

UNDERSTANDING INTERNATIONAL STUDENTS' CULTURAL
ADAPTATION IN ACCULTURATION FRAMEWORK

A Thesis

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Master of Arts

by

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ABSTRACT

The number of international students studying in the United States has reached unprecedented levels over recent years. While the process of acculturation has been studied over this time, we argue that there has been a lack of a systematic approach that considers the impacts of the ecological context on cultural adaptation. This study examined cultural adaptation as an outcome of the acculturation process, which is impacted by the ecological context. We studied international students from multiple countries who were studying at Cornell University, which is located in the Northeastern United States. This study surveyed international students using an online questionnaire and utilized a stepwise multiple regression analysis and a principal component analysis to test our hypotheses regarding cultural distance, individual characteristics, familial context, and institutional and societal context in regard to their influence on students' ability to adapt. We hypothesized that international students who perceived that there was a large distance between their home and host (the U.S.) country culture, large distance between personal ideal culture and the host culture, and small distance between personal ideal culture and home culture would be less likely to adapt. Additionally, we predicted that students who were motivated to adapt, resilient, and proficient in English would also be more likely to adapt successfully. We also hypothesized that stable early family life, strong ties to family and friends in their home country, and perception of host institution and society as inclusive or exclusive of internationals would influence their adaptation. We found that students who are highly motivated to adapt to the US culture and who perceived their English skills as proficient are better able to adapt to the new culture. Also, those who had a stable early family life and those who perceived the host institution and general society as inclusive of international students were more likely to adapt to the U.S. culture. However, we did not find that resilience, strong ties to family or friends residing in the home country or perceived cultural distance were likely to lead to successful adaptation.

Keywords: International students, Cultural adaptation, Cultural distance, Individual characteristics, Ecological context, Acculturation framework

To my father Chimed-Ochir Bekh-Ochir, mother Altantuya Tsembe (1960 - 2005)
and, big brother Battulga Chimed-Ochir,
Those who are reasons who I am today and the family that will always be cherished in
my heart.

BIOGRAPHICAL SKETCH

Ulziimaa Chimed-Ochir is pursuing a Master's degree in Human Development on a Fulbright Foreign Student Grant in Dr. Robert Sternberg's laboratory. Prior to this, she received her Bachelor's degree from the Department of Business Administration, Mongolian University of Science and Technology, Ulaanbaatar, Mongolia in 2007. During this time she was awarded a one-year Student Fellowship by the Naraa San Foundation. She also volunteered to work on a long-term human resource development project at a local mining corporation. From 2008 to 2016, she worked at the Employee development and human resources department at Wagner Asia Equipment LLC in Ulaanbaatar, Mongolia, working her way up to a training and development manager position. In 2016, she gave a speech on domestic violence at the World Speech Day event at Citizen's hall in Parliament House, Ulaanbaatar, Mongolia.

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CHAPTER 1

Introduction

Over the past ten years, international student enrollment in higher education in the United States has increased by 84.7 percent (Open Doors, 2016). These international students face numerous challenges as they cross borders and cultures. Studying in academic settings is stressful even for domestic students (Brisset et al., 2010); it is an even greater challenge for international students who are from cultures with different values, norms, and languages. For international students, leaving behind the friends and family members who are part of their identity may cause additional psychological problems (Heine, 2012). According to the findings of Winkelman (1994), sixty percent of sojourners (those who resides temporarily in a place), in this case expatriates, return home without accomplishing their goals because they find the host country hostile and do not successfully adjust into the new society.

A primary focus of cross-cultural psychology is the study of the acculturation process and its impact on a sojourner's psychological state (Demes et al., 2015). Acculturation is defined as a process that is executed by a sojourning individual after entering a cultural community that is different from the one in which the individual was initially socialized (Chirkov, 2008). Because of the acculturative stressors and sometimes the psychopathological consequences that sojourners experience during the process of acculturation, researchers were initially focused on the negative impacts of acculturation on sojourners' psychology. However, researchers have recently been taking a more nuanced view of the acculturation process and have started to focus on the positive impacts that acculturation brings. Sojourners develop self-esteem and resiliency as a result of acculturation, as it may be a major and sometimes adverse life event that requires

one to have perseverance and emotional strength (Tadmor et al, 2012; Pan, 2011). Characteristics that can emerge from the successful adaptation in sojourners are personal growth, interpersonal resources, a broader range of cultural skills and a stronger sense of world-mindedness (Ward, 2008; Moores et al, 2011). Given the fact that successful adaptation can result in positive impacts on sojourners, it is salient to learn more about how international students negotiate acculturation successfully and what factors play an important role in their successful adaptation.

Theoretical framework

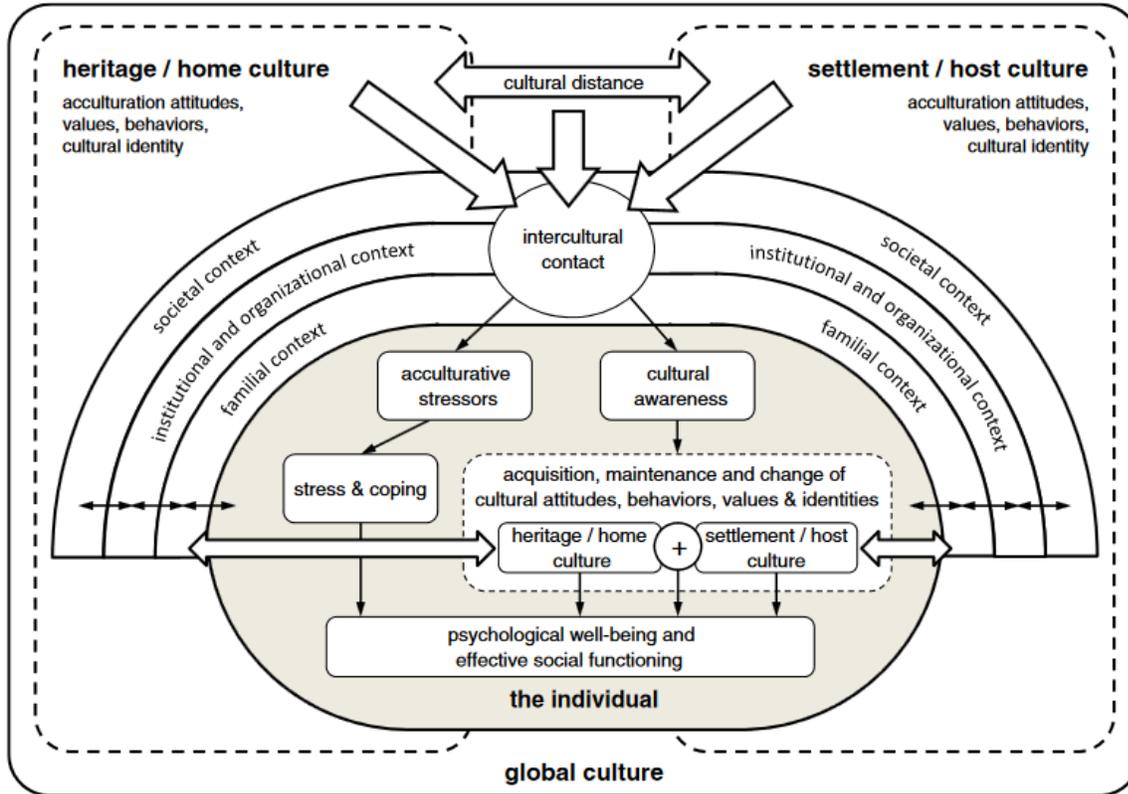
Early research regarded acculturation as a universal process, and thus studied it in an anthropological domain at a cultural or group level. This direction stemmed from the anthropological view of acculturation, which defines acculturation as a phenomenon that occurs when two or more cultures come into contact and result in changes to cultural patterns at the group level (Ward, 2008). Psychologists have long used this definition, which led them to search for universal acculturation trajectory models to explain how acculturation occurs over time. These models include the U-curve, J-curve or W-curve, in which the horizontal axis is time and vertical axis is life satisfaction (Oberg, 1960; Ward et al, 1998). Recent work has expanded and examined acculturation at the individual level in the psychological domain (e.g. Berry, 1997; Ward and Searle, 1990), considering individual level variables such as stressors, coping strategies, and cultural learning. However, Chirkov (2009) argued that neither the group level nor the individual level approach alone is sufficient; instead, there needs to be an integration of these concepts with an additional focus on ecological context (characteristics of the external environment in which an individual initially was socialized). First, he says that the search for the identification of universal trajectories is problematic, because he argues that not every sojourner

will follow the same trajectory during the acculturation process. Second, group and individual level approaches still ignore the important concept that an individual's psychological mechanism which is a unique personality that has been influenced by the people, community, and broader society, which the individual has been raised in has an impact on acculturation. In other words, it still misses the point that these individual characteristics function in relation to the broader ecological context of intercultural contacts (Ward & Geeraert, 2015). Thus, this field of study could be missing the important point that the outcome of acculturation may be heterogeneous and may result naturally from the influence of interpersonal and contextual factors.

Ward and Geeraert (2015) extended these ideas and proposed an acculturation process and context framework (Figure 1) which asserts that acculturation is a dynamic process that can be unique to the sojourner and will depend upon the characteristics of both the home and host cultures' ecological contexts as well as an individual's characteristics. According to the framework, the acculturation process starts with the concept of intercultural contact: the characteristics of home or heritage culture and the host or settlement culture as well as the distance or the dissimilarity between the two. The framework further suggests that for individuals to achieve successful cultural adaptation, effective management of acculturative stressors as well as the acquisition of values and identities of two different cultures are important. Although individuals' interpersonal resources play a pivotal role in cultural adaptation, these individual-level factors operate within the broader ecological context of intercultural contact.

Because Ward and Geeraert's (2015) acculturation framework successfully brings ecological, individual and, cultural aspects into consideration, it is an excellent model to study cultural adaptation – that is, an outcome of acculturation process and a measure of increased

Figure 1. Acculturation process and context framework



level of satisfaction in life, psychological well-being, and effective social functioning. This study employs the acculturation process and context framework (Ward & Geeraert, 2015) to investigate the cultural adaptation of international students relative to cultural distance, individual characteristics, familial context, and institutional and societal context variables.

Literature Review

Cultural Distance

Cultural adaptation may be influenced by cultural distance – that is the difference between the cultures with respect to the shared values and norms that define the normative meanings of sociocultural properties (Geeraert & Demoulin, 2013). As the acculturation process starts with a firsthand contact of two distinct cultures, it is fundamentally important to understand the characteristics of both home and host cultures, including the similarity and the difference between the two (Ward & Geeraert, 2015). Research emphasized the importance of understanding the effects of cultural distance on one’s ability to adapt, since evidence suggests that a large distance between two cultures makes it stressful and difficult to adapt (Ward, 2008; Ward & Geeraert, 2015). Therefore, building on Ward and Geeraert’s (2015) acculturation framework, the current study examined three separate perceived cultural distance variables: perceived distance between home and host cultures; perceived distance between personal ideal culture and the host culture; and perceived distance between personal ideal culture and the home culture.

Perceived cultural distance variables. The concept of distance between cultures and its effect on acculturation were actively studied in the 1970s to 1990s (e.g., Babiker et al. 1980, Hofstede, 1983, Ward & Chang, 1997, Ward & Kennedy, 1992, 1993b). However, fewer studies since 2000 have rigorously investigated the effects of cultural distance (e.g., Cetinkaya-Yildiz & Cakir, 2011, Geeraert & Demoulin, 2013). Specifically, there is a lack of work on how distant the person is feeling from his or her home culture while in their host country and how this feeling affects acculturation (Chirkov, 2009). While some researchers studied cultural differences from

the lenses of social and physical attributes such as climate, food, language, and leisure activities (e.g., Babiker et al., 1980; Ward & Kennedy, 1992), others studied it using personality factors (e.g., Ward & Chang, 1997; Ward and Leong, 2004) or the social norms and values that are imbued into the cultural environment (Hofstede, 1983). The instruments that researchers used to measure the difference between home and host cultures were generally based on perception of the sojourners. However, some researchers attempted to use more objective measurements to measure differences between cultures, such as Gross Domestic Product (GDP – a measure that gauges health of a country's economy), the UN's Human Development Index (HDI – a measure of a country's achievement in human development dimensions including a healthy life, being educated and having a decent standard of living), Schwartz's values (Ten basic motivationally distinct values that are dynamically related with each other), and Hofstede's dimensions (set of values that describes the effects of a society's culture on its members behavior) (Geeraert & Demoulin, 2016).

However, the findings of the previous research (e.g., Babiker et al., 1980; Ward & Chang, 1997) vary, making it difficult to generalize. Previous research found significant association between psychological distress and differences between sojourners personality profile and host culture norms (Ward and Chang, 1997). Babiker et al, (1980) found relationship between the perceived cultural distance between home and host country and psychiatric symptomatology. Furnham and Bochner (1986) as well as Ward and Kennedy (1992, 1993b) found an association between cultural distance and sociocultural adaptation difficulties among multinational sojourners. Contrary to these findings Geeraert et al, (2013), Cetinkaya-Yildiz, (2011) did not find any association between cultural distance and adaptation.

In general, personal perceptions about cultural difference are found to be better predictors of acculturation than objective measures. Research prove that emotional and psychological well-being is more dependent on the sojourner's perception of a stressful events than the objective level of hassle the sojourner experienced (Pan et al, 2011). Therefore, we use perceived cultural distance measures in the current study. In this study, we examine how cultural adaptation is impacted by the perceived distance between home country and host country (the US), and the perceived distances between their personal ideal culture and the cultures of their home and host countries.

Individual characteristics

One needs various skills and interpersonal resources to figure out how to cope with a new culture, go from ideas about acculturation to actually implementing the actions needed for adaptation and ascertain whether one's adaptation is succeeding (Sternberg, 2001). From an acculturating individual, intercultural contact may require a management of acculturative stressors along with acquisition and maintenance of home and host cultural behaviors and values (Ward & Geeraert, 2015). In line with these statements, the current study examines individual level factors including motivation to adapt, resilience and a self-reported English proficiency in relation to cultural adaptation.

Self-Reported English Proficiency. Departing from the Ward and Geeraert (2015) framework, we examine the effect of language proficiency on successful cultural adaptation. Language is an essential constituent and a depiction of culture; therefore, it may not be easy to separate the two concepts. Chirkov (2009) stated that the language people learned since their birth make them innately bounded to the cultural reality that they are surrounded by. This

statement implies that people have a cultural connection to the culture associated with the language of their birth and even if they become fluent in other languages they will be lacking this same connection to those cultures, yet the ability to speak in the host country language is necessary for successful adaptation. Thus, we examined language and its role in predicting cultural adaptation.

Studies have confirmed the links between a lack of language skills and lower levels of psychological well-being, because of the poor academic achievement resulted by lack of language proficiency (Lin and Yi, 1997). Language difficulty is especially distressing for international students because they mostly were academically successful students in their home countries (Pederson, 1991). Therefore, language difficulties are a major challenge and often hinder international students' ability to interact socially with their native English speaking counterparts (Arora, Yeh and Inose, 1998). Specifically, higher levels of self-reported English proficiency, such as higher frequency of use, higher fluency level, and greater comfort speaking English, reduces acculturative stress (Arora, Yeh and Inose, 1998). Moreover, self-reported or subjective evaluation of one's English proficiency was proven to be a more reliable predictor of psychological well-being and cultural adaptation (Wang et al., 2015) compared to the objective evaluations such as standardized language tests (Hirai et al., 2015). Therefore, in light of these studies, we expected to see a positive association between self-reported English proficiency and cultural adaptation.

Motivation to adapt. Building on an individual's cultural awareness and attitude in the Ward and Geeraert (2015) framework, the current study also examines the effect of motivation to adapt to the new culture with regards to cultural adaptation. Motivation to adapt, in the current study, is a measure of readiness to examine the social, political and religious values of the new

culture as well as the willingness to try new activities in order to learn about the new culture. To date, similar concepts have been studied using the terms of cross cultural motivation (Chen and Kirkman, 2010), valuing cultural transmutation (e.g., Kagan and Cohen, 1990), and openness to new experience which is one of the Big Five personality traits (e.g., Hirai et al, 2015; Demes et al., 2015) and their relationship with cultural adaptation.

Numerous studies suggest an association between motivation to adapt and cultural adaptation. Hotta et al (2013) concluded that the cultural transition is quicker and smoother when the locals act as inviting hosts and sojourners act as willing-to-learn guests. In a sample of expatriates, cross cultural motivation was proven to be positively related to work adjustment, and work adjustment facilitated good job performance (Chen and Kirkman, 2010). In a sample of international students, openness to new experiences predicts favorable adjustment. Openness helps students welcome new challenges, preserve a sense of well-being and develop skills to effectively function socially during the cultural transition (Hirai et al, 2015).

However, other studies found no associations or even negative associations between the motivation to adapt and cultural adaptation. For example, Ward and Leong (2004) found no associations between openness and cultural adaptation. Surprisingly, Demes and Geeraert (2015) found association between openness to new experiences and increased level of stress. Also, they did not find any link between openness and mental health well-being. They provided a speculative explanation that this is because students who are open to new experiences often put themselves in unfamiliar situations that are usually stressful and demanding. Given these controversial findings, we are interested in continuing to examine this concept in relation to cultural adaptation.

Resilience. Building on the individual's values and identities in the Ward and Geeraert (2015) framework, the current study examines the explanatory power of resilience in predicting cultural adaptation. Resilience has been defined as a process of or capacity for successful adaptation by utilizing interpersonal resources to overcome significant stressors, challenges and adversity in life (Khawaja et al, 2014; Yousafzai et al, 2013; Sameroff et al, 2006). Sameroff et al. (2006) stated that many of the factors associated with resilience have been determined, including intelligence, resourcefulness, and mental health. Studies show that people who were raised in at-risk families have a higher probability of developing mental health issues such as anxiety, depression and suicidal ideation (Sameroff et al, 2006). However, resilience research has demonstrated that subgroup of the at-risk population can also develop normal and healthy psychological functioning without any signs of psychopathology (Pan, 2011). Research has provided critical insight which has demonstrated that a child's first 3 years of life is the most significant time during which to conduct for interventions that foster resilience in children (Yousafzai et al, 2013). In line with these findings, it is essential to create positive family dynamics, such as close family relationships and parental support, because they provide the most consistent effect in promoting mental health and resilience (Tol et al., 2013).

It is important to study resilience in the domain of international students' acculturation process. First, the acculturation process is viewed as a major life event that causes stressors that may lead to psychopathological consequences. Resilient youths however can develop and maintain robust psychological functioning with no sign of mental problems following cross-cultural experiences (Pan, 2011). Therefore, knowledge of resilience and its protective power may improve intervention programs that aim to help international students who are experiencing acculturation stress. Second, no international student can be immune from the stresses associated

with acculturation; therefore, studies may contribute by describing a “resilient mindset” (Goldstein and Brooks, 2005) that enables them to develop mechanisms for protection against mental health issues.

In acculturation studies, resilience has been studied either as a benefit of acculturation, or as an overarching framework that is subdivided into factors that ameliorate or exacerbate adaptation. Pan et al (2011) studied international students’ adaptation, developing “A resilience framework for acculturation research” based on the characteristics of a Chinese student sample. They studied the factors that constructed the resilience framework and their relationship with positive emotional outcomes such as psychological well-being and life satisfaction. The resilience framework is composed of the factors: meaning-in-life (having a goal-oriented and purpose driven life), sense-making coping (making positive reasoning for the negative life experiences they had), acculturative hassles, and stressfulness appraisal (determining whether an encounter was stressful or not). They found that acculturative hassles and stressfulness appraisals were major risk factors that can lead to psychopathology. In contrast, sense-making coping and meaning-in-life were salient protective factors that aid successful adaptation. Geeraert and Demoulin (2013) concluded that resilience is a positive outcome of acculturation, as they demonstrated that those who adapted successfully developed personal growth in terms of heightened self-esteem and acculturative resilience.

Resilience has been studied either as an outcome of the acculturation or as an overarching framework. However, to the best of our knowledge, no study has examined resilience as an antecedent of acculturation; that is, as an individual’s characteristic that predicts successful adaptation. It was our particular interest to investigate to what extent resilience defines successful adaptation.

Familial context

Although cultural adaptation is achieved at an individual level, the family is conceivably the most important influence on adolescents' adjustment. Positive family dynamics create a vital part of the young person's ecological context, in which social interactions are learned and practiced (Stuart et al, 2016). Family climate significantly influences the acculturation process, with unity tending to lead to positive outcomes and conflict leading to negative outcome (Ward & Geeraert, 2015). Therefore, under the category of familial context in the Ward and Geeraert (2015) framework, we examine closeness of ties to family and friends in home country and stability of early family life as antecedents of cultural adaptation.

Closeness of ties to family and friends in home country. Based on the familial context in the Ward and Geeraert (2015) framework, we examined sojourners' ties to family and friends in their home countries and how these ties ameliorate or exacerbate cultural adaptation. Closeness of ties to family and friends in home country is a measure of connectedness with, affection, and support from family members and friends in students' home country, and we study how this factor influences the facilitation of successful adaptation.

Previous research conducted by Arends-Toth et al. (2008) among five different cultural groups residing in Netherlands (Dutch mainstreamers and Turkish, Moroccan, Surinamese, and Antillean immigrants) found a strong and positive direct correlation between individual well-being and family ties in all five cultural groups. Interestingly, they also found first-generation immigrant groups reported stronger family ties than second-generation immigrants and Dutch mainstreamers. They showed that the more the immigrants adopted elements of the mainstream, in particular individualistic, culture, the more the strength of family ties decreased. Another

study concluded that continuous contact with relatives in the sojourner's native country has a positive effect on maintaining home identity and perceptions of social support, and together these two positively affect cultural adaptation (Cemalcilar and Falbo, 2005). Furukawa et al (1993) indicated that the number of friends in the native country of Japanese students who were sojourning in various countries was found to be strong predictor of cultural adaptation.

Influence of ties to family and friends in cross-cultural adaptation is rarely studied among international students' samples (Bierwiazzonek et al., 2016), yet it is a salient factor to study as individuals, especially ones from collectivist countries, consider a self as a relational entity that is essentially connected to and sustained by relationships with family and friends (Heine, 2012). However, there has been little research addressing this issue among international students. The current study will examine the effects on successful adaptation of closeness of ties to family and friends in the home country.

Stability of early family life. Building on the Ward and Geeraert (2015) framework, the current study also examines international students' stability of early family life in the familial context and its effect on students' ability to successfully adapt to new cultural settings. In this study, stability of early family life serves as a measure of the presence of open communication, affective bonds, and emotional support among family members during the sojourners' early lives.

Stable early family life as characterized by responsive parenting and affectionate family climate will greatly benefit a child's further development and ability to adapt in the face of challenges (MacPhee et al., 2015; Sameroff et al., 2006; Tol et al., 2013). For adolescents, early family life filled with warmth and support serve as a foundation of successful engagement in the social environment while distant and conflictual family environment may leave young people

unprepared for future challenges (Stuart et al, 2016). An affectionate bond in the parent-child relationship promotes security and confidence in adolescents. With this secure base, adolescents will be better able to cope with abrupt changes, overcome the hassles in life easily, and learn to adapt quickly to new roles and environments (Crosnoe & Elder, 2004). In contrast, adolescents who have reported unstable early family lives had relatively poor adaptation, as evidenced by increased rates of unfavorable behaviors such as drug use and unsafe sexual activities (Stuart et al, 2016). A study conducted by Choe et al (2013) found that mothers who reported amplified level of maternal distress were observed as being disengaged and showing negative parenting toward their toddlers when the toddlers tried to exert autonomy and prosocial behaviors. The result of this longitudinal study showed that suboptimal levels of maternal warmth toward their young children exacerbated the quality of caregiving essential to children's behavioral adjustment, thus contributing to self-regulatory difficulties at pre-school age and had long term effects on the growth of adjustment problems (Choe et al, 2013). Similar to their findings, Sameroff et al (2006) also found that unstable early family life (high-risk family environment) had negative effects on a child's competence and led to behavioral and mental health problems. Their 18-year longitudinal study, which followed infants through adolescence, revealed that highly competent children in high-risk family environments did worse on the mental health test conducted at 18 years old than did low competent children in low-risk family environments. Another surprising result that Sameroff et al (2006) found was that very few families could move out of the high-risk family category to the low-risk family category for the full period of their study.

Though much of the research has extensively studied family relationships and parenting in relation to children's self-regulation and behavioral problems, little research has focused on

international students' early family life in relation to their adaptability. Therefore, to fill this gap, our study examines stability of early family life vis-a`-vis cultural adaptation among international students.

Institutional and societal context

Beyond the family, the host institutions and the society in general provide an influential context for adaptation. Institutional and societal contexts have proven important in determining adaptive behaviors, as evidence suggests that inclusivity of the host society positively affects the ability of sojourning individual to adapt successfully. At the institutional level, social support from the school officials, teachers and academic peers; at the societal level, acceptance of diversity, multicultural policies and positive acculturation climate encourage stronger orientation toward the host institution and the mainstream culture among international students (Ward & Geeraert, 2015). Therefore, the current study examines perceived social inclusion in the category of institutional and societal context in predicting cultural adaptation.

Perceived Social Inclusion. Integrating the institutional and societal context of the Ward and Geeraert (2015) framework, we studied effects of perceived social inclusion as a representation of this particular context in relation to cultural adaptation. Social inclusion is one of the most widely studied factors of international student adaptation, but there is no standardized term for it across studies. Terms that are widely used and measures the same concept include social support, social connectedness, social ties, friendship with host nationals, acceptance of diversity, and inclusiveness of mainstream society. Terms that essentially measure the same concept from the opposite state of social inclusion are social discrimination and social exclusion. Studies use both subjective and objective approaches to examine social inclusion and

how it affects sojourners' cultural adaptation. However, previous research suggests that it is the subjective measures that are most promising, as they have been consistently associated with various health outcomes and psychological well-being (Furukawa et al, 1998, Kessler et al, 1994)

In the current study, perceived social inclusion is regarded as a measure of an individual's judgement of the supportiveness of the host institution, academic peer groups, and the social environment. Past research confirms that there are significant associations between perceived social inclusion and psychological well-being and life satisfaction. For example, Hendrickson et al. (2011) found that students who reported higher numbers of friendships with host national peers also reported higher life satisfaction and less homesickness. Other research studied the same concept in relation to international students' self-esteem and stress level. They found that building up a strong tie with host nationals serves to promote high self-esteem and low level of depressive symptoms (Al-Sharideh, 1998; Geeraert and Demoulin, 2013). However, Bochner et al (1985) suggested that the majority of international students do not have host national friends after one year of residency, and therefore the opportunity for them to effectively adapt to the new culture is reduced. Host nationals have been found to not make use of opportunities to make international friends (Williams & Johnson, 2010). This may be perceived by international students as social exclusion or even racial discrimination. Studies prove that perceived racial discrimination is significantly associated with lower perceptions of social support, greater levels of depression and lower levels of life satisfaction (Prelow et al, 2006). Because of the strong evidence that social inclusion is important, we included it as a predictor of cultural adaptation.

Overview of the Present Study

In this research, we present findings from a cross-sectional study of forty-six international students of multiple nationalities at a large university in the Northeastern United States. The goal of the present study was to conduct a comparative analysis to examine the cultural adaptation of international students based on the Acculturation process and context framework proposed by Ward and Geeraert (2015). In accomplishing this goal, we tested specific hypotheses derived from the Acculturation framework. Throughout the study, we used subjective evaluations (sojourners' own perceptions) because studies suggest that one's perception impacts psychological well-being more than the actual level of hassles they experience (Pan, 2011). The predictor or antecedent variables used in this study are derived from the acculturation process and context framework: cultural distance (which include perceived distance between host and home culture, perceived distance between ideal and host culture, perceived distance between ideal and home culture), individual characteristics (which include motivation to adapt, self-reported English proficiency and resilience), familial context (which includes closeness of ties to family and friends in home country and stability of early family life) institutional and societal context (namely perceived social inclusion). The outcome variable is cultural adaptation, which is the outcome of acculturation process, and it is mostly defined by the sojourner's psychological well-being and efficiency of social functioning.

The specific hypotheses derived from the acculturation process and context framework are:

1. Cultural distance hypothesis: International students who reported poor adaptation are those who perceive great distance between the home culture and the host culture (the US), those who perceive great distance between personal ideal culture and the host

culture, and those who perceive small distance between personal ideal culture and home culture.

2. Individual characteristics hypothesis: international students who reported successful adaptation are those who perceives themselves as resilient, motivated to adapt to the host culture, and highly proficient in English.
3. Familial context hypothesis: international students who reported successful adaptation are those who are closely connected with their family and friends in home country and had a stable early family life.
4. Institutional and societal context hypothesis: international students who reported successful adaptation are those who perceive the host society as inclusive of internationals.

CHAPTER 2

Method

Participants

A total of 85 students participated in the survey over a two-month period. The initial sample was comprised of 42% graduate students and 68% undergraduate students. However, 18 of the students did not complete the survey and therefore were removed from the sample. An additional 21 students did not meet the requirements for participating in the survey and were removed from the sample, resulting in a final sample size of 46 international students.

The mean age of participants was 24 years ($SD = 4$). The majority (66%) were undergraduate students (Table 1). Of the participants in this study, most identified as Asian (69.6%), followed by Black/African (11%), Hispanic/Latino (9%), White Caucasian/Non Hispanic (11%). Students in the Asian category came from China (28%), Korea (19%), and other countries including Mongolia, Japan, and Taiwan (20%; each country less than 7%) (Table 2). In all, 65% of the participants were female. Most of the participants (74%) were non-native English speakers. With regard to socio-economic background, most participants were from the upper middle to upper (52%) class, followed by middle class (30%), lower middle class (9%), working class (7%), and other (2%). Participants' mothers' and fathers' education levels were mostly Bachelor's degree (41% equally in both parents' groups), with some having attained Master's degrees (13%, 15% respectively), Professional degrees (6%, 8%), Doctorate degrees (2%, 4%), High school graduate with diploma (13%, 6%), and all other levels

Table 1. Demographic characteristics of the participants

	Mean	SD
Age	24	4
Age arrived in the US	20	5
Years spent in the US	2	2
	N	%
Gender = Male	16	35
Marital Status		
Married	4	9
Not married	41	89
Other	1	2
College Level		
Freshman/first-year	9	20
Sophomore	7	15
Junior	5	11
Senior	5	11
Graduate student	20	44
Native English speaker = Yes	12	26
Years speaking in English		
1 to 3 years	4	10
4 to 6 years	8	19
7 to 10 years	7	17
More than 10 years	23	55
Socio-Economic Class		
Upper class	6	13
Upper-middle class	18	39
Middle class	14	30
Lower-middle class	4	9
Working class	3	7
Other	1	2
Follow a religion = Yes	19	41

Table 2 Racial background and birth country of the participants

	N	%
Racial Background		
Asian	32	69.6
Black/African	5	10.9
Hispanic or Latino	4	8.7
White Caucasian/Non-Hispanic	5	10.9
Birth Country		
Argentina	1	2.2
Beijing	1	2.2
Bermuda	1	2.2
Canada	2	4.3
Chile	3	6.5
China	10	21.7
France	1	2.2
Germany	1	2.2
Ghana	1	2.2
Hong Kong	1	2.2
India	3	6.5
Japan	1	2.2
Kazakhstan	1	2.2
Kenya	2	4.3
Mongolia	2	4.3
Nigeria	1	2.2
Philippines	1	2.2
South Africa	1	2.2
South Korea	9	19.6
Tanzania	1	2.2
Trinidad and Tobago	1	2.2
Viet Nam	1	2.2

of education, including associate degrees, vocational education, some college credit with no degree, some high school with no diploma, nursery school to 8th grade or less and no schooling (21%, 22% respectively; each level of degree less than 8%) (Table 1).

Materials

The survey questionnaire was administered in English. Therefore, the language used in the survey needed to be straightforward and comprehensive for international students. To ensure comprehension, the survey was tested informally on several students, including international graduate students who had recently arrived in the US and second- and third-year undergraduate students. Based on their feedback, several changes in wording were made. Cultural attributes were defined through a focus group consisting of 7 international students and 3 professors, who discussed their preferences for selecting their ideal place to live.

A survey including 75 questions was employed to examine the outcome variable Cultural Adaptation, as based on Ward and Geeraert's (2015) acculturation framework. In line with the framework, the survey measured variables under 4 interrelated categories, namely cultural distance, individual characteristics, familial context and institutional and societal context. Under the category of cultural distance, the variables studied are the perceived distance between home and host (the US) country cultures ($CD_{\text{home-US}}$), perceived distance between personal ideal culture and host country culture ($CD_{\text{ideal-US}}$), and perceived distance between personal ideal culture and home country culture ($CD_{\text{ideal-home}}$). Under the category of Individual characteristics, motivation to adapt (MA), resilience (RES), and self-reported English proficiency (SREP) variables are examined. Variables in the category of familial context are stability of early family life (SEFL), and closeness of ties to family and friends in home country (CTFFHC). Finally, the variable studied in the category of institutional and societal context is perceived social inclusion (PSI). All of the above variables are detailed in the following sections.

For all categories other than cultural distance, we asked students to indicate how much they agree or disagree with certain statements or to select a multiple-choice answer. Questions

measuring perceived cultural distance asked participants to rate, based on their experiences, the importance of certain attributes of their home country and the host country, the United States, for the general population. They were also asked to rate the importance of the same attributes for themselves personally to define their ideal culture. Utilizing the cultural attribute scores, cultural distance between home and host country cultures ($CD_{\text{home-US}}$) and the personal ideal culture and home as well as host country cultures ($CD_{\text{ideal-US}}$, $CD_{\text{ideal-home}}$) were calculated.

Cultural Adaptation (CA). CA is an outcome of acculturation process and a measure of increased level of satisfaction in life, psychological well-being, and effective social functioning. Participants were asked to report their subjective adaptation level through answering eight questions (e.g., “*Overall, how comfortable do you feel living in the United States*”) on a 5-point scale ($1 = \textit{not at all}$ to $5 = \textit{a great deal}$). Higher scores represent a greater sense of adaptation. In the current study, the alpha coefficient for CA is 0.76.

Cultural distance category

To measure the cultural distance between two countries, 33 cultural attributes (e.g., equality, collectivism, freedom of speech) were utilized. The attributes were rated on a 5-point scale ($1 = \textit{not at all important}$ to $5 = \textit{extremely important}$) for home culture and their experience in the US culture. Participants were asked to rate the importance of the attributes for their home country and the host country, the United States, for the general population based on their experiences (e.g., “*Based on your experience, how important do you believe each of the following attributes is to the general population of your country of origin?*”). They were also asked to rate how important certain attributes were to them personally. These ratings were used

to calculate the difference between the cultures, in other words, the perceived cultural distance in accordance with the equation proposed by Kogut and Singh (1988). Higher scores represented a larger distance between cultures. Three perceived cultural distance measures were calculated, namely, perceived

Distance between the home and host cultures ($CD_{\text{home-US}}$),

Distance between personal ideal and host cultures ($CD_{\text{ideal-US}}$) and,

Distance between personal ideal and home cultures ($CD_{\text{ideal-home}}$). The alpha coefficients of the cultural distance measurements in the current study are 0.84 for $CD_{\text{home-US}}$, 0.83 for $CD_{\text{ideal-US}}$, and 0.85 for $CD_{\text{ideal-home}}$.

Individual characteristics category

Self-Reported English Proficiency (SREP). Participants were asked to report their subjective English proficiency level in both academic and day-to-day settings by answering a set of three questions on a 5 point scale (*1 = not at all to 5 = a great deal*). In the current study, the alpha coefficient for SREP is 0.84.

Motivation to Adapt (MA). MA is a measure of readiness to examine the social properties of the host society as well as the willingness to try new activities in order to learn about the new culture. A set of eight questions were utilized to measure motivation to adapt (e.g., “*How motivated are you to adapt to the new culture of life in the United States*”) on a 5-point scale (*1 = not at all to 5 = a great deal*). Higher scores represent more openness to new experiences. The alpha coefficient for MA is 0.56.

Resilience (RES). RES is a measure of the capacity for successful adaptation by utilizing interpersonal resources to overcome significant stressors and challenges in life. Resilience

questions were taken from the Personal Resilience Questionnaire Instrument (TLC solutions). This instrument was developed to assess participants' resilience level. Participants were asked to rate their agreement with certain statements (e.g., *"I draw strength from having overcome previous challenges and tough experiences"*). Responses were made on a 5-point scale (1 = *Strongly Disagree* to 5 = *Strongly Agree*). Higher scores represent a higher level of resilience. In this study, the alpha coefficient for RES is 0.84.

Familial context category

Closeness of Ties to Family and Friends in Home Country (CTFFHC). CTFFHC is a measure of connectedness with, affection for, and support from family members and friends in students' home country. A set of fifteen questions were developed to assess this variable (e.g., *"How often do you think about returning to your home country"*). Higher scores represent higher proclivity toward the country of origin. In the current study, the alpha coefficient for CTFFHC is 0.75.

Stability of Early Family Life (SEFL). SEFL is a measure of the presence of open communication, affective bonds, and emotional support among family members during the sojourners' early lives. The SEFL scale was assessed by twelve different attributes, including closeness to each other, confiding in each other, and listening to each other (e.g., *"Please rate the family climate in which you have been raised"*). The attributes were rated on a 5-point scale (1 = *not at all important to the family* to 5 = *extremely important to the family*). Higher scores indicate more stability in early childhood life. In the current study, the alpha coefficient for the SEFL is 0.95.

Institutional and societal context category

Perceived Social Inclusion (PSI). PSI is a measure of an individual's judgement of the supportiveness of the host institution, academic peer groups, and the social environment. There were nine items covered (e.g., "*How accepted do you feel when you are engaging in school activities?*") on a 5 point scale (*1 = not at all to 5 = a great deal*). Higher scores represented a higher sense of inclusiveness. In the current study, the alpha coefficient for PSI is 0.90.

Design

The study the effect of cultural change on international students' adaptability using correlational analyses. Correlational analyses were chosen because the students' adaptation was measured at one-time point. The dependent variable in the study was CA and the independent variables were the cultural distance variables ($CD_{\text{home-US}}$, $CD_{\text{ideal-US}}$, $CD_{\text{ideal-home}}$), individual characteristics (MA, RES, and SREP), familial context variables (CTFFHC and SEFL) and institutional and societal context variable (PSI). Each of the concepts listed above was subjected to analysis to determine their internal-consistency and reliability. Each set of questions was analyzed using Cronbach's alpha index to determine if concepts were sufficiently consistent to be summarized into a single variable (Cronbach's alpha > 0.7). In addition, we used stepwise multiple regression analysis and principal components analysis to evaluate how the independent variables predicted CA, the outcome variable.

Procedure

Prior to conducting the survey, this study was reviewed and approved by Institutional Review Board (IRB). The survey was generated using Qualtrics software, an online survey

platform, and an anonymous link to take part in the survey was sent to participants through e-mail. All international undergraduate and graduate students at Cornell University who have been in the United States (US) for a maximum of 5 years and are between the ages of 18 and 35 were invited to participate. The students were recruited through e-mails sent to a mailing list that includes all of Cornell's international students and a mailing list specific to the Cornell International Christian Fellowship. Announcements were also made in courses provided by the English Language Support Office (ELSO). The study was posted in the SONA Experiment Management System (a platform that psychology departments use for online research participation) which allows students to directly sign up for the study and earn extra credit in select psychology and other related courses. Reminders were sent every 3 to 5 days after each set of invitations were released.

The email invitation informed participants about the purpose of the research, eligibility requirements and the estimated completion time. The eligibility requirements were that students had to (1) be an international student, (2) have been in the US a maximum of 5 years, and (3) be between 18 to 35. The approximate time for completion of all survey materials was estimated to be 45 minutes. As participants clicked on the survey link, they automatically connected to the page that asked if they met the eligibility requirements. Students were then requested to complete a consent form, and advised that the information they provided would remain strictly confidential. At the end of the survey, the participants were debriefed and informed that the study was attempting to discover how cultural distance, the stability of early family life, resilience and ties to family and friends in their native country influence students' ability to adapt to a new culture. The participants were then thanked for their participation and cooperation.

Results

The roles of cultural-distance, individual-level, familial context and institutional and societal context categories of variables in moderating cultural adaptation (CA) were examined through correlation, multiple regression, and principal-components analyses. The cultural-distance category includes variables of cultural distance between home and host country ($CD_{home-US}$), distances between one's ideal culture and host-country culture ($CD_{ideal-US}$), as well as one's ideal and home-country culture ($CD_{ideal-home}$). The individual characteristics considered were self-reported English proficiency (SREP), motivation to adapt (MA), resilience (RES). The familial context category included stability of early family life (SEFL) and closeness of ties to family and friends in home country (CTFFHC). The institutional and societal context category is examined through only one variable, namely perceived social inclusion (PSI). In all three analyses conducted, stability of early family life was a borderline significant predictor and the variables including perceived social inclusion, motivation to adapt, and self-reported English proficiency were highly significant predictors of cultural adaptation.

All the variables except the cultural-distance (CD) measurements were calculated by averaging the results of the questions that correspond to the respective variables. The cultural distance measurements was calculated in accordance with the equation proposed by Kogut and Singh (1988),

$$CD_{home-US} = \sum_{i=1}^N \left(\frac{(D_{i\ host} - D_{i\ home})^2}{V_i} \right) / N$$

where $D_{i\ host}$ stands for the participant's score for the i th cultural attribute (e.g., freedom of speech) for the US, $D_{i\ home}$ stands for the score on the i th cultural attribute for their country or origin, V_i is the variance of the index of the i th cultural attribute across all participants, and N is

the number of cultural attributes (Lisa et al. 2014). There were a total of 33 cultural attributes utilized in the current study (see Appendix I).

Correlation Analysis

Preliminary analyses were conducted to assess the relationship among the main explanatory variables. Bivariate correlations between explanatory variables and the outcome variable cultural adaptation indicated positive correlations for motivation to adapt ($r = 0.35$, $p=0.01$), perceived social inclusion ($r = 0.75$, $p<0.001$), self-reported English proficiency ($r = 0.61$, $p<0.001$), stability of early family life ($r = 0.34$, $p=0.02$), resilience ($r = 0.24$, $p=0.11$) and perceived cultural distance between home and host country ($r = 0.15$, $p=0.32$), and negative correlations for closeness of ties to family and friends in home country ($r = -0.007$, $p=0.96$), perceived distance between personal ideal and host culture ($r = -0.27$, $p=0.06$) and perceived distance between personal ideal and home cultures ($r = -0.13$, $p=0.38$). The correlation test showed that each of the stability of early family life, motivation to adapt, perceived social inclusion, and self-reported English proficiency had a significant effect ($p<0.05$) on cultural adaptation, the outcome variable (Table 3).

Multiple Linear Regression

Based on the correlation test, stepwise regression analysis was performed using all of the explanatory variables. The variance inflation factor (VIF), which is the measure that quantifies the severity of multicollinearity among explanatory variables, was calculated for each variable. The VIFs ranged from 1.21 to 1.56 and were all below the 2.5 suggested threshold for the level

Table 3. Bivariate correlations among variables, means, and standard deviations (N = 46)

	CA	CDHome-US	CDIdeal-US	CDIdeal-Home	SREP	MA	RES	CTFFHC	SEFL	PSI
CA	1	0.15	-0.276	-0.131	0.609	0.351	0.239	-0.007	0.34	0.748
<i>Cultural Distance</i>										
CDHome-US	-	1	-0.699	-0.724	0.098	-0.055	0.157	-0.125	0.155	0.033
CDIdeal-US	-	-	1	0.785	-0.174	0.112	-0.172	0.251	-0.053	-0.282
CDIdeal-Home	-	-	-	1	-0.097	0.088	-0.076	0.252	-0.087	-0.103
<i>Individual characteristics</i>										
SREP	-	-	-	-	1	0.009	0.204	-0.026	0.221	0.441
MA	-	-	-	-	-	1	0.097	-0.055	-0.13	0.225
RES	-	-	-	-	-	-	1	0.208	0.222	0.13
<i>Familial context</i>										
CTFFHC	-	-	-	-	-	-	-	1	0.387	0.024
SEFL	-	-	-	-	-	-	-	-	1	0.262
<i>Institutional and societal context</i>										
PSI	-	-	-	-	-	-	-	-	-	1
Mean	3.468	1.015	1.131	1.112	3.913	3.309	3.567	3.264	3.746	3.192
SD	0.491	0.171	0.372	0.391	0.868	0.645	0.654	0.497	0.835	0.598

Note:

CA - Cultural Adaptation, CD_{home-US} - Perceived Cultural Distance between Home country culture and US culture, CD_{ideal-US} - Perceived Cultural Distance between Ideal culture and US culture, CD_{ideal-home} - Perceived Cultural Distance between Ideal culture and home country culture, SREP - Self-Reported English Proficiency, MA - Motivation to adapt, RES - Resilience, CTFFHC - Closeness of Ties to Family and Friends in Home Country, SEFL - Stability of Early Family Life, PSI - Perceived Social Inclusion

Table 4. Multiple regression analysis results for full and reduced models

	Dependent Variable: CA			
	Full Model		Reduced Model	
	β	SE	β	SE
PSI	0.377***	(0.091)	0.403***	(0.079)
SREP	0.19***	(0.055)	0.2***	(0.052)
MA	0.207***	(0.071)	0.198***	(0.065)
SEFL	0.112*	(0.06)	0.098*	(0.051)
RES	0.023	(0.069)		
CD _{Home-US}	0.173	(0.388)		
CD _{Ideal-US}	-0.167	(0.215)		
CD _{Ideal-Home}	0.128	(0.19)		
CTFFHC	-0.06	(0.098)		
Constant	0.401	(0.689)	0.38	(0.329)
Model Summaries				
Observations	46		46	
R2	0.747		0.73	
Adjusted R2	0.683		0.703	
Residual Std. Error	0.276 (df = 36)		0.267 (df = 41)	
F Statistic	11.790*** (df = 9; 36)		27.688*** (df = 4; 41)	

Note:

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

CA - Cultural Adaptation, CD_{home-US} - Perceived Cultural Distance between Home country culture and US culture, CD_{ideal-US} - Perceived Cultural Distance between Ideal culture and US culture, CD_{ideal-home} - Perceived Cultural Distance between Ideal culture and home country culture, SREP - Self-Reported English Proficiency, MA - Motivation to adapt, RES - Resilience, CTFFHC - Closeness of Ties to Family and Friends in Home Country, SEFL - Stability of Early Family Life, PSI - Perceived Social Inclusion

of correlation between two variables used in linear regression (Allison, 2012). The full regression model included $CD_{\text{home-US}}$, $CD_{\text{ideal-US}}$, and $CD_{\text{ideal-home}}$, SREP, MA, RES, CTFFHC, SEFL and PSI as explanatory variables (Table 4). The model was then reduced using bidirectional elimination with the Akaike Information Criterion (AIC), which accounts for the model likelihood with a penalty for the number of parameters, as a criterion for keeping predictors in the model, utilizing the add and drop functions in the R statistical software package (R Core Team 2016). The full regression model was significant $F(9, 36) = 11.790$, $p < 0.01$ and accounted for 68% of the variance in the cultural adaptation (adjusted $R^2 = 0.68$). The explanatory variables perceived social inclusion ($\beta = 0.377$, $p < 0.01$), self-reported English proficiency ($\beta = 0.19$, $p < 0.01$), and motivation to adapt ($\beta = 0.207$, $p < 0.01$) were significant. Stability of early family life ($\beta = 0.112$, $p = 0.07$) was a borderline significant predictor of cultural adaptation. Perceived distance between home and host country cultures ($\beta = 0.173$, $p = 0.65$), distance between personal ideal and host cultures ($\beta = -0.167$, $p = 0.44$), distance between personal ideal and home cultures ($\beta = 0.128$, $p = 0.50$), closeness of ties to family and friends in home country ($\beta = -0.06$, $p = 0.54$) were not significant predictors of cultural adaptation. The reduced regression model was significant $F(4, 41) = 27.688$, $p < 0.01$, and accounted for 70% of the variance in the cultural adaptation (adjusted $R^2 = 0.70$). The reduced regression model was an improvement over the full model, as the adjusted R^2 value is larger. Similar to the full model, the reduced model showed that stability of early family life ($\beta = 0.098$, $p = 0.059$) was borderline significant, and perceived social inclusion ($\beta = 0.403$, $p < 0.01$), self-

reported English proficiency ($\beta = 0.2$, $p < 0.01$), and motivation to adapt ($\beta = 0.198$, $p < 0.01$) were significant predictors of cultural adaptation (Table 4).

Table 5. Principal component analysis results for all cultural distance, individual characteristics, familial context and institutional and societal context variables

	PC1	PC2	PC3
<i>Cultural Distance</i>			
CD _{Home-US}	0.890	0.136	0.042
CD _{Ideal-US}	0.892	-0.034	-0.221
CD _{Ideal-Home}	0.918	-0.035	-0.046
<i>Individual characteristics</i>			
SREP	0.060	-0.103	0.825
MA			
RES	0.177	0.575	0.156
<i>Familial context</i>			
CTFFHC	-0.286	0.797	-0.145
SEFL	0.082	0.751	0.230
<i>Institutional and societal context</i>			
PSI	0.069	-0.114	0.836
SS Loadings	1.670	1.751	1.343
Proportion Var	0.209	0.219	0.168
Cumulative Var	0.209	0.428	0.595
Eigen Values	2.707	1.783	1.175

Note:

CA - Cultural Adaptation, CD_{home-US} - Perceived Cultural Distance between Home country culture and US culture, CD_{ideal-US} - Perceived Cultural Distance between Ideal culture and US culture, CD_{ideal-home} - Perceived Cultural Distance between Ideal culture and home country culture, SREP - Self-Reported English Proficiency, MA - Motivation to adapt, RES - Resilience, CTFFHC - Closeness of Ties to Family and Friends in Home Country, SEFL - Stability of Early Family Life, PSI - Perceived Social Inclusion

Principal-Components Analysis

To discover possible latent variables and reduce the dimensionality (number of variables) of the data set, we also conducted a principal-components analysis (PCA) with varimax rotation. The eigenvalue test and the scree plot suggested using four principal components (PC) in the analysis. However, since motivation to adapt (MA) was the only variable loaded highly on the fourth principal component, we decided to use the variable MA itself in the analysis instead of using the fourth principal component. We considered a coefficient of 0.5 or above as indicative of a meaningful loading on a factor. All three perceived cultural distance variables were highly loaded on the first principal component (PC1), including $CD_{\text{home-US}}$ (0.890), $CD_{\text{ideal-US}}$ (0.892) and $CD_{\text{ideal-home}}$ (0.918). Familial context variables including CFFHC (0.797) and SEFL (0.751), as well the individual level variable RES (0.575) were loaded on the second principal component (PC2). SREP (0.825), an individual level variable, and PSI (0.836), the institutional and societal context variable, were loaded on the third principal component (PC3) (Table 5).

The regression model of the three principal components and motivation to adapt (MA) was significant $F(4, 41) = 28.490$, $p < 0.01$. It accounted for 71% of the variance in the cultural adaptation (adjusted $R^2 = 0.71$). PC2 ($\beta = -0.094$, $p < 0.05$), PC3 ($\beta = 0.364$, $p < 0.01$), and MA ($\beta = 0.205$, $p < 0.01$) were all significant predictors of cultural adaptation. The variable PC1 ($\beta = 0.024$, $p = 0.78$) was not a significant predictor of cultural adaptation (Table 6).

Table 6. Multiple regression analysis using the first three principal components and motivation to adapt (MA) as independent variables

Dependent Variable: CA		
Full Model		
	β	SE
PC1	0.024	(0.088)
PC2	-0.094**	(0.042)
PC3	0.364***	(0.039)
MA	0.205***	(0.06)
Constant	2.791***	(0.211)
Model Summaries		
Observations	46	
R ²	0.735	
Adjusted R ²	0.71	
Residual Std. Error	0.265 (df = 41)	
F Statistic	28.490*** (df = 4; 41)	

Note: **p<0.1; **p<0.05; ***p<0.01*
 CA – Cultural Adaptation, PC1 represents CD_{home-US} - Perceived Cultural Distance Between Home culture and US culture, CD_{ideal-US} - Perceived Cultural Distance Between Ideal culture and US culture, CD_{ideal-home} - Perceived Cultural Distance Between Ideal culture and home country culture; PC2 consists of CTFFHC - Closeness of Ties to Family and Friends in Home Country, SEFL - Stability of Early Family Life, RES – Resilience; PC3 represents PIHCS - Perception of Inclusiveness of Host Country Society, SREP - Self-Reported English Proficiency; MA – Motivation to adapt

Discussion

The current study examined the process of acculturation, its psychological and sociocultural outcomes - cultural adaptation and how the ecological context influences cultural adaptation. The analyses which were conducted revealed that the institutional and social context hypothesis holds, while the family context and individual change hypotheses are partially supported, and the cultural distance hypothesis was not supported by the data.

Our findings supported the hypothesis that international students who perceive the host society as inclusive of internationals will be better able to adapt to a host culture compared with their peers who perceive that the host society is not inclusive of internationals. One reason that social connectedness is important especially for individuals from Asian, African, and Latin/Central American countries is because of these cultures' values of interdependence and collectivism. The self-concept of sojourners from collectivist cultures is interrelated with their family members and friends. By leaving behind important others who have endorsed their sense of self, sojourners' sense of self can be shaken and this in turn can lead to psychological distress (Arora, Yeh, & Inose, 1998). High levels of stress and discrimination are associated with a lower likelihood that individuals will act outside of their comfort zones, making it likely they won't form relationships with peers from dissimilar cultures. This further hinders students' acculturation process (Hotta & Ting-Toomey, 2013). Therefore, perceived social inclusion plays a significant role in the cultural adaptation of international students.

The results of this study partially supported our hypothesis that closeness of ties to family and friends in the student's home country and the stability of the student's early family life would be significant predictors of successful adaptation. We found that stability of early family life was positively associated with cultural adaptation. Even this variable, though, is rarely studied in the literature on international students' acculturation. Furukawa et al's, (1993) study, which examined maladjustment of Japanese students who were sojourning at various host countries, revealed that early maternal care was a strong buffer against acculturation stressors, which improved students' psychological well-being. While stability of early family life contributes to resourcefulness, which in turn leads to ability to adapt to a new culture, closeness of ties to family and friends in the home country was not found to be related to ability to adapt. One thing worth mentioning here is that these studies (e.g., Stuart et al, 2016; Ward et al, 2010) focused on the sojourners who lived with their family members in the host country. But this study examined how the closeness of ties to family and friends in the home country influenced the adaptation of sojourners in a different host country. This may explain why we found that no relationship between closeness of ties to family and friends in the home country and cultural adaptation. Another possibility why our results differed from other studies is that the present study has a small sample size, which may have prevented the effect from emerging.

We found partial support for individual characteristics hypothesis, which states that international students who have the self-perception of being more motivated to adapt to the US culture, more resilient and more proficient in the English language would report a higher level of adaptation. Consistent with our hypothesis, the results

show that students who are motivated to adapt (although the reliability score for this variable was 0.56) to the new culture and those who perceive themselves as proficient in English were more likely to be successfully adapted to the US culture. Someone who is highly motivated to adapt to the novice culture would be more resourceful in welcoming new challenges, preserving a sense of well-being, and developing skills to effectively function socially during the cultural transition (Chen & Kirkman, 2010; Hirai et al, 2015). Also, those who feel that they are proficient in English are more likely to have higher frequency of use, higher fluency level, and greater comfort speaking in the language; thus perceiving one's English language skill to be high actually reduces an international student's acculturative stress (Arora et al, 1998) and in turn results psychological well-being and efficient social functioning (Hirai et al, 2015). However, our result did not confirm the prediction that resilience would lead to cultural adaptation in this set of data. Previous acculturation research addressing resilience among international students' is somewhat limited, but recent research confirms that there is increasing salience of resilience in successful adaptation (Pan, 2011; Tol et al., 2013; Yousafzai et al. 2013). Almost 86 percent of our study's participants were from upper or upper middle class socio-economic status background. One possible explanation for why resilience did not predict international students' ability to adapt is because resilience may not be an applicable and beneficial strategy to mitigate stressors among higher socio-economic background adolescents (Chen et al, 2012). Instead, strategies such as proactive efforts to relieve acculturative stressors are more likely to be effective since high-SES individuals possess greater resources for resolving difficulties and influencing outcomes (Chen et al., 2012).

Surprisingly, we found no evidence that international students' perceptions of the distances between home, host, and personal ideal cultures predict their ability to successfully adapt to the new culture. Our findings are inconsistent with Ward et al's (1997) cultural-fit proposition. Ward and colleagues found signs of maladjustment when there is a high discrepancy between personality (similar to personal ideal culture in the current study) and the host country cultural norms. A possible explanation for our findings is that we did not have a large enough sample size to detect a relationship between the variables. Another possible reason why we did not find data consistent with the prediction that perceived cultural distance can result in poor adaptation is because our survey did not explicitly define the cultural values/attributes examined in this study, so participants may have interpreted these terms differently. Alternatively, previous research that tested cultural-fit proposition might have had a confounding between personality profiles and host cultural norms. As a matter of fact, Ward et al (1997) did report magnitude of the correlation between these variables were at a low to moderate level. In support of the present study's findings, Geeraert and Demoulin (2013) also did not find any evidence of association between difference in the host and home country cultures and students' ability to adapt to the host culture.

The findings from this study add to the existing literature on international students' acculturation by examining the influence of contextual factors along with individual and cultural aspects. This study contributed to the field of acculturation by confirming the significance of the Ward and Geeraert's (2015) acculturation framework, which draws particular attention to the importance of ecological context. A major shortcoming of acculturation research is failing to examine the historical,

political, and social circumstances of the acculturating individuals (Chirkov, 2009, p 178). This study sought to overcome this issue by studying the contextual influences on international students' cultural adaptation.

REFERENCES

- Al-Sharideh, K., & Goe, W. R. (1998). Ethnic Communities Within the University: An Examination of Factors Influencing the Personal Adjustment of International Students. *Research in Higher Education, 39*(6), 699–725.
- Arends-Tóth, J., & Van de Vijver, F. J. R. (2008). Family Relationships among Immigrants and Majority Members in the Netherlands: The Role of Acculturation. *Applied Psychology: An International Review, 57*(3), 466–487. <https://doi.org/10.1111/j.1464-0597.2008.00331.x>
- Arora, A. K., Inose, M., Yeh, C. J., Okubo, Y., Li, R. H., & Greene, P. (2003). The Cultural Adjustment and Mental Health of Japanese Immigrant Youth. *Adolescence, 38*(151), 481–500.
- Ataca, B., & Berry, J. W. (n.d.). Psychological, sociocultural, and marital adaptation of Turkish immigrant couples in Canada. *International Journal of Psychology, 37*(1), 13–26. <https://doi.org/10.1080/00207590143000135>
- Babiker, I. E., Cox, J. L., & Miller, P. M. (1980). The measurement of cultural distance and its relationship to medical consultations, symptomatology and examination performance of overseas students at Edinburgh University. *Social Psychiatry, 15*(3), 109–116. <https://doi.org/10.1007/BF00578141>
- Bektas, Y., Demir, A., & Bowden, R. (2009). Psychological Adaptation of Turkish Students at U.S. Campuses. *International Journal for the Advancement of Counselling, 31*(2), 130–143.
- Berry, J. W. (1997). Immigration, acculturation, and adaptation. *Applied Psychology, 46*(1), 5–34.

- Bierwiazzonek, K., & Waldzus, S. (2016). Socio-Cultural Factors as Antecedents of Cross-Cultural Adaptation in Expatriates, International Students, and Migrants: A Review. *Journal of Cross-Cultural Psychology, 47*(6), 767–817.
- Bochner, S., Hutnik, N., & Furnham, A. (1985). The Friendship Patterns of Overseas and Host Students in an Oxford Student Residence. *Journal of Social Psychology, 125*(6), 689.
- Brisset, C., Safdar, S., Lewis, J. R., & Sabatier, C. (2010). Psychological and sociocultural adaptation of university students in France: The case of Vietnamese international students. *International Journal of Intercultural Relations, 34*(4), 413–426.
<https://doi.org/10.1016/j.ijintrel.2010.02.009>
- Bronfenbrenner, U. (1986). Ecology of the Family as a Context for Human Development: Research Perspectives. *Developmental Psychology, 6*, 723-742
- Callender, K. A., Olson, S. L., Choe, D. E., & Sameroff, A. J. (2012). The Effects of Parental Depressive Symptoms, Appraisals, and Physical Punishment on Later Child Externalizing Behavior. *Journal of Abnormal Child Psychology, 40*(3), 471–483.
<https://doi.org/10.1007/s10802-011-9572-9>
- Card, N. A., & Barnett, M. A. (2015). Methodological Considerations in Studying Individual and Family Resilience: Methodological Considerations. *Family Relations, 64*(1), 120–133. <https://doi.org/10.1111/fare.12102>
- Carmit T. Tadmor, Adam D. Galinsky & William W. Maddux (2012). Getting the most out of living abroad: Biculturalism and integrative complexity as key drivers of creative and professional success. *Journal of Personality and Social Psychology, 103*, 3, 520-542.

- Cemalcilar, Z., Falbo, T., & Stapleton, L. M. (n.d.). Cyber communication: A new opportunity for international students' adaptation? *International Journal of Intercultural Relations*, 29(1), 91–110. <https://doi.org/10.1016/j.ijintrel.2005.04.002>
- Cetinkaya-Yildiz, E., Cakir, S. G., & Kondakci, Y. (2011). Psychological distress among international students in Turkey. *International Journal of Intercultural Relations*, 35(5), 534–539. <https://doi.org/10.1016/j.ijintrel.2011.04.001>
- Chapdelaine, R. F., & Alexitch, L. R. (n.d.). Social Skills Difficulty: Model of Culture Shock for International Graduate Students. *Journal of College Student Development*, 45(2), 167–184.
- Chen, E., & Miller, G. E. (2012). “Shift-and-Persist” Strategies: Why Low Socioeconomic Status Isn’t Always Bad for Health. *Perspectives on Psychological Science*, 7(2), 135–158. <https://doi.org/10.1177/1745691612436694>
- Chen, G., Kirkman, B. L., Kim, K., Farh, C. I. C., & Tangirala, S. (2010). When does cross-cultural motivation enhance expatriate effectiveness? A multilevel investigation of the moderating roles of subsidiary support and cultural distance. *Academy of Management Journal*, 53(5), 1110–1130. <https://doi.org/10.5465/AMJ.2010.54533217>
- Chirkov, V. (2009). Critical psychology of acculturation: What do we study and how do we study it, when we investigate acculturation? *International Journal of Intercultural Relations*, 33(2), 94–105. <https://doi.org/10.1016/j.ijintrel.2008.12.004>
- Choe, D. E., Olson, S. L., & Sameroff, A. J. (2013). Effects of early maternal distress and parenting on the development of children’s self-regulation and externalizing behavior. *Development and Psychopathology*, 25(2), 437–453. <https://doi.org/10.1017/S0954579412001162>

- Crosnoe, R., & Elder, G. H. (2004). Family Dynamics, Supportive Relationships, and Educational Resilience During Adolescence. *Journal of Family Issues*, 25(5), 571–602. <https://doi.org/10.1177/0192513X03258307>
- Demes, K. A., & Geeraert, N. (2015). The Highs and Lows of a Cultural Transition: A Longitudinal Analysis of Sojourner Stress and Adaptation Across 50 Countries. *Journal of Personality & Social Psychology*, 109(2), 316–337. <https://doi.org/10.1037/pspp0000046>
- Dragoni, L., Oh, I.-S., Tesluk, P. E., Moore, O. A., VanKatwyk, P., & Hazucha, J. (2014). Developing leaders' strategic thinking through global work experience: The moderating role of cultural distance. *Journal of Applied Psychology*, 99(5), 867–882. <https://doi.org/10.1037/a0036628>
- Duru, E., & Poyrazli, S. (2011). Perceived discrimination, social connectedness, and other predictors of adjustment difficulties among Turkish international students. *International Journal of Psychology*, 46(6), 446–454. <https://doi.org/10.1080/00207594.2011.585158>
- Feldman, S. S., & Rosenthal, D. A. (1990). The Acculturation of Autonomy Expectations in Chinese High Schoolers Residing in Two Western Nations. *International Journal of Psychology*, 25(2), 259–281.
- Furukawa, T., Sarason, I. G., & Sarason, B. R. (1998). Social support and adjustment to a novel social environment. *International Journal of Social Psychiatry*, 44(1), 56–70. <https://doi.org/10.1177/002076409804400106>

- Furukawa, T., & Shibayama, T. (1993). Predicting maladjustment of exchange students in different cultures: A prospective study. *Social Psychiatry and Psychiatric Epidemiology*, 28(3), 142–146.
- Gao, G., & Gudykunst, W. B. (1990). Uncertainty, anxiety, and adaptation. *International Journal of Intercultural Relations*, 14(3), 301–317. [https://doi.org/10.1016/0147-1767\(90\)90017-Q](https://doi.org/10.1016/0147-1767(90)90017-Q)
- Geeraert, N., & Demoulin, S. (2013). Acculturative stress or resilience? A longitudinal multilevel analysis of sojourners' stress and self-esteem. *Journal of Cross-Cultural Psychology*, 44(8), 1241–1262. <https://doi.org/10.1177/0022022113478656>
- Geeraert, N., Demoulin, S., & Demeis, K. A. (2014). Choose your (international) contacts wisely: A multilevel analysis on the impact of intergroup contact while living abroad. *International Journal of Intercultural Relations*, 38, 86–96. <https://doi.org/10.1016/j.ijintrel.2013.08.001>
- Glass, C. R., & Westmont, C. M. (2014). Comparative effects of belongingness on the academic success and cross-cultural interactions of domestic and international students. *International Journal of Intercultural Relations*, 38, 106–119. <https://doi.org/10.1016/j.ijintrel.2013.04.004>
- Gossett, B. J., & Cuyjet, M. J. (n.d.). African Americans' and non-African Americans' sense of mattering and marginality at public... *Equity & Excellence in Education*, 29(3), 37.
- Gudykunst, W. B. (1998) Applying anxiety/uncertainty management (AUM) Theory to intercultural adjustment training. *International Journal of Intercultural Relations*, 2, 227-250.

- Gudykunst, W. B., & Nishida, T. (2001). Anxiety, uncertainty, and perceived effectiveness of communication across relationships and cultures. *International Journal of Intercultural Relations*, 25(1), 55–71.
- Hechanova-Alampay, R., Beehr, T. A., Christiansen, N. D., & Van Horn, R. K. (n.d.). *Adjustment and Strain among Domestic and International Student Sojourners* (Vol. 23). Sage Publications, Ltd.
- Hendrickson, B., Rosen, D., & Aune, R. K. (2011). An analysis of friendship networks, social connectedness, homesickness, and satisfaction levels of international students. *International Journal of Intercultural Relations*, 35(3), 281–295.
<https://doi.org/10.1016/j.ijintrel.2010.08.001>
- Hirai, R., Frazier, P., & Syed, M. (2015). Psychological and sociocultural adjustment of first-year international students: Trajectories and predictors. *Journal of Counseling Psychology*, 62(3), 438–452. <https://doi.org/10.1037/cou0000085>
- Hofstede, G. (n.d.). The Cultural Relativity of the Quality of Life Concept. *Academy of Management Review*, 9(3), 389.
- Hotta, J., & Ting-Toomey, S. (2013). Intercultural adjustment and friendship dialectics in international students: A qualitative study. *International Journal of Intercultural Relations*, 37(5), 550–566. <https://doi.org/10.1016/j.ijintrel.2013.06.007>
- Kagan, H., & Cohen, J. (n.d.). Cultural Adjustment of International Students. *Psychological Science*, 1(2), 133–137.
- Kanekar, A., Sharma, M., & Atri, A. (2009a). Enhancing social support, hardiness, and acculturation to improve mental health among Asian Indian international students.

International Quarterly of Community Health Education, 30(1), 55–68.

<https://doi.org/10.2190/IQ.30.1.e>

Kanekar, A., Sharma, M., & Atri, A. (2009b). Enhancing Social Support, Hardiness, and Acculturation to Improve Mental Health among Asian Indian International Students.

International Quarterly of Community Health Education, 30(1), 55–68.

<https://doi.org/10.2190/IQ.30.1.e>

Khawaja, N. G., Moisuc, O., & Ramirez, E. (2014). Developing an Acculturation and Resilience Scale for Use with Culturally and Linguistically Diverse Populations: Developing an acculturation and resilience scale. *Australian Psychologist*, 49(3), 171–180. <https://doi.org/10.1111/ap.12052>

Knight, G. P., Basilio, C. D., Cham, H., Gonzales, N. A., Liu, Y., & Umaña-Taylor, A. J. (2014). Trajectories of Mexican American and Mainstream Cultural Values Among Mexican American Adolescents. *Journal of Youth and Adolescence*, 43(12), 2012–2027. <https://doi.org/10.1007/s10964-013-9983-8>

Kraimer, M. L., Wayne, S. J., & Jaworski, R. A. (2001). Sources of support and expatriate performance: The mediating role of expatriate adjustment. *Personnel Psychology*, 54(1), 71–99. <https://doi.org/10.1111/j.1744-6570.2001.tb00086.x>

Lee, J., & Ciftci, A. (2014). Asian international students' socio-cultural adaptation: Influence of multicultural personality, assertiveness, academic self-efficacy, and social support. *International Journal of Intercultural Relations*, 38, 97–105.

<https://doi.org/10.1016/j.ijintrel.2013.08.009>

Lee, J.-S., Koeske, G. F., & Sales, E. (2004). Social support buffering of acculturative stress: a study of mental health symptoms among Korean international students.

International Journal of Intercultural Relations, 28(5), 399–414.

<https://doi.org/10.1016/j.ijintrel.2004.08.005>

Lin, J.C., & Yi, J.K. (1997). Asian international students' adjustment: Issues and program suggestions. *College Student Journal*, 31(4), 473-480.

MacPhee, D., Lunkenheimer, E., & Riggs, N. (2015). Resilience as Regulation of Developmental and Family Processes: Resilience as Regulation. *Family Relations*, 64(1), 153–175. <https://doi.org/10.1111/fare.12100>

Moore, L., & Popadiuk, N. (2011). Positive Aspects of International Student Transitions: A Qualitative Inquiry. *Journal of College Student Development*, 52(3), 291–306. <https://doi.org/10.1353/csd.2011.0040>

Pan, E.-L., & Yi, C.-C. (2011). Constructing educational resilience: The developmental trajectory of vulnerable Taiwanese youth. *Journal of Comparative Family Studies*, 42(3), 369–384.

Pan, J.-Y. (2011). A resilience-based and meaning-oriented model of acculturation: A sample of mainland Chinese postgraduate students in Hong Kong. *International Journal of Intercultural Relations*, 35(5), 592–603. <https://doi.org/10.1016/j.ijintrel.2011.02.009>

Pan, J.-Y., Wong, D. F. K., Joubert, L., & Chan, C. L. W. (2007). Acculturative stressor and meaning of life as predictors of negative affect in acculturation: A cross-cultural comparative study between Chinese international students in Australia and Hong Kong. *Australian and New Zealand Journal of Psychiatry*, 41(9), 740–750. <https://doi.org/10.1080/00048670701517942>

- Pan, Y. (2011). *Long-term effects of higher-quality early childhood education for at-risk children on their later development and resilience*. ProQuest Information & Learning, US.
- Pedersen, P. B. (1991). Counseling international students. *The Counseling Psychologist*, *19*, 10–58.
- Prelow, H. M., Mosher, C. E., & Bowman, M. A. (2006). Perceived Racial Discrimination, Social Support, and Psychological Adjustment among African American College Students. *Journal of Black Psychology*, *32*(4), 442–454.
- R Core Team (2016). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL: <https://www.R-project.org/>.
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- Wang, K. T., Heppner, P. P., Fu, C.-C., Zhao, R., Li, F., & Chuang, C.-C. (2012). Profiles of acculturative adjustment patterns among Chinese international students. *Journal of Counseling Psychology*, *59*(3), 424–436. <https://doi.org/10.1037/a0028532>
- Wang, K. T., Heppner, P. P., Wang, L., & Zhu, F. (2015). Cultural intelligence trajectories in new international students: Implications for the development of cross-cultural competence. *International Perspectives in Psychology: Research, Practice, Consultation*, *4*(1), 51–65. <https://doi.org/10.1037/ipp0000027>
- Wang, Y., Kim, S. Y., Anderson, E. R., Chen, A. C.-C., & Yan, N. (2012). Parent–Child Acculturation Discrepancy, Perceived Parental Knowledge, Peer Deviance, and

- Adolescent Delinquency in Chinese Immigrant Families. *Journal of Youth and Adolescence*, 41(7), 907–919. <https://doi.org/10.1007/s10964-011-9705-z>
- Ward, C. (2008). The ABCs of Acculturation: Implications for Counselors. In P. Pedersen, J. Draguns, W. Lonner, & J. Trimble, *Counseling Across Cultures* (pp. 291–306). 2455 Teller Road, Thousand Oaks California 91320 United States: SAGE Publications, Inc. <https://doi.org/10.4135/9781483329314.n17>
- Ward, C., & Chang, W. C. (1997). “Cultural fit”: A new perspective on personality and sojourner adjustment. *International Journal of Intercultural Relations*, 21(4), 525–533. [https://doi.org/10.1016/S0147-1767\(97\)00023-0](https://doi.org/10.1016/S0147-1767(97)00023-0)
- Ward, C., Fox, S., Wilson, J., Stuart, J., & Kus, L. (2010). Contextual influences on acculturation processes: The roles of family, community and society. *Psychological Studies*, 55(1), 26–34.
- Ward, C., & Geeraert, N. (2016). Advancing acculturation theory and research: The acculturation process in its ecological context. *Current Opinion in Psychology*, 8, 98–104. <https://doi.org/10.1016/j.copsy.2015.09.021>
- Ward, C., & Kennedy, A. (1992). Locus of control, mood disturbance, and social difficulty during cross-cultural transitions. *International Journal of Intercultural Relations*, 16(2), 175–194. [https://doi.org/10.1016/0147-1767\(92\)90017-O](https://doi.org/10.1016/0147-1767(92)90017-O)
- Ward, C., & Kennedy, A. (1993a). Acculturation and Cross-Cultural Adaptation of British Residents in Hong Kong. *Journal of Social Psychology*, 133(3), 395–397.
- Ward, C., & Kennedy, A. (1993b). Where’s the “Culture” in Cross-Cultural Transition? Comparative Studies of Sojourner Adjustment. *Journal of Cross-Cultural Psychology*, 24(2), 221–49.

- Ward, C., & Kennedy, A. (1994). Acculturation strategies, psychological adjustment, and sociocultural competence during cross-cultural transitions. *International Journal of Intercultural Relations*, 18(3), 329–343. [https://doi.org/10.1016/0147-1767\(94\)90036-1](https://doi.org/10.1016/0147-1767(94)90036-1)
- Ward, C., & Kennedy, A. (1999). The measurement of sociocultural adaptation. *International Journal of Intercultural Relations*, 23(4), 659–677.
- Ward, C., & Kennedy, A. (n.d.). Psychological and Socio-cultural Adjustment during Cross-cultural Transitions: A. *International Journal of Psychology*, 28(2), 129.
- Ward, C., Leong, C.-H., & Low, M. (2004). Personality and Sojourner Adjustment: An Exploration of the Big Five and the Cultural Fit Proposition. *Journal of Cross-Cultural Psychology*, 35(2), 137–151. <https://doi.org/10.1177/0022022103260719>
- Williams, C. T., & Johnson, L. R. (2011). Why can't we be friends?: Multicultural attitudes and friendships with international students. *International Journal of Intercultural Relations*, 35(1), 41–48. <https://doi.org/10.1016/j.ijintrel.2010.11.001>
- Witte, K. (1993). A theory of cognition and negative affect: Extending Gudykunst and Hammer's theory of uncertainty and anxiety reduction. *International Journal of Intercultural Relations*, 17(2), 197–215.
- Yeh, C. J., & Inose, M. (2003). International students' reported English fluency, social support satisfaction, and social connectedness as predictors of acculturative stress. *Counselling Psychology Quarterly*, 16(1), 15.
- Yousafzai, A. K., Rasheed, M. A., & Bhutta, Z. A. (2013). Annual Research Review: Improved nutrition - a pathway to resilience: Nutrition pathways. *Journal of Child Psychology and Psychiatry*, 54(4), 367–377. <https://doi.org/10.1111/jcpp.12019>

APPENDIX

Online Survey Questionnaire

Before we begin, we would like to make sure you qualify for our study.
Please indicate if you meet all of the following requirements:

1. International student
2. Between 18 to 35
3. Have been in the United States maximum of 5 years

- Yes, I qualify for the survey
- No, I do not qualify for the survey

CONSENT STATEMENT

We are asking you to participate in a research study titled “Effects of cultural change in daily living.” We will describe this study and answer any of your questions. This study is being led by Ulziimaa Chimed-Ochir, MA Graduate Student in the Department of Human Development at Cornell University. The Faculty Advisor for this study is Robert J Sternberg, Department of Human Development, Cornell University. The purpose of this research is to examine what happens to individuals who have grown up in one cultural context when they attempt to live in a new cultural context and what are the predictors of an individual’s successful adaptation to the new cultural context. We will ask you to answer series of questions, which should take up 30 to 40 minutes.

Risks and discomforts

We do not anticipate any risks from participating in this research. There are no obvious foreseeable risks or discomforts associated with this study.

Benefits

A probable indirect benefit for participating in this study is that it may lead you to better understand the challenges you are facing in the new cultural context of the United States.

Compensation for participation

The participant will receive 1.5 extra credit for taking part in the study.

Privacy/Confidentiality/Data Security

The research will be done using the internet-based system, Qualtrics Cornell, to conduct the survey. We anticipate that your participation in this survey will present no greater risk than everyday use of the Internet. We are collecting demographic information such as gender, year of birth, and city of birth. Only the principal investigator and her faculty advisor will have access to this information and we will take all possible steps to protect confidentiality.

Taking part is voluntary

Your participation in the study is completely voluntary. You may refuse to participate before the study begins, discontinue participation at any time, or skip any questions with no penalty and no effect on your academic standing, record, or relationship with the university

If you have questions

The main researcher conducting this study is Ulziimaa Chimed-Ochir, a graduate student at Cornell University. Please ask any questions you have now. If you have questions later, you may contact Ulziimaa Chimed-Ochir at uc48@cornell.edu or at 607-280-6119. If you have any questions or concerns regarding your rights as a subject in this study, you may contact the Institutional Review Board (IRB) for Human Participants at 607-255-6182 or access their website at <http://www.irb.cornell.edu>. You

may also report your concerns or complaints anonymously through Ethicspoint online at www.hotline.cornell.edu or by calling toll free at 1-866-293-3077. Ethicspoint is an independent organization that serves as a liaison between the University and the person bringing the complaint so that anonymity can be ensured.

By agreeing to participate, you are indicating that you have read and comprehend the informed consent.

Yes, I have read the informed consent.

Q1 Are you a US citizen?

- Yes
- No

Q2 What is your year of birth?

Q3 How old were you when you first arrived in the United States?

Q4 How long have you been in the United states?

Q5 Gender

- Male
- Female
- Other

Q6 What is your marital status?

- Not married
- Married
- Divorced
- Separated
- Widowed
- Other

Q7 What is your classification in college?

- Freshman/first-year
- Sophomore
- Junior
- Senior
- Graduate student
- Unclassified
- Other

Q8 Where do you now live during the school year?

- Dormitory or other campus housing
- Residence (house, apartment etc) within walking distance of the institution
- Residence (house, apartment etc) within driving distance of the institution
- Fraternity or sorority house
- Other

Q9 With whom do you live during the school year? (Select all that apply)

- No one, I live alone
- One or more other students
- My spouse or partner
- My child or children
- My parents
- Friends who are not students at the institution I am attending
- Other relatives

Q10 How do you meet your college expenses? (Select all that apply)

- Self (job, savings, etc)
- Parents
- Spouse or partner
- Employer support
- Scholarships and grants
- Loans
- Other sources (Please specify) _____

Q11 What is your ethnic and racial background?

- Asian
- Black/African
- Hispanic or Latino
- White Caucasian – Non Hispanic
- Other (Please specify) _____

Q12 Where were you born? (city/region, country) Please do not use an abbreviation.

Q13 Are you a native English speaker?

- Yes
- No

Q14 If no, how many years have you been speaking English?

- 1 to 3 years
- 4 to 6 years
- 7 to 10 years
- More than 10 years

Q15 What is the highest degree or level of school your mother has completed?

- No schooling completed
- Nursery school to 8th grade or less
- Some high school, no diploma
- High school graduate, diploma or the equivalent (for example: GED)
- Some college credit, no degree
- Trade/technical/vocational training
- Associate degree
- Bachelor's degree
- Master's degree
- Professional degree
- Doctorate degree

Q16 What is the highest degree or level of school your father has completed?

- No schooling completed
- Nursery school to 8th grade or less
- Some high school, no diploma
- High school graduate, diploma or the equivalent (for example: GED)
- Some college credit, no degree
- Trade/technical/vocational training
- Associate degree
- Bachelor's degree
- Master's degree
- Professional degree
- Doctorate degree

Q17 In terms of income, would you say your parents are:

- Upper class
- Upper-middle class
- Middle class
- Lower-middle class
- Working class
- Other _____

Q18 How many siblings do you have?

- 0
- 1
- 2
- 3
- 4+

Q19 What is your birth order? (i.e., first child, second child, etc.)

- First
- Second
- Third
- Other
- Last
- Only

Q20 Do you consider yourself to be a religious person?

- Yes
- No

Q21 How different would you say the culture of the United States is from that of your home country?

- Not different at all
- Slightly different
- Somewhat different
- Very different
- Extremely different

Q22 How well do you believe you have adapted to life in the United States?

- Very poorly adapted
- Somewhat poorly adapted
- Neither well adapted nor poorly adapted
- Somewhat well adapted
- Very well adapted

Q23 How different is your life in the United States from what you expected?

- Not different at all
- Slightly different
- Somewhat different
- Very different
- Extremely different

Q24 For you to live a happy and satisfying life, how important is each of the following attributes to you personally?

	Not at all important	Slightly important	Moderately important	Very important	Extremely important
Equality	<input type="radio"/>				
Individuality	<input type="radio"/>				
Freedom of speech	<input type="radio"/>				
Safety	<input type="radio"/>				
Competition	<input type="radio"/>				
Religion	<input type="radio"/>				
Freedom to be of any religion	<input type="radio"/>				
Strong education system	<input type="radio"/>				
Collectivism	<input type="radio"/>				
Harmony	<input type="radio"/>				
Effort	<input type="radio"/>				
Self-improvement	<input type="radio"/>				
Self-criticism	<input type="radio"/>				
Appreciation of arts	<input type="radio"/>				
Belief in value of science	<input type="radio"/>				
Respect for elders	<input type="radio"/>				
Intellectualism	<input type="radio"/>				
Strong traditions	<input type="radio"/>				
Opportunities for leisure	<input type="radio"/>				
Family orientation	<input type="radio"/>				
Rewarding hard work	<input type="radio"/>				
Behaving according to well-established norms	<input type="radio"/>				
Nationalism	<input type="radio"/>				
Strong health care	<input type="radio"/>				
Low corruption	<input type="radio"/>				
Financial security	<input type="radio"/>				
Care for environment	<input type="radio"/>				

Economic stability	<input type="radio"/>				
Empathy	<input type="radio"/>				
Friendship	<input type="radio"/>				
Life expectancy	<input type="radio"/>				
Crime rate	<input type="radio"/>				
Income level	<input type="radio"/>				

Q25 Based on your experience, how important do you believe each of the following attributes is to the general population of your country of origin?

	Not at all important	Slightly important	Moderately important	Very important	Extremely Important
Equality	<input type="radio"/>				
Individuality	<input type="radio"/>				
Freedom of speech	<input type="radio"/>				
Safety	<input type="radio"/>				
Competition	<input type="radio"/>				
Religion	<input type="radio"/>				
Freedom to be of any religion	<input type="radio"/>				
Strong education system	<input type="radio"/>				
Collectivism	<input type="radio"/>				
Harmony	<input type="radio"/>				
Effort	<input type="radio"/>				
Self-improvement	<input type="radio"/>				
Self-criticism	<input type="radio"/>				
Appreciation of arts	<input type="radio"/>				
Belief in value of science	<input type="radio"/>				
Respect for elders	<input type="radio"/>				
Intellectualism	<input type="radio"/>				
Strong traditions	<input type="radio"/>				
Opportunities for leisure	<input type="radio"/>				
Family orientation	<input type="radio"/>				
Rewarding hard work	<input type="radio"/>				
Behaving according to well-established norms	<input type="radio"/>				
Nationalism	<input type="radio"/>				
Strong health care	<input type="radio"/>				
Low corruption	<input type="radio"/>				
Financial security	<input type="radio"/>				
Care for environment	<input type="radio"/>				

Economic stability	<input type="radio"/>				
Empathy	<input type="radio"/>				
Friendship	<input type="radio"/>				
Life expectancy	<input type="radio"/>				
Crime rate	<input type="radio"/>				
Income level	<input type="radio"/>				

Q26 Based on your experience, how important do you believe each of the following attributes is to the general population of the United States?

	Not at all important	Slightly important	Moderately important	Very important	Extremely important
Equality	<input type="radio"/>				
Individuality	<input type="radio"/>				
Freedom of speech	<input type="radio"/>				
Safety	<input type="radio"/>				
Competition	<input type="radio"/>				
Religion	<input type="radio"/>				
Freedom to be of any religion	<input type="radio"/>				
Strong education system	<input type="radio"/>				
Collectivism	<input type="radio"/>				
Harmony	<input type="radio"/>				
Effort	<input type="radio"/>				
Self-improvement	<input type="radio"/>				
Self-criticism	<input type="radio"/>				
Appreciation of arts	<input type="radio"/>				
Belief in value of science	<input type="radio"/>				
Respect for elders	<input type="radio"/>				
Intellectualism	<input type="radio"/>				
Strong traditions	<input type="radio"/>				
Opportunities for leisure	<input type="radio"/>				
Family orientation	<input type="radio"/>				
Rewarding hard work	<input type="radio"/>				
Behaving according to well-established norms	<input type="radio"/>				
Nationalism	<input type="radio"/>				
Strong health care	<input type="radio"/>				
Low corruption	<input type="radio"/>				
Financial security	<input type="radio"/>				
Care for environment	<input type="radio"/>				

Economic stability	<input type="radio"/>				
Empathy	<input type="radio"/>				
Friendship	<input type="radio"/>				
Life expectancy	<input type="radio"/>				
Crime rate	<input type="radio"/>				
Income level	<input type="radio"/>				

Q27 Please rate the family climate in which you have been raised for each of the following attributes.

	Not at all important to the family	Slightly important to the family	Moderately important to the family	Very important to the family	Extremely important to the family
Closeness to each other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intimacy with each other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Confiding in each other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trusting each other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rewarding each other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Loving each other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Liking each other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communicating with each other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Caring about each other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helping each other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Listening to each other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accepting each other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q28 Do you miss members of your family now that you are here in the United States?

- Not at all
- Slightly
- Somewhat
- Quite a bit
- Very much

Q29 How much contact do you continue to have with your family while you are here in the United States?

- Contact everyday
- Contact every 1 or 2 days
- Contact every 3 to 5 days
- Contact every 5 to 10 days
- More than 10 days without contacts

Q30 Please rate how much you agree or disagree with each statement.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I have clear life goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I experience unwelcome negative thoughts I stop them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find it easy to ask for and accept help from other people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am aware of my personal weaknesses and vulnerabilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I exercise at least twice a week	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel connected to a higher purpose or meaning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I find myself dwelling on negative thoughts I quickly change them to positive thoughts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I express my own emotions in a way that other can understand and accept	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I draw strength from having overcome previous challenges and tough experiences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In stressful times I control my own strong feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I make time for myself each week to do something that makes me feel good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q31 How much do you feel that you are needed by your home country?

- Not needed at all
- Slightly needed
- Somewhat needed
- Very much needed
- Extremely needed

Q32 How much do you miss the food of your home country?

- Not at all
- Slightly
- Somewhat
- Quite a bit
- Very much

Q33 How much do you miss the weather of your home country?

- Not at all
- Slightly
- Somewhat
- Quite a bit
- Very much

Q34 How much do you miss leisure activities in which you engaged in your home country?

- Not at all
- Slightly
- Somewhat
- Quite a bit
- Very much

Q35 How much do you like the landscape and the natural beauty of your home country?

- Not at all
- Slightly
- Somewhat
- Quite a bit
- Very much

Q36 How much difficulty are you experiencing in expressing yourself in academic settings?

- No difficulties at all
- Slightly
- Somewhat
- Quite a bit
- Very much

Q37 How well accepted do you feel in the United States?

- Not accepted at all
- Slightly accepted
- Somewhat accepted
- Very accepted
- Extremely well accepted

Q38 How much difficulty are you experiencing in day-to-day life in communicating with your native-English-speaking peers?

- No difficulties at all
- Slightly
- Somewhat
- Quite a bit
- Very much

Q39 How motivated are you to adapt to the new culture of life in the United States?

- Not motivated at all
- Slightly motivated
- Somewhat motivated
- Highly motivated
- Very highly motivated

Q40 How much longer from today do you expect to remain in the United States?

- Less than 1 year
- 1-2 years
- 2-3 years
- 3-5 years
- 5+ years

Q41 How long, ideally, would you like to remain in the United States?

- Less than 1 year
- 1-2 years
- 2-3 years
- 3-5 years
- 5+ years

Q42 How welcomed have you felt here in the United States?

- Not at all
- Slightly
- Somewhat
- Very much so
- Extremely much so

Q43 Overall, how different is life here in the United States for you from life in your country of origin?

- Not different at all
- Slightly different
- Somewhat diferent
- Very different
- Extremely different

Q44 How much difficulty are you experiencing in understanding academic English?

- No difficulty at all
- Slightly
- Somewhat
- Quite a bit
- Very much

Q45 How many people do you know here in the United States from your country of origin?

- None
- 1 or 2
- 3 to 5
- 5 to 10
- More than 10

Q46 How has your experience with your life in the United States compared with what you expected?

- Much worse
- Somewhat worse
- Neither better nor worse
- Somewhat better
- Much better

Q47 How often do you get together with people from your country of origin while living in the United States?

- Never
- Rarely
- Often
- Very often
- Always, almost every day

Q48 Do you feel that your friends in your country of origin miss you now that you are in the United States?

- Not at all
- Slightly
- Somewhat
- Quite a bit
- Very much

Q49 Do you feel that your family in your country of origin misses you now that you are in the United States?

- Not at all
- Slightly
- Somewhat
- Quite a bit
- Very much

Q50 How often do you think about returning to your home country?

- Always, almost every day
- Very often
- Often
- Rarely
- Never

Q51 Do you feel a part of a community of expatriates living here in the United States who are from your country of origin?

- Not at all
- Slightly
- Somewhat
- Very much so
- Extremely much so

Q52 How much do you miss the culture of your home country?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q53 How much do you respect the political system of your home country?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q54 How much do you like the food in the United States?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q55 How much do you like the culture of the United States?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q56 Overall, how well adapted do you feel to life in the United States?

- Not well at all
- Slightly well
- Moderately well
- Very well
- Extremely well

Q57 Overall, how comfortable do you feel living in the United States?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q58 How much do you respect the political system of the United States?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q59 Overall, how enjoyable do you find the experience of living in the United States?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q60 Overall, how much do you appreciate the opportunity to live in the United States?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q61 Overall, how much do you feel you fit into the United States?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q62 How welcomed do you feel here in the United States?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q63 How supportive do you feel your host university is toward international students?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q64 How accepted do you feel when you are engaging in school activities?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q65 How supported do you feel when you are dealing with governmental agencies?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q66 How accepted do you feel when you are engaging in leisure activities?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q67 How accepted do you feel when you are with your native-English-speaking peers?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q68 How often do you get together with native-English-speaking people?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q69 How supportive do you feel the US political system is of foreigners?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q70 How supportive do you feel the US health care system is of foreigners?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q71 How much do you feel that people in the United States respect diversity?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q72 How much do you feel a sense of belonging in the United States?

- Not at all
- A little
- A moderate amount
- A lot
- A great deal

Q73 Overall, how well do you feel accepted in the United States?

- Not well at all
- Slightly well
- Moderately well
- Very well
- Extremely well

Q74 How welcomed have you felt here in the United States?

- Not at all
- Slightly
- Somewhat
- Very much so
- Extremely much so

Q75 Overall, how different is life here in the United States for you from life in your country of origin?

- Not different at all
- Slightly different
- Somewhat different
- Very different
- Extremely different

Thank you for participating in this study! We hope you enjoyed the experience. This form provides background about our research to help you learn more about why we are doing this study. Please feel free to ask any questions or to comment on any aspect of the study. In this study, all participants are asked to give ratings or select answers for multiple-choice questions.

Hypotheses and main questions

We are interested in what happens to individuals who have grown up in one cultural context when they attempt to live in a new cultural context, or to individuals who lived through abrupt socio-economic transitions. How does this transition affect one's behavior and perspective and what are the predictors of an individual's successful adjustment? We predict that successful adaptation is dependent on the factors of inclusiveness of mainstream society, cultural distance or in other words difference between the cultural values of the country of origin and the United States, a stability of early family life, resilience, family ties, and motivation to adapt.

Why is this important to study?

Change takes place everywhere, every day. Being able to adapt to change is one of the salient skills to succeed in life, especially in the era of the fast-paced environment in which we are living today. The need for adaptive skill may arise not only when an individual move from one geographical area to another; it may arise even in the very same location, either visibly or invisibly. For any individual, being able to recognize the change, define and apply the strategies to cope with the change is an important skill to develop.

What are the expected findings?

Through this study, we attempt to discover who is best able to adapt to cultural changes and to identify what their strategies are for success. We expect that those who have small cultural distance, stable family backgrounds, higher resilience, close family ties, and higher motivation to adapt will be the successful adjusters. Successful adjusters who had large cultural distance and unstable family background will be the main focus of the study.

If you would like to receive a report of this research when it is completed (or a summary of the findings), please contact Ulziimaa Chimed-Ochir at uc48@cornell.edu or contact her faculty advisor, Robert J Sternberg, at rjs487@cornell.edu. If you have any questions or concerns regarding your rights as a subject in this study, you may contact the Institutional Review Board (IRB) for Human Participants at 607-255-6182 or access their website at <http://www.irb.cornell.edu>. You may also report your concerns or complaints anonymously through Ethicspoint online at www.hotline.cornell.edu or by calling toll free at 1-866-293-3077. Ethicspoint is an independent organization that serves as a liaison between the University and the person bringing the complaint so that anonymity can be ensured.