress experienced by different international students. The unique acculturative experiences and coping needs of international students should be reflected using linguistically and culturally-sensitive instruments. Researchers also should incorporate comprehensive methods to collect information to adequately reflect cultural diversity and individual differences (Bai, 2016). Studying acculturative stress among international students should be conducted using an ecobehavioral model. Institutional issues should be assessed, identified and adequately addressed. Then those research findings should be used to inform policy decisions on how to eliminate cultural bias, to enhance connectedness, and to facilitate a sense of belonging for international students studying abroad in universities (e.g., Bai, 2016; Yeh & Inose, 2003)

Future studies should continue to aim to identify how to effectively facilitate international students' wellbeing during their acculturative transitions. It is necessary for the university faculty and staff to be cognizant of the needs of the international students they served and to have a good understanding of those variables that are related to acculturation stress. Yeh and Inose (2003) suggested that international students would benefit from group training workshops to learn how to clearly express their needs, and to enhance their skills related to increasing their social connectedness.

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