Full Length Research Paper

International students’ race-ethnicity, personality and acculturative stress

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The present study is an investigation of how personality, gender, age, and race-ethnicity factors are related to the acculturative stress of international students. The participants were 613 international students enrolled in a U.S. University. The students completed the online surveys that included Acculturative Stress Scale for International Students, the Big Five Inventory and a demographic questionnaire. Results showed that only one personality type, neuroticism was significantly correlated with the overall acculturative stress. Neuroticism was also significantly related to perceived discrimination, homesickness, fear, and perceived hate/rejection sub factors of acculturative stress. Openness was positively related with homesickness and negatively related with age. Other results indicated are that compared to the European students, African, Asian/Pacific Islander, and Middle Eastern students reported having significantly higher levels of acculturative stress. The results of this study imply that counseling center personnel need to identify the high risk groups for acculturative stress and provide psychoeducational intervention programs. Further implications are discussed.

Key words: Acculturative stress, race-ethnicity, international students, personality.

INTRODUCTION

International education seems to be one of the major global phenomena contributing to the development of multicultural societies. Millions of students leave their home countries every year to study abroad and learn professional skills or knowledge. The United States (U.S.) is one of the leading destinations for many students for higher education. International students residing in the U.S. come from various countries, and they provide diversity and opportunity for multicultural learning at their universities (Institute of International Education, 2010).

International students have to adjust to a new culture and educational system which can be very different from what they were used to in their home countries. They have to learn new ways of acting according to the new cultural norms and many must communicate well in the language of the host country. These learning processes take time, and the longer these students stay in the host culture, the more acculturated they become (Flannery et al., 2001). However, they face considerable difficulty in making new adjustments initially due to lack of social support, communication problems, and homesickness. This may easily lead to acculturative stress (Pederson, 1991).

Most international students get acculturated into a different culture in the long run, although there are a few who may not be able to function well (Sodowsky and Plake, 1992). This individual difference raises several questions in regard to what can account for successful acculturation. There is a dearth of literature on how personality traits, gender, age, and race-ethnicity are related to international students’ adjustment to a new culture. Each international student has a unique personality, cultural conditioning, history, family, coping...
skills, and knowledge. We are primarily interested in studying how these demographic variables and the relatively stable personality traits are related to acculturative stress of international students.

WHAT IS ACCULTRATIVE STRESS?

An explanation of what acculturation is will help the readers better understand the concept of acculturative stress. Acculturation has been described as a sociological and psychological adaptation to a different culture after living in it for a considerable period of time (Berry, 2005). Also, in any cultural contact, it is expected that a cultural change and a psychological change in the individual will occur. There are various models of acculturation. A unidimensional model of acculturation has only one outcome, which is assimilation. Assimilation occurs over a period of time as the individual adopts the new language, cultural norms, and behaviors (Flannery et al., 2001).

Another more comprehensive model is the bidirectional model. There are two directions to acculturation in this model: relationship to the home country and relationship to the host country (Flannery et al., 2001). Berry (2005) proposed the bidirectional model for explaining the acculturation process and pointed out that factors at group or societal level, in both the new culture and the culture of origin, are crucial for understanding the acculturation process. Berry stated that the process of acculturation varies for every individual based on the attitude and behavior about maintaining the previous culture and about seeking contact with the people of the new culture.

Berry (2005) also explained that we can determine whether an individual is integrated, assimilated, separated, or marginalized in the new culture based on the strategies the individual utilizes. An integrated strategy is comprised of a positive attitude toward both the new culture and the traditional culture. An assimilated strategy is comprised of interest shown in the new culture and distancing oneself from the original culture. A separated strategy is observed when an individual is following only his or her traditional culture. A marginalized strategy includes a negative attitude toward both the previous and the newer culture. An individual who does not learn behavioral repertoires of the new culture may feel isolated and hence experience conflict with the new culture, resulting in acculturative stress. In cross cultural literature, integration is found to be the most effective strategy as compared to assimilation, segregation, and marginalization (Kosic et al., 2004).

During this acculturation process and as individuals come into contact with a new culture, they experience a type of stress that is labeled as the acculturative stress (Sandhu and Asrabadi, 1994). Based on a study with international students, Sandhu and Asrabadi (1994) stated that there are seven main sub-factors that contribute to acculturative stress. The first factor is perceived discrimination and alienation, which is defined as experiencing of discrimination based on race or color, receiving mistreatment, and feeling socially isolated. Homesickness is the second factor, which measures feelings of missing family and living in an unfamiliar environment. Perceived hate is the third factor, which means that some international students perceive negative attitudes about their culture based on the U.S. individuals’ verbal and nonverbal behaviors. The fourth factor is fear, which includes feelings of insecurity and keeping a low profile due to different cultural background. Cultural shock is the fifth factor, and is comprised of difficulties related to adjustment to new cultural norms and expectations. Another factor is guilt, which refers to feelings of betrayal to older cultural values and lifestyle and adopting the new ones. The last factor is a miscellaneous category that includes some additional experiences that are important to study but do not fit into any other previous factors stated above.

All students face similar difficulties during their college years, but international students, in addition, must cope with challenges of adaptation to a completely new culture. College students “deal with stress from academic life and issues stemming from normal development, such as psychological autonomy, economic independence, and identity formation” (Toyokawa and Toyokawa, 2002, p. 363). Besides normal developmental concerns, international students face additional stress due to demands of cultural adjustment (Mori, 2000). Yeh and Inose (2003) found that international students feel a lack of adequate social connectedness and social support in the host country, which adds to acculturative distress.

Exposure to a different society and culture may lead to culture shock for many international students. Pederson (1991) pointed out that international students probably face significant stress due to societal pressure for rapid learning of role behaviors appropriate to the host culture, which can cause identity diffusion and role conflict. While grappling with novel situations, international students simultaneously experience lack of familial support. International students may become deprived of social support systems that typically validate their sense of self-concept and self-esteem, and provide emotional and social support (Mallinckrodt & Leong, 1992; Pederson, 1991). As a result, they feel anxious, alienated and even disoriented in the unfamiliar environment (Pederson, 1991).

A number of research studies have explored the effects of acculturative stress on international students. For example, Constantine, Okazaki, and Utsey (2004) conducted an exploratory study on finding the relation between acculturative stress and depression in a sample of African, Asian, and Latin American international
students. The researchers found a negative correlation between English fluency and depressive symptoms, which may make it much harder for the students to access support due to their language difficulties. Based on the results, these researchers have concluded that many international college students who experience acculturative stress or depression may not necessarily feel comfortable seeking psychological help due to the stigma attached to it in their native culture and may continue relying upon emotional support provided by the families in their home countries.

**Personality and acculturative stress**

Personality is a significant predictor of psychopathology and well-being, as studied in the research conducted by DeNeve and Cooper (1998). In a meta-analysis of literature on 137 research studies about personality traits and well-being, DeNeve and Cooper found that low levels of neuroticism predict happiness and positive affect, and that extraversion and agreeableness also predict positive affect. Longitudinal Studies (Gershuny and Sher, 1998) have also found that high levels of neuroticism and low levels of extraversion predict anxiety. High levels of neuroticism and low levels of extraversion can contribute to development of homesickness (Van Tilburg et al., 1999). Moreover, high levels of neuroticism were found to be negatively related to acculturative stress and openness to experience was positively related to acculturative stress (Duru and Poyrazli, 2007).

The ability of individuals to recover from adverse life situations quickly and effectively has been studied as an aspect of personality and termed as ego-resilience (Tugade and Fredrickson, 2004). Resiliency is a personality trait which has been shown to have positive impact on adjustment to stressful life situations (Ong et al., 2006). Therefore, the personality variable of resiliency can moderate the effect of stress and induce well-being. It thus follows that personality traits can moderate the negative effect of acculturative stress. For example, Swagner and Jome (2005) found that openness to experience is a personality trait that is positively related to cross-cultural adjustment. Their research demonstrated that personality traits were significant factors in cross-cultural adjustment even after controlling for gender, time, and nationality.

The psychological traits of extraversion, agreeableness, conscientiousness, and neuroticism are related to psychological adjustment and high extraversion and low neuroticism are related to sociocultural adjustment (Ward et al., 2004). Individuals with high levels of extraversion have more cross-cultural friendships (Ying, 2002) and high levels of cross-cultural socialization have been found to be related to lower levels of acculturative stress (Poyrazli et al., 2004). In addition, while there is a strong relation between personality traits and psychological adjustment, this relation is mediated by various coping styles (Wang et al., 1997). Neuroticism has been found to be strongly related to emotion focused (emotional support) and avoidance coping styles (Roesch et al., 2006). Roesch et al. (2006) found that individuals with high levels of neuroticism experience negative affect and thoughts and have difficulties in impulse control, and they use venting, an avoidance coping style, as a coping mechanism. In the same study, openness, conscientiousness, and extraversion were strongly related to problem-focused coping and emotion-based coping (positive reframing). Researchers suggested that an assessment of personality traits is necessary before advising specific coping strategies for stress. As it can be seen in the above literature that is presented, there are various incongruent findings especially about how neuroticism and openness traits might be related to different acculturation processes. As a result, we hope to identify which personality factors may be related to acculturative stress, so that we could contribute to the efforts of researchers trying to explain this relation and that mental health professionals could use this knowledge to help international students cope with their acculturative stress.

**Gender, age, race-ethnicity and acculturative stress**

There is a limited amount of research related to gender and acculturative stress. This limited research produced inconsistent results. Poyrazli, Arbona, Nora, McPherson and Pisecco (2002) found gender differences in experience of loneliness, a subcategory of acculturative stress. In the study, male graduate students reported experiencing higher feelings of loneliness than did female graduate students. However, Sodowsky and Plake (1992) did not find any gender differences in acculturative stress. As a result, it is important that the gender differences are continued to be explored.

There have been a few studies on age and acculturative stress and the results are not clearly conclusive either. Ye (2006) found that older Chinese international students reported having higher levels of acculturative stress than younger Chinese international students. Older students experienced more fear, perceived discrimination, and hatred than younger students. The results were consistent with the researcher’s earlier study on acculturative stress and Internet use by East Asian international students in 2005. However, a study by Yeh and Inose (2003) found that age was not significantly related to acculturative stress for international students. Similarly, Poyrazli et al. (2004) found no significant relation between age and acculturative stress. Considering these mixed research results, it is important to continue to study how age might be related to acculturative stress to clarify
this relation.

There are a few studies which have found strong correlation between ethnicity and acculturative stress. Poyrazli et al. (2004) found that European students experience lower levels of acculturative stress as compared to Asian students. They also found that students who did not socialize with the U.S. individuals were at a higher risk of experiencing acculturative stress. Yeh and Inose (2003) proposed that Asian and Latino students experience more acculturative stress than European students probably because of language and cultural differences in Asian and the U.S. students. However, European students, most of whom are racially White, may experience less discrimination and may also be easily accepted because of fewer problems in English language fluency. Other research has found that African students have higher levels of acculturative stress than Asian and Latin American international students and that the wide cultural differences, language difficulties, lack of co-ethnics, and racial prejudice, are potential contributory causes of acculturative stress among African students (Constantine et al., 2004).

There are significant group differences between African, Asian, and Latin groups, and the European international group in levels of acculturation, perceived prejudice, and language difficulties (Sodowsky and Plake, 1992). In their empirical study, Sodowsky and Plake found that more language difficulties are faced by African, Asian, and Latin people, which contributes to the adjustment difficulties. African and Asian groups perceive discrimination from the U.S. individuals, whereas the European group does not perceive discrimination. Similarly, Poyrazli and Lopez (2007) found that being a European international student significantly predicts lower levels of perceived discrimination.

Purpose of the present study

This study explored the relation between personality characteristics of international students, their demographic information, and their level of acculturative stress. Previous research points out the strong relation between the personality and acculturative stress. However, there are many inconsistencies about this relation in the literature. In addition, to the best knowledge of the authors of this study, no research has examined the relation between specific personality traits and various factors of acculturative stress among a general group of international students. Moreover, we wanted to examine these variables to help in expanding the knowledge base of the psychological functioning of international students in counseling psychology research. In this study, more specifically, we examined the relation between personality (extraversion, agreeableness, conscientiousness, neuroticism, and openness), gender, age, race-ethnicity, and acculturative stress and its factors (perceived discrimination, homesickness, perceived hate/rejection, fear, culture shock, and guilt).

METHOD

Participants

The participants were 613 international students enrolled in a U.S. university located in the east. The ethnicity of the respondents ranged widely: African (3%), Asian/Pacific Islander (63%), European (14%), Latino/a (7%), Middle Eastern (5%), and other (8%). There were more male respondents (56%) than female respondents (44%). The age of the respondents ranged from 18 years to 50 years ($M = 26.70, SD = 5.0$). Seventy percent of the respondents were single, 29% were married, and 1% was divorced. Most of the students were enrolled in a doctoral program (57%), whereas 22% were enrolled in an undergraduate program, and 20% in a masters program, and less than 1% was enrolled in post-doctoral programs. About 18% of these students had been living in the U.S. for less than a year, 16% for 2 years, 17% for 3 years, 11% for 4 years, 7% for 5 years, 3% for 6 years, and 3% had stayed for between 7 to 9 years.

Measures

Demographic scale

A demographic scale which included questions on gender, age, race-ethnicity, and marital status was administered.

Acculturative stress

The acculturative stress scale for international students (ASSIS) was used to measure students’ acculturative stress levels. The scale was developed by Sandhu and Asrabadi in 1994. It is a 36-item scale which measures acculturative stress among international students. Responses are scored on a 5-point Likert-type scale, with a score of 1 being “strongly disagree” and 5 being “strongly agree.” The scores range from 36 to 180, with high scores referring to higher acculturative stress. The subscales of ASSIS are: perceived discrimination (8 items), homesickness (4 items), perceived hate (5 items), fear (4 items), stress due to change (3 items), guilt (2 items), and miscellaneous (10 items). The ASSIS has very high reliability coefficients. The Cronbach’s coefficient alpha is 0.94 and Guttman split-half reliability is 0.96 for all 36 items of the scale. The validity of the scale, using factor analysis, was established; the seven factors of the scale accounted for 69.7% of the total variance. The alpha levels for the subscales are: perceived discrimination (0.90), homesickness (0.89), perceived hate (0.90), fear (0.88), stress due to change (0.79), guilt (0.44), and miscellaneous (0.84) (Sandhu and Asrabadi, 1998). The internal consistency of the scale for our sample is 94.

Personality

The big five inventory (BFI) was used to measure the students’ personality. The scale is a 44-item scale developed by John, Donahue, and Kentle (1991). It is a short scale used to assess the five dimensions of personality: neuroticism, extraversion, conscientiousness, agreeableness, and openness. The items were
constructed through expert ratings and were verified using factor analytic methods. The trait adjectives which are considered to be prototypical markers of the trait had been used in the phrases. For example, “I see myself as someone who is outgoing, sociable” is used for assessing extraversion. The responses are measured on a 5-point Likert-type scale, with score of 1 being “disagree strongly” and score of 5 being “agree strongly.” The reliability of the BFI is very high. The Cronbach alpha reliability is .83, and test-retest reliability after three months ranges from 0.80 - 0.90. The BFI also has significant convergent and divergent validity with other personality measures and peer ratings. The standard validity coefficient from confirmatory factor analysis is 0.92 for the BFI (John and Srivastava, 1999). The internal consistency level of the scale for our sample is 0.83.

**Procedures**

An anonymous online survey was sent to the international students enrolled in an eastern U.S. university campus. Students were contacted through the international student office by sending them an email and directing them to an online survey. A reminder was sent a week later asking the students to complete the survey. A total of 23% of the students responded to the survey. The students first answered the acculturative stress measure, then the personality, and finally the demographic questionnaire.

Internet surveys allow for quick and automated data collection and experimental control (Kraut et al., 2004). They help in checking for multiple submissions, response distortions, and inconsistent response patterns that may contaminate the data. There is a concern about validity of data and generalizability of the results of an Internet survey to a larger population (Kraut et al., 2004). Therefore, to guard against the possibility of a biased sample, the database was checked for duplicate entries, incomplete entries, or blank entries. Eleven incomplete entries and four duplicate entries were deleted. Comparisons were made based on time (the hour, minute and the second) the survey was submitted, and duplicate entries matched on demographic variables such as age, gender, and major were deleted.

**Plan of data analysis**

This research was a cross-sectional, exploratory study of how personality factors, demographic variables, and acculturative stress among international students might be related. A Pearson product-moment correlational analysis was conducted to find the relation between age and the various factors of personality and of acculturative stress. A one-way analysis of variance (ANOVA) was used to analyze the differences among the racial-ethnic groups and both genders for the levels of acculturative stress.

**RESULTS**

**Correlational analyses**

We conducted a Pearson product-moment correlational analysis and analyzed the relation among the personality factors, the level of acculturative stress and its factors, and students’ age (see Table 1). There was a positive correlation between neuroticism and the total acculturative stress score ($r = 0.10, p < 0.05$). Also, neuroticism was significantly positively correlated with perceived discrimination ($r = 0.08, p < 0.05$), homesickness ($r = 0.12, p < 0.01$), perceived hate/rejection ($r = 0.09, p < 0.05$), and fear ($r = 0.08, p < 0.05$). Students who scored high on the neuroticism scale also scored high on the acculturative stress scale. Another significant correlation was found between openness and homesickness ($r = 0.12, p < 0.01$), and openness and age ($r = -0.09, p < 0.05$). In other words, the students who reported higher levels of openness also reported higher levels of homesickness, and older students reported being less open to new ideas and values.

**Gender and race-ethnicity differences**

We conducted a univariate analysis of variance (ANOVA) with Tukey’s post hoc test to determine gender and race-ethnicity differences among the students based on acculturative stress (Table 2). Results indicated no significant difference between the male and female student groups in their reported level of acculturative stress. There were, however, significant group differences between the European, African, Asian/Pacific Islander, and Middle Eastern racial-ethnic groups, $F (5, 609) = 9.32, p < 0.001$. Compared to the European students, African ($p < 0.05$), Asian/Pacific Islander ($p < 0.001$), and Middle Eastern students ($p < 0.05$) reported having significantly higher levels of acculturative stress.

**DISCUSSION**

The prime interest of this study was to explore the relation between personality factors, race-ethnicity, gender, age, and acculturative stress among international students. Only one personality factor, neuroticism, was modestly significantly correlated with overall acculturative stress. This finding is consistent with earlier research by Duru and Poyrazli (2007) on Turkish international students, in which they found that neuroticism was significantly related to acculturative stress. Our study has further confirmed the relation between a personality factor, neuroticism, and acculturative stress in a mixed racial-ethnic group of students. Other results also showed that neuroticism was modestly but significantly correlated with various factors of acculturative stress such as perceived discrimination, perceived hate/rejection, fear, and homesickness. These results might indicate that students with high levels of neuroticism may experience negative emotions and may not have coping mechanisms to deal effectively with stressful cross-cultural situations. Students who are not emotionally strong probably are more likely to be fearful and perceive that they are not easily accepted by the people in the host culture. Students with high levels of neuroticism might feel homesick as a result of lack of social support in the U.S.
Table 1. Bivariate correlations among variables, mean, and standard deviations.

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<td>11. Guilt</td>
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<td>1.76</td>
<td>8.01</td>
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</table>

Note. Consc. = Conscientiousness, PDisc = Perceived discrimination, CShock = Culture shock, PHate = Perceived hate/rejection, Homesick = Homesickness, Misc. = Miscellaneous, ASSIS = Total acculturative stress scale score. *p < 0.05, **p < 0.01.

Table 2. Analysis of variance for acculturative stress.

<table>
<thead>
<tr>
<th>Source</th>
<th>Df</th>
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<td>Between group</td>
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<td>Ethnicity</td>
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<td>Gender</td>
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<td>.07</td>
<td>.374</td>
</tr>
<tr>
<td>Ethnicity*gender</td>
<td>5</td>
<td>1.43</td>
<td>.07</td>
<td>.208</td>
</tr>
<tr>
<td>Error</td>
<td>597</td>
<td>(586.44)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Values enclosed in parentheses represent mean square errors. *p < 0.01.

or loss of the social support that they had back home.

We found a modest significant correlation between openness and homesickness. This might be because students who are open to new experiences do interact but perhaps feel unsatisfied with the level of interactions with the people in the host culture. This result is similar to the results provided by Van Tilburg, Vingerhoets, and Heck (1999), who found that having extraverted tendencies is responsible for the onset of homesickness in international students. We also found a significant negative correlation between openness to experience and age. This indicates that older students are less likely to be open to new ideas and thoughts as compared to younger students.

Other analyses indicated that there are differences in the experience of acculturative stress among different racial-ethnic groups. African students had the highest levels of acculturative stress followed by Asian/Pacific Islander, Middle Eastern, and Latino students, and European students had the lowest levels of acculturative stress. In addition, post-hoc comparisons showed that compared to the European students, African, Asian/Pacific Islander, and Middle Eastern students reported having significantly higher levels of acculturative stress. These results are similar to Yeh and Inose’s (2003) study, which found that the European students are least likely to experience acculturative stress as compared to Asian and African students. These results may speak to the impact of socio-race and racism in that the extent to which an international student is exposed to racism might directly be related to the levels of acculturative stress he/she may potentially experience. It may be difficult for some of the U.S. individuals to host or accept individuals who are not from the Caucasian race. Europeans may appear very similar to non minority groups in the U.S., and this might make it easier for them to be easily accepted by the individuals in the host culture. As previous research indicates, individuals are more likely to make friends with someone of the same race and ethnicity than with someone who differs in race and ethnicity (Clark and Ayers, 1992). As a result, European students may be more readily approached by Caucasian U.S. individuals, which will increase their chances of forming social relationships and might minimize their level of acculturative stress.

Another explanation for the European students
experiencing lower levels of acculturative stress could be that the European culture is more similar to the mainstream U.S. culture, and therefore students may have fewer difficulties adjusting to the new culture. The Western culture is quite different from the Eastern culture, as there seems to be more emphasis on individualism in Western cultures than in African, Asian, and Middle Eastern cultures, which value collectivism (McCarthy, 2005). Asian/Pacific Islander students may find adjustment to Western culture difficult, as a person with a more collectivist personality in an individualistic society can experience stress, which negatively affects mental well-being (Caldwell-Harris and Aycicegi, 2006).

While this study provided important results, readers should consider the results in light of the study’s limitations. Our study was correlational, which does not prove causal relations between the variables. Second, the sample was selected from only one university, mostly graduate students participated, and all the racial-ethnic groups were not equally represented in the sample, and hence, there is limited generalizability of our results. Future studies should look for a sample with more equal representation of all racial-ethnic groups. In addition, longitudinal studies could explore the relation between these variables over a period of time to see how this relation may change due to the time factor.

Implications

The results of this study have various important implications for counselors and educators. Counselors need to assess international students’ personality traits to determine the high-risk group for acculturative stress. They especially need to identify students scoring high on neuroticism or those who are not from a European background. Students who are at high risk could then be provided with various options of psychoeducational services to help them learn coping skills for adjustment to a new culture. As Roesch et al. (2006) indicate, individuals with high neuroticism tend to use venting and avoidance coping style as a coping mechanism. While counselors facilitate an environment for these individuals to vent, they could also educate them about how the avoidance coping style may not be the best coping style to deal with acculturative stress. As for the international students who racially and ethnically stand out to be from a minority group, they are more likely to perceive discrimination and rejection from the host culture.

Hence, they need to learn how to deal effectively with discrimination. These students could be offered education about the mainstream and other ethnic minority cultures in the U.S., which can allow them to better understand personal and professional relationships, as practiced in the Western culture. This education might reduce the possibility for international students to misunderstand verbal and non-verbal communication and increase the understanding of the Western culture’s beliefs, values, thinking, and lifestyle. Another specific example where this goal can be accomplished is to organize cross cultural events and clubs that help students to interchange their values and traditions for the acculturation process to occur from both sides, i.e., both the international students and the host country students. In the present stage of globalization, such cross-cultural interaction needs to be emphasized for a better evolution of students’ personal and professional lives. In addition, providing opportunities for increased interaction between racially and ethnically diverse groups of people is an effective way for reducing prejudice and discrimination across the board (Kawakami et al., 2007).

Conclusion

We were able to identify specific groups of students who are likely to experience high levels of acculturative stress. Students who have high levels of neuroticism or who belong to Asian/Pacific Islander, African, and Middle Eastern racial-ethnic backgrounds are high risk groups. The acculturation process can be made easier for these high risk groups if the higher education institutions, which act as a host to these students, make protective interventions for the well-being of the students. The acceptance and validation of the international students’ culture by the host culture may facilitate these students’ acculturation process and reduce their overall acculturative stress. Moreover, cross-cultural interactions could prove to be important for the success of the host culture in today’s world of disappearing boundaries.

REFERENCES


