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The Role of Ethnic Identity, Perceived Cultural Distance and Social Network Composition in Predicting Acculturative Stress Among Indian International Students in the U.S

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THE ROLE OF ETHNIC IDENTITY, PERCEIVED CULTURAL DISTANCE AND SOCIAL
NETWORK COMPOSITION IN PREDICTING ACCULTURATIVE STRESS AMONG
INDIAN INTERNATIONAL STUDENTS IN THE U.S

by
Devyani Gore

A Thesis Submitted in
Partial Fulfillment of the
Requirements for the Degree of

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ABSTRACT

THE ROLE OF ETHNIC IDENTITY, PERCEIVED CULTURAL DISTANCE AND SOCIAL NETWORK COMPOSITION IN ACCULTURATIVE STRESS AMONG INDIAN INTERNATIONAL STUDENTS IN THE U.S

by
Devyani Gore

The University of Wisconsin-Milwaukee, 2020
Under the Supervision of Dr. Raymond Fleming

This study examined how ethnic identity, perceived cultural distance and cultural composition of social networks interacted to influence acculturative stress, among Indian international students studying in the United States. Acculturation models and the stress-buffering hypothesis served as theoretical frameworks. Participants consisted of 100 international students (56 % female, 44 % male; mean age = 24.72 years) who were mainly recruited with the support of Office of Student Affairs of a midwestern university. Data was collected through an online survey comprised of the Acculturative Stress Scale for International Students (ASSIS), Multigroup Measure of Ethnic Identity-R (MEIM-R), Cultural Distance Index (CDI) and a Cultural Composition of Social Network Scale. Results showed that ethnic identity, perceived cultural distance and cultural composition had significant main effects in predicting acculturative stress but only perceived cultural distance moderated the relationship between ethnic identity and acculturative stress. The findings of the current study may be useful in creating more outreach programs to this specific group of international students by better understanding their patterns of behavior. *Keywords: acculturative stress, ethnic, identity, perceived cultural distance, cultural composition of social networks*

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The Role of Ethnic Identity, Cultural Distance and Social Network Composition in Acculturative Stress

Universities in the United States have been known to attract students from all over the world, in their pursuit of a quality education, and opening doors to career opportunities. According to data from the U.S. Department of Commerce international student enrollment has been on the rise, they make up 5.5 percent of the total U.S. higher education population and contributed \$44.7 billion to the U.S in 2019. Indian international students are the second largest group comprising of 18.4% of all international students. The important life transition of living and studying in another country involves many socio-cultural, environmental, and psycho-physiological adjustments. Experiencing difficulties in the adjustment can have significant consequences for the psychological wellbeing of these students. It is not unusual during this process of adaptation for stress-related psychological difficulties to occur.

The details of the transition that Indian international students face may be prefaced with some key differences between U.S and Indian culture. These include people of Indian culture ascribing to more traditional gender roles and attitudes (Deosthale & Hennon, 2008), strong reliance on interdependence and connectedness with family members (Verma & Triandis, 1999), and expectations of maintaining a deferential and nonconfrontational stance toward teachers (Milner, 2009). These cultural differences may be crucial in understanding possible patterns of psychological adjustment and identifying factors that contribute to psychological adjustment outcomes. While a substantial body of research exists outlining factors that relate to

psychological adjustment of international students in general, research involving specifically Indian students is surprisingly scarce considering their substantial presence in the United States.

Large numbers of international students studying in the US are deprived of traditional sources of social support and familiar means of communication (Pederson, 1991). Others experience problems such as perceived discrimination and homesickness (Poyrazli & Lopez, 2007), role conflicts, academic concerns (Yang & Clum, 1995), depression (Rahman & Rollock, 2004), and social contact and cultural differences (Swagler & Ellis, 2003). The literature has consistently suggested that international students are highly vulnerable to stress derived from cross-cultural adjustment (Mori, 2000; Poyrazli, et al., 2004; Sandhu & Asrabadi, 1994). During their transition to a new country, international students face stressors related to cultural differences, language barriers, academic styles, separation from home, poor social integration and problems in daily life tasks (Mori, 2000; Sandhu, 1995). Furthermore, their adjustment problems vary by country of origin, race and ethnicity (Constantine et al., 2005), language proficiency (Poyrazli & Grahame, 2007), and whether or not they come from collectivist or individualist cultures (Tafarodi & Smith, 2001).

Although the experiences of international students can be said to be similar to those of domestic students within their courses of study and may experience stressors that are associated with each academic program, international students experience unfamiliarity with new cultural norms and symbols, different values associated with stress appraisal, and loss of social support networks all of which present a unique set of challenges. The evidence in the literature indicates the maladjustment of international students in the host country negatively impacts the psychosocial development of international students and puts them at greater risk for mental

health issues, such as depression (Andrade, 2006; Lee, 2010; Rajapaksa & Dundes, 2002; Rice et al., 2012; Sandhu, 1995; Sandhu & Asrabadi, 1994; Wadsworth et al., 2008).

It is exactly for this reason that it is particularly important for research to understand what psychosocial variables contribute to this unique type of stress within this population.

Acculturation

Acculturation research has been pioneered by anthropologists and sociologists and more recently been taken on by psychologists. The concept of acculturation was first introduced by a group of anthropologists in the early twentieth century. They defined acculturation as the “phenomenon which results when groups of individuals having different cultures come into continuous firsthand contact with subsequent changes in the original cultural patterns of either or both groups” (Redfield, Linton & Herskovits, 1936, p. 149). In 1954, the Social Science Research Council (SSRC) conducted a systematic investigation to conceptualize a holistic meaning of acculturation. They defined acculturation as the acculturative change that is a consequence of direct cultural transmission between two or more cultural systems, which is influenced by ecological as well as demographic factors. (SSRC, 1954).

Although these definitions have played a major role in acculturation research, they faced criticism because of their lack of focus on individual acculturation. As a result, new definitions of acculturation began to emerge, especially within the field of psychology. The construct of acculturation is especially relevant in understanding how different acculturating groups such as refugees, immigrants and temporary sojourns (e.g. international students) adapt to a new cultural environment (Berry, 1997). One important phenomenon that has been at the heart of

acculturation research is related to the manifestation of acculturation and is specifically known as acculturative stress.

Acculturative Stress

Acculturative stress can be defined as the stress associated with the cultural transition that many international students encounter (Berry, 1997, 2006). Berry's (2006) acculturative stress model suggests that acculturative stress occurs when individuals are faced with significant challenges or obstacles related to acculturation that are not successfully changed by one's behavior. This is particularly likely to occur when individuals are lacking coping strategies and social support (Sam & Berry, 2010). This type of stress has been found to influence various student outcomes including academic adjustment (Poyrazli & Kavanaugh, 2006) and produce psychological outcomes such as anxiety, and depressive symptomatology (Constantine, et al., 2004). Studies looking at international student adjustment seem to indicate that acculturative stress is a prominent and recurring issue. Many predictors of acculturative stress have been identified, such as English language proficiency, age of arrival, generational status, length of stay, educational level, socio-economic status (SES), marital status, ethnic identity, and involuntary vs. voluntary immigration status (Constantine et al., 2004).

In 1984, Lazarus and Folkman proposed an appraisal model for stress, and they defined stress as “a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being” (Lazarus & Folkman, 1984, p.19). Lazarus and Folkman's (1984) theory is widely used in stress studies and is considered to be a classic stress theory. Building on Lazarus and Folkman's work, Berry developed a newer model (1997, see Figure 2), in which he divided the moderating factors

into two categories according to the time order. Among moderating factors prior to acculturation, which are listed on the top of the figure, Berry included demographic variables, motivation and expectation, cultural distance and personality, with the latter two as new inputs. Among moderating factors during the process of acculturation, which are listed on the bottom of the figure, Berry included phase, acculturation strategy, coping, social support and societal attitudes. Coping and social support correspond to the individual's demographic and social characteristics in the original model. Societal attitudes correspond to the nature of host society in the original model.

Research consistently finds that Asian international students in the United States and Canada report heightened acculturative stress compared with European international students (Akhtar & Kröner-Herwig, 2015; Poyrazli, et al., 2004; Yeh & Inose, 2003). This may be influenced by increased cultural distance (i.e., differing more greatly in their overall cultural way of life) and reduced cultural fit (i.e., having personality traits and self-construals that are less like the dominant cultural values in the North America) compared with European students, which studies suggest is linked to heightened perceived discrimination and difficulties in sociocultural adaptation compared with their European counterparts (Lee, 2010; Lee & Ciftci, 2014).

While more research is needed to understand the extent to which specific subpopulations of international students (Indian students) experience acculturative stress, there is a dearth of research examining factors that influence acculturative stress. A systematic review of research (Zhang & Goodson, 2011) examining the psychosocial adjustment of international students in the US reveals there are a total of only 50 studies examining predictors of acculturative stress

among Asian international students. Among these studies, English proficiency, social support, gender, age, and coping strategies were the most frequently reported predictors (e.g., Akhtar & Kröner-Herwig, 2015; Bai, 2016; Mahmood, 2014; Poyrazli et al., 2004; Yeh & Inose, 2003).

Research focused on delving into deeper process variables that more closely reflect an individual's experience and shape the ways individuals perceive and interact with their social environments, may be crucial to understanding the dynamic and multi-process nature of acculturation instead of focusing primarily on demographic and environmental factors.

Ethnic Identity

Ethnic identity refers to a subjective sense of belonging to one's ethnic group and involves an exploration of one's ethnicity, having knowledge of and a preference for the group, and being involved in ethnic group activities (Phinney 1992,). More specifically, Phinney conceptualized ethnic identity as a multidimensional construct, with one dimension including Affirmation, Belonging, and Commitment (ABC), or positive feelings and a sense of pride and belonging toward one's ethnic group. Ethnic identity may be an important part of the acculturation process, considering immigrants may engage in a process that either suppresses or inflates their sense of ethnic identity as they are trying to maintain a connection to their culture of origin and possibly assimilate to the host culture (Berry, et al., 2006). This may be relevant for international students, many of which may be engaging in heightened identity exploration and commitment, including exploration of ethnic identity during a crucial developmental period (Schwartz, et al., 2013). Furthermore, ethnic identity may be a particularly relevant and salient construct for Asian international students, as many are moving from ethnically homogenous

environments to racially diverse environments where they must adjust to becoming ethnic minorities (Lee, 2010).

Research suggests a positive relation between ethnic identity and acculturative stress exists, such that those with a stronger ethnic identity report higher levels of acculturative stress, and that higher levels of ethnic identity exacerbate the negative effect of acculturative stress on psychological well-being (Kim, et al., 2014; Smith & Silva, 2011). The seemingly harmful influence of ethnic identity on adjusting to a new culture may be understood in terms of studies that have shown that high acculturative stress is associated with perceived dissonance between the cultural norms and values of the culture of origin and the host culture (Haritatos & Benet-Martínez, 2002) and heightened perceptions or more frequent experiences of discrimination in the host culture. Thus, those who are strongly connected to an ethnic group that is culturally distant from the host culture and/or those who are very aware of ethnic discrimination based on their strong affiliation with their in-group may experience increased acculturative stress (Musso, et al., 2017).

Cultural composition of social networks

Some cross-cultural researchers (Li & Gasser, 2005; Yan & Berliner, 2011, 2013) claim that contact between international students and members of the host culture is a significant factor in influencing the adjustment experience of international students. These researchers suggest that the more frequent and positive contact international students have with host nationals, the better their adjustment to the new environment will be, thereby reducing the level of acculturative stress that students will experience. Conversely, Al-Sharideh and Goe (1998) found that forming strong ties with individuals who share the same culture as an international student can positively influence their adjustment experience. However, they also found that the number of strong ties

with other co-culturalists was found to be positively related to global self-esteem until the size of a student's network of such ties reached 32 people. Beyond this threshold point, such ties became negatively associated with a student's self-esteem.

For international students, having ready access to familiar cultural settings and members may serve as a comfortable haven from where they can seek temporary refuge. However, although this may provide international students with initial relief from the stresses of adjusting to a new environment, over time such reliance on the familiar tends to foster feelings of isolation (Yan & Berliner, 2011, 2013) and may lead to an increased sense of alienation and victimization, intergroup bias, and perceived prejudice and discrimination (Sidanius, et al., 2004).

Therefore, this objective predictor of acculturative stress may be an important piece in understanding the individual experience of acculturation as well as acculturative stress.

Perceived cultural distance

Cultural distance, which refers to how dissimilar two cultures are, is also supposed to be a predictive factor of how acculturating individuals adapt to a new culture (Berry 1997). The differences can be attributed to one's food preferences, climate, language, religion, traditions, values and ideologies such as collectivism or individualism. Research suggests that the greater the difference between the home and host cultures, the greater the stress (Berry et al. 1987; Yeh & Inose 2003). Asian students are particularly challenged by the disparities regarding cooperation versus competition, collectivism versus individualism, and hierarchical relationships versus equality of relationships (Yeh & Inose 2003).

Results of both qualitative and quantitative research have pointed to cultural distance underlying the experience of acculturative stress. Results of qualitative research have suggested that the perception of cultural distance and the experience of cultural differences function as sources of stress for international students (Ang & Liamputtong, 2008; McLachlan & Justice, 2009; Yan & Berliner, 2013). Moreover, international students studying in the United States were found to be experiencing "change overload" (e.g., weather, food, academic, social differences), which contributed to adjustment problems (McLachlan & Justice, 2009). Previous research has linked cultural distance to stress, although findings are not uniform and cultural distance has been operationalized in a variety of ways (e.g., Galchenko & van de Vijver, 2007; Poyrazli et al., 2010; Szabo et al., 2016). Overall, quantitative results were generated by conceptualizations of cultural distance as stemming from perceived discrepancies between the home and host cultures rather than in terms of objective cultural dimensions, differences in GDP, or gross income inequality metrics.

Cultural distance and its role in international student adaptation has been under-researched compared to its role in the adaptation of migrants and expatriates, only being cited in 17% of studies on that population (Bierwiazzonek & Waldzus, 2016).

Cultural distance is rooted in the concept of culture shock. Although their own research investigated the relationship between cultural distance and sociocultural adaptation, Furnham and Bochner (1982) suggested that culture shock (as a form of psychological stress) depends on cultural differences, individual demographic and personality differences, and sojourner experience (e.g., social support, perceived discrimination). The role of cultural differences in

producing culture shock has been supported by research illustrating that the inability to adapt to American culture was one concern among international students utilizing counseling services at a college in the United States was (Yakushko et al., 2008). Results from other research based on ascribed cultural distance (i.e., cultural distance assumed based on membership in different national groups) also have supported cultural distance as a source of stress. For instance, higher cultural distance predicted more anxiety over time for Asian than Western international students studying in New Zealand (Szabo et al., 2016), European international students experienced less acculturative stress than their counterparts from Asia, Central and Latin America, and Africa studying in the United States (Yeh & Inose, 2003), Asian students experienced more acculturative stress than European students significantly better psychological adaptation outcomes than did sojourners who experienced a higher level of cultural distance but who did not have the same quality of social support studying in the United States (Poyrazli et al., 2004), and Asian students experienced more overall strain as well as higher levels of strain regarding their educational experiences, English, and personal psychological experiences (e.g., homesickness, feelings of depression) compared to international students from other countries (Poyrazli & Kavanaugh, 2006).

Cultural distance and its role in international student adaptation has been under-researched compared to its role in the adaptation of migrants and expatriates, only being cited in 17% of studies on that population (Bierwiazzonek & Waldzus, 2016) making further exploration of this construct particularly important.

The purpose of the present study was to investigate approach the acculturation as an identity process. An examination of ethnic identity in terms of its dimensions as well as exploring parallels between the constructs of ethnic along an objective (cultural composition) and subjective (cultural distance) constructs might strengthen the conceptualization of factors relating to acculturation being understood as being shaped by the sense of self.

The subsequent interactions of these variables serve to reinforce the emphasis of the identity process in predicting acculturative stress.

It is expected that stronger ethnic identity, less diverse cultural composition of social network, greater perceived cultural distance will predict greater acculturative stress, and, the addition of the interactions between ethnic identity and cultural composition, and ethnic identity and perceived cultural distance, to the prediction model will increase the ability to predict acculturative stress.

Method

Sample

Participants for the present study were mainly recruited with the support of the center of International Education at the University of Wisconsin-Milwaukee. They were briefed about the purpose and the significance of the research and were requested to forward an advertisement (a standard email provided by the researcher) to the students informing them about the study and requesting them to participate. The advertisement in the form of an email gave a brief introduction and explained the significance of the project. The criteria for participation and a web-link to participate were also included in the email. The participation of the students was completely voluntary. Participants were told about the purpose of the research and were assured

of the confidentiality of their responses. Information about the study was also advertised on several internet-based social network groups (e.g., Facebook). The inclusion criteria of the study was that participants needed to be at the time of the study be an Indian national enrolled in a full-time graduate program in a U.S university.

Of the 132 survey responses collected, 15 participants were excluded as they indicated undergraduate status. 17 participants were excluded due to incomplete responses. The final sample included 100 international students, the slight majority of whom was female (see Table 1). The mean of the age of the participants was about 24 years. 81% of students were comfortable speaking in English and the mean monthly combined income was about \$3453.

Procedure

Participants received an email asking them to participate in a study about international students' experiences in the United States with a link to an online survey. The survey was available online only. Participants completed the survey from any computer with internet access. The link directed participants to an informed consent page and if participants give consent to participate in the study, they were directed to answering some demographic questions followed by the survey. The survey component consisted of, Multigroup Measure of Ethnic Identity-R, Perceived Cultural Distance Scale, questions about the cultural composition of their social network and the Acculturative Stress Scale.

Measures

Acculturative Stress

The Acculturative Stress Scale for International Students (ASSIS) developed by Sandhu and Asrabadi (1994) was used in a modified form for the present study. The original version of

ASSIS consisted of 36-item, to be rated on 5-point Likert- type scale (1 = strongly disagree, 3 = unsure, 5 = strongly agree) that assesses adjustment problems. It comprised of seven subscales, including Perceived Discrimination (8 items), Homesickness (4 items), Perceived Hate/Rejection (5 items), Fear (4 items), Stress due to Change/Culture Shock (3 items), Guilt (2 items), and Nonspecific Concerns (10 items). The scale provides a sum score for total acculturative stress as well as scores for the seven subscales of acculturative stress, with higher scores indicating greater acculturative stress.

The original ASSIS total score had very high reliability coefficients, with a Cronbach's coefficient alpha of 0.94 (Sandhu and Asrabadi 1998). Construct validity was supported by a positive association with depression (Constantine et al. 2004). ASSIS was also used in other studies and internal consistency scores ranged from 0.87 to 0.95 (Poyrazli et al. 2004; Yeh and Inose 2003).

The present study used a modified version of the ASSIS, which resulted in 52 total items including items from some potential sources of stress, which are related to change in food, climate, transportation, accommodation, finances/shopping, bureaucracy, health care services, and clothing/lifestyle etc. The modified ASSIS has a cronbach's alpha of .95.

Ethnic Identity

The Multigroup Measure of Ethnic Identity-R (MEIM-R; Phinney & Ong, 2007) is a 12-item measurement intended to examine behaviors and attitudes related to ethnic identity development. Six close-ended items then assess *exploration* of (items 1, 4, and 5) and *commitment* to (items 2, 3, and 6) one's ethnic identity on a 5-point scale from (1) strongly disagree to (5) strongly agree. Sample items include "I have often talked to other people in order

to learn more about my ethnic group” and “I feel a strong attachment towards my own ethnic group.” Scores for the three-item subscales and the overall scale are calculated by averaging item values. Prior research in primarily college student samples has indicated good reliability, with internal consistency (Cronbach’s α) ranging from .76 to .91 for the two subscales and .81 to .89 for the overall scale (Phinney & Ong, 2007; Yoon, 2011).

Perceived Cultural Distance

The Cultural Distance Index (CDI) developed by Babiker et al. (1980) was used to measure perceived cultural distance. Participants were asked to rate on a scale of 1 to 5 (1 = no difference, 5 = extreme difference) about how their own original backgrounds differ from their experiences in the new culture (in this case, the United States) in 16 areas (climate, physical environment, food, dressing style, leisure activities, pace of life, material comfort, language, family structure, family values, the usual age of getting married, education level, and the dominant religion. The internal reliability of the scale was tested via Cronbach alpha and proved that it was reliable ($\alpha = .84$).

Cultural Composition of Social Network

Adapted from Hwang (2014), the scale used asked participants to identify the likelihood that they would seek support from members that were either the same or different from themselves based on culture, nationality/ethnic group, and first language spoken in four areas of need: (a) loneliness, (b) academic assistance, (c) recreational activities, and (d) adjustment to the new environment. Participants will be asked to rate 24 questions, six per area of need, on a Likert scale ranging from 1 to 5. The means for each area of need were calculated and summed

resulting in a maximum score of 20 for cultural compositions of social support networks that were identified as either the same or different; the higher the cumulative score, the greater the likelihood that they would seek support from those particular members of their network. Cronbach's Alpha for the scales ($> .80$) indicated strong internal consistency for the items in each scale.

Results

Pearson's correlations

To examine the relationship between ethnic identity and acculturative stress, a Pearson correlation was conducted. Results showed that ethnic identity was significantly and negatively correlated to acculturative stress, $r(98) = -.50, p < .01$. Therefore, greater ethnic identity predicted less acculturative stress. To examine the relationship between perceived cultural distance and acculturative stress, a Pearson correlation was conducted. Results showed that perceived cultural distance was significantly and positively correlated to acculturative stress, $r(98) = .59, p < .01$. Therefore, perceived cultural distance identity predicted greater acculturative stress. To examine the relationship between cultural composition of social network and acculturative stress, a Pearson correlation was conducted. Results showed that cultural composition of social network was significantly and positively correlated to acculturative stress, $r(98) = .61, p < .01$. Since, a lower score indicated more diverse social network, the results showed the less diverse the social network got, the greater was the acculturative stress.

Hierarchical Multiple Regression Analysis

A Hierarchical multiple regression was conducted to examine whether there was a significant interaction between ethnic identity and perceived cultural distance as well as ethnic identity and cultural composition after controlling for the three predictors in step 1. Table 2 provides results of the model testing perceived cultural distance and cultural composition of social network as moderators between ethnic identity and acculturative stress. The covariates accounted for a significant amount of variance in acculturative stress $R^2 = .31, F(6,93) = 6.9, p < .001$. English proficiency ($\beta = .25, p < .05$) and duration of stay in the U.S. ($\beta = -.35, p < .01$) were significant predictors of acculturative stress. Results (see Table 2) show that ethnic identity ($b = -.29, t = -3.68, p < .001$), perceived cultural distance ($b = .24, t = 2.64, p = .01$), and cultural composition ($b = .32, t = 3.65, p < .001$) have significant unique contributions in predicting acculturative stress. Adding the main effects in Step 2 significantly increased the amount of variance in acculturative stress accounted for accounted for 60% of variance, $R = .77, R^2 = .60, F(3,90) = 21.4, p < .001$. The ethnic identity * cultural composition interaction was dropped from the model due to it being highly insignificant, $p = .55$. After it was removed from the model, there was a significant interaction between ethnic identity and perceived cultural distance, $\beta = -.2, t = -2.88, p < .01$.

Internal reliability of the scales of each of the measures was tested via Cronbach's alpha.

Multigroup Measure of Ethnic Identity-R showed high reliability ($\alpha = .99$). Cultural Distance

Index showed high reliability ($\alpha = .98$). Cultural Composition Scale showed high reliability (α

$= .96$). Acculturative Stress Scale for International Students (ASSIS) showed high reliability (α

=.99). The results showed that only perceived cultural distance moderated the relationship between ethnic identity and acculturative stress.

Discussion

The presented study hypothesis were that stronger ethnic identity, less diverse cultural composition of social network, greater perceived cultural distance will predict greater acculturative stress, and, the addition of the interaction between ethnic identity and perceived cultural distance, to the prediction model will increase the ability to predict acculturative stress. The results of this study did not support the first hypothesis, supported the second third hypothesis and only partially supported the fourth hypothesis.

Finding 1

Ethnic identity was negatively correlated to acculturative stress, showing that a stronger sense of ethnic identity was related to lower acculturative stress. This finding was opposite of what was hypothesized. While there is existing literature indicating there may be a positive relationship between ethnic identity and acculturative stress, this relationship has not been consistently documented. For example, Smith & Silva (2011)'s meta -analysis which used data from 184 studies looked at the relationship between the constructs of ethnic identity and personal well-being among people of color in North America. Studies correlating ethnic identity with self-esteem and positive well-being yielded average effect sizes twice as large as those from studies correlating ethnic identity with personal distress or mental health symptoms. Therefore, the meta- analysis concluded that ethnic identity was more strongly related to positive well-being than to compromised well-being. The results of the present study may indicate that a stronger

sense of ethnic identity may be serving as a protective factor that promotes resilience in the face of stressors related to the acculturation process. Identification with a larger collective could provide a sense of belonging and social support wherein ethnic identity can provide a sense of strength, competence, and self-acceptance when negotiating complex environmental contingencies (Smith & Silva 2011).

Finding 2

The findings from the present study indicated that international students who were more likely to seek support from members of a different cultural group experienced lower levels of acculturative stress and students who were more likely to seek support from members of the same cultural group experienced greater levels of acculturative stress. Previous research has indicated mixed evidence regarding the advantaged and disadvantages of social networks that are either made of primarily members of the same culture. The present finding may possibly indicate that international students rely on individuals belonging to the same culture as them because of the doing so in the past has yielded positive experiences for them.

Additionally, Berry (1997) acculturation strategies (assimilation, integration, separation, and marginalization) could be used as theoretical explanation for the present finding. According to Berry (1992), “integration strategies are the least stressful, while marginalization is associated with the most stress; assimilation and separation are known to fall in between.” (p. 77). Although the present study did not concretely identify which specific strategy students used, it could be posited that students who relied on members of their own culture might have used an assimilation or integration strategy. Both assimilation and integration strategies involve a

willingness to participate in the daily interaction with members of the host society and the understanding of the norms and traditions of the host culture. This acts as further support to studies that assert that the positive interaction with members of the host culture facilitates the acculturation process of international students through the transmission of cultural specific skills necessary to navigate in their new environment. (Al-Sharideh & Goe, 1998; Yan & Berliner, 2011).

Finding 3

The present findings showed that greater perceived cultural distance did lead to greater acculturative stress. Previous studies have shown that cultural distance has also been related to immigrants' interpersonal relationships and sense of self in the host country. Babiker, Cox, and Miller (1980) introduced the concept of cultural distance to account for the distress that international students and other sojourners may experience as they adapt to a new culture, arguing that such distress may be a result of cultural distance. This is sometimes referred to as the cultural distance hypothesis. Studies have since shown that international students who perceive their own culture as highly different from U.S culture tend to show difficulties in communicating and forming relationships with members of the host culture (Redmond, 2000). In the present study, international students who perceived their culture as more dissimilar to U.S culture presumably viewed this dissimilarity as a potential stressor, thus explaining the resultant heightened acculturative stress they experienced.

Finding 4

Findings of the present study showed that perceived cultural distance acted as a moderator between ethnic identity and acculturative stress. This finding was somewhat surprising considering the results showed that even though the main effect of ethnic identity on acculturative stress was significant it was exemplified in a different direction as was previously conceptualized. However, this alternate conceptualization of ethnic identity serving as a buffer is not entirely surprising due to the dynamic nature and manifestation of this construct. The results showed that a weaker sense of ethnic identity coupled with a greater perceived cultural distance lead to greater acculturative stress. This illustrates the idea that, if greater ethnic identity is serving as a means to facilitate a more positive outcome for students then what strengthens this relationship is for students to perceive their culture as less distant from the host culture. However the interaction between ethnic identity and cultural composition of social networks was not significant showing that it did not have an additive effect in strengthening the relationship between ethnic identity and acculturative stress although it did have a unique main effect on acculturative stress by itself.

Limitations

While looking the social network composition of international students, it may be important to note that those who purposefully seek support from those who are from a different culture than themselves are inherently less susceptible to the effects of acculturative stress since they actively want to learn more about their new environment and are quick to adapt. They are more likely to have a positive attitude about encountering new and unfamiliar situations. It may

be crucial in this case to try and measure the predisposition of international students and include it as a variable for analysis.

Additionally, in many Asian cultures, public display of emotional instability is viewed as a poor reflection on the individual as well as on his or her family and community. Therefore, the responses to the questions may be potentially impacted by this idea and participants may have chosen to respond to many aspects of the survey by holding back in terms of how truthful they may be in terms of admitting to negative feelings/experiences they have had during their process of acculturation

The generalizability of the study could be improved upon if the sample consisted of international students across of the United States instead of limited to the Midwest. Additionally, the lack of incentive could have potentially affected the decision to participate in the survey itself, leading to a limited sample size as well as affected motivation to complete the survey measure truthfully. While the findings from the present study seem to be supported by theories and evidence from previous research, it is important to note that concept of acculturation is multi-faceted and dynamic in nature therefore it is difficult to pinpoint what is happening at one particular point in time.

Future Directions

More longitudinal research regarding acculturation is needed to capture a more accurate picture of the transition process international students experience during their stay in the U.S. Additionally, even though there seems to be a collective agreement that individuals may differ in the extent to which they engage in the acculturation process, research looking at relationship of personality in the process of acculturation is scarce. Future research could look at how certain characteristics of the individual (e.g., ethnocentric tendencies) could affected outcomes related to

acculturation. Lastly, comparisons of patterns of adjustment of different ethnic groups of international students might be beneficial in effectively identifying which groups of students may be the most vulnerable to succumbing to higher levels of acculturative stress.

Implications

Understanding how each of these predictors individually and collectively interact may be crucial in shaping outreach programs targeted at international students to aide in transition, facilitating student retention and even longer-term adaptation to life in the United States. Specific recommendations include creating realistic expectations of the university and the cultural aspects of the U.S among international students before they arrive. Previous research has indicated that international students may have unrealistic expectations because they are not informed adequately about the host culture prior to leaving their home countries (Ladum & Burkholder 2019). Universities that use third-party agents to recruit students abroad could be encouraged to create more realistic expectations among potential students by providing agents with a greater variety of accurate and detailed information and resources about the university and life in the host context and by requiring agents to hold orientation sessions introducing prospective students to the culture and laws of the United States.

Conclusion

Acculturative stress is a common experience that international students in the United States experience wherein they come are faced with unique stressors and challenges due to their new and varied surroundings. Ethnic identity and perceived cultural distance are two more subjective markers that are involved in this experience whereas cultural composition of social

network acts as somewhat of a more objective marker. Each of these three variables play an essential role in shaping the amount of acculturative stress an international student experiences and understanding the implications of how these factors work together may be crucial in creating healthier, more sustainable educational environments for these students.

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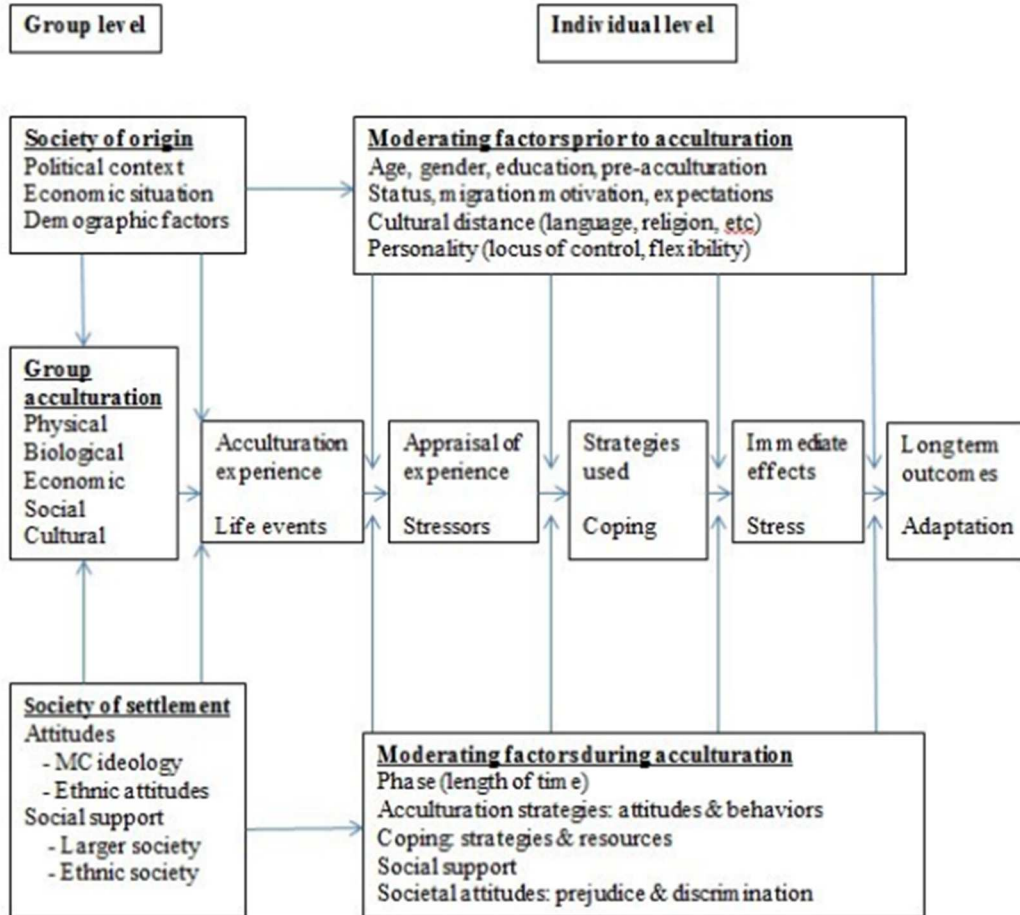
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FIGURES

Figure 1: *Berry's Model of Acculturative Stress*



TABLES

Table 1: *Demographic characteristics of sample*

Table 1:Demographic	Demographic variables	Categories	International students <i>M</i> , %
Characteristics of Sample (N=100)	Age	Range 19-29	<i>M</i> = 24.2
	Gender	Male	44
		Female	56
	Marital Status	Single	88
		Married	12
	English Proficiency	Extremely comfortable	55
		Somewhat comfortable	26
		Neither comfortable nor uncomfortable	1
		Somewhat uncomfortable	18
	Time spent in the U.S	Extremely uncomfortable	0
		Less than 1 year	4
		1 year	14
		2 years	25
		3 years	12
4 years		25	
5 years		11	
Monthly Combined Income(\$)	More than 5 years	9	
	Range 1200-13000	<i>M</i> = 3453.5	

Table 2: Hierarchical Multiple Regression Analysis with Acculturative Stress as the dependent variable (N= 100)

Predictor	β	R^2	ΔR^2	t
<i>Step 1 (covariates)</i>				
		.31	.31***	
Age	-.02			-.14
Marital status	-.08			-.9
Gender	-.13			-1.44
English Proficiency	.25*			2.44
Monthly Combined Income	.04			.43
Duration of stay in U.S	-.35**			-3.31
<i>Step 2 (main effects)</i>				
		.60	.29***	
Ethnic Identity	-.29***			-3.68***
Perceived Cultural Distance	.24**			2.64**
Cultural Composition of Social Network	.32***			3.65***
<i>Step 3 (interactions)</i>				
		.63	.04*	
Ethnic Identity \times Perceived Cultural Distance	-.2			-2.8**

* p < .05. ** p < .01. *** p < .001.

Note: EI*CC interaction was removed from the model as its significance level was >.05.

Table 3- Correlations Table

Predictor	r
Age	-.2
Marital Status	-.1
Gender	-.18
English Proficiency	.44**
Monthly Combined Income	-.01
Duration of Stay in the U.S	-.048**
Ethnic Identity	-.5**
Perceived Cultural Distance	.59**
Cultural Composition of Social Network	.61**

* p < .05. ** p < .01. *** p < .001.

Appendix A: Acculturative Stress Scale

1. Homesickness for my country bothers me.
2. I feel uncomfortable to adjust to new foods and/or to new eating habits.
3. I am treated differently in social situations.
4. I feel rejected when people are sarcastic toward my cultural values.
5. *I have difficulties in selecting the groceries, clothing and other supplies which suit me.*
6. I feel sad living in unfamiliar surroundings here.
7. I fear for my personal safety because of my different cultural background.
8. I feel intimidated to participate in social activities.
9. Others are biased toward me.
10. I feel guilty to leave my family and friends behind.
11. Many opportunities are denied to me.
12. *I found necessary supplies costly and have no knowledge of how to get them cheaply.*
13. I feel angry that my people are considered inferior here.
14. *I have difficulty in finding a suitable accommodation for myself.*
15. I feel overwhelmed that multiple pressures are placed upon me after my migration to this society.
16. I feel that I receive unequal treatment.
17. People from some ethnic groups show hatred toward me nonverbally.
18. It hurts when people don't understand my cultural values.
19. *I have difficulty in adjusting my appearance to the new life style.*
20. I am denied what I deserve.
21. I have to frequently relocate for fear of others.
22. *I have difficulties in obtaining necessary documents to be able to work or study.*
23. I feel low because of my cultural background.
24. I feel rejected when others don't appreciate my cultural values.
25. I feel uncomfortable to adjust to new cultural values.
26. I feel that my people are discriminated against.
27. People from some other ethnic groups show hatred toward me through their actions.
28. I feel that my status in this society is low due to my cultural background.
29. I am treated differently because of my race.
30. I feel insecure here.
31. I don't feel a sense of belonging (community) here.
32. I am treated differently because of my color.
33. I feel sad to consider my people's problems.
34. I generally keep a low profile due to fear from other ethnic groups.
35. *It is really hard for me to establish a home in this new set-up.*
36. I feel some people don't associate with me because of my ethnicity.
37. People from some other ethnic groups show hatred toward me verbally.
38. I feel guilty that I am living a different lifestyle here.
39. I feel sad leaving my relatives behind.
40. I worry about my future for not being able to decide whether to stay here or to go back.
41. *I find it difficult to know what to do and where to go when I am ill.*

Appendix B: Ethnic Identity Scale

- 1- I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.
- 2- I have a strong sense of belonging to my own ethnic group.
- 3- I understand pretty well what my ethnic group membership means to me.
- 4- I have often done things that will help me understand my ethnic background better.
- 5- I have often talked to other people in order to learn more about my ethnic group.
- 6- I feel a strong attachment towards my own ethnic group.

Response scale:

(1) Strong disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

Appendix C: Perceived Cultural Distance Scale

Directions: Based on your personal experiences, please indicate the degree of difference between your own culture or country and the U.S. culture in each of these areas. Use the following 1 to 5 scale:

1 = no difference; 2 = slight difference; 3 = moderate difference; 4 = great difference; 5 = extreme difference.

1. Climate (such as the temperature and the rainfall). 1 2 3 4 5
2. Physical environment (such as the neighborhood, the density of population). 1 2 3 4 5
3. Transportation tool or style. 1 2 3 4 5
4. Food (the cooking and eating style). 1 2 3 4 5
5. Clothes (the dressing style). 1 2 3 4 5
6. The types of leisure activities. 1 2 3 4 5
7. Pace of life. 1 2 3 4 5
8. Material comfort (Standard of living). 1 2 3 4 5
9. Language (the languages used in your country and in the U.S.). 1 2 3 4 5
10. Communication style (such as directness or indirectness). 1 2 3 4 5
11. General education level for most people. 1 2 3 4 5
12. Education style (such as class interaction, teacher's expectation). 1 2 3 4 5
13. Religion (the dominant religion in your own country and in the U.S.). 1 2 3 4 5
14. Family structure (such as the general size of family, generations living together). 1 2 3 4 5
15. The usual age of getting married. 1 2 3 4 5
16. The values of family. 1 2 3 4 5

Appendix D: Cultural Composition of Social Networks Scale

For the following questions please state the likelihood that you would seek support from members that are either the same or different based on your nationality/ethnic group in each of these categories:

- 1) Loneliness
- 2) Academic Assistance
- 3) Recreational Activities
- 4) Adjustment to the new environment

Item	Survey Question
Q2_1	Someone who is from the SAME culture as you?
Q2_2	Someone who is from a DIFFERENT culture than you?
Q2_3	Someone who is of the SAME nationality/ethnic group as you?
Q2_4	Someone who is of a DIFFERENT nationality/ethnic group as you?
Q2_5	Someone who speaks the SAME first language as you?
Q2_6	Someone who speaks a DIFFERENT first language as you?
Q3_1	Someone who is from the SAME culture as you?
Q3_2	Someone who is from a DIFFERENT culture than you?
Q3_3	Someone who is of the SAME nationality/ethnic group as you?
Q3_4	Someone who is of a DIFFERENT nationality/ethnic group as you?
Q3_5	Someone who speaks the SAME first language as you?
Q3_6	Someone who speaks a DIFFERENT first language as you?
Q4_1	Someone who is from the SAME culture as you?
Q4_2	Someone who is from a DIFFERENT culture than you?
Q4_3	Someone who is of the SAME nationality/ethnic group as you?
Q4_4	Someone who is of a DIFFERENT nationality/ethnic group as you?
Q4_5	Someone who speaks the SAME first language as you?
Q4_6	Someone who speaks a DIFFERENT first language as you?
Q5_1	Someone who is from the SAME culture as you?
Q5_2	Someone who is from a DIFFERENT culture than you?
Q5_3	Someone who is of the SAME nationality/ethnic group as you?
Q5_4	Someone who is of a DIFFERENT nationality/ethnic group as you?
Q5_5	Someone who speaks the SAME first language as you?
Q5_6	Someone who speaks a DIFFERENT first language as you?

Appendix E: Final Model

