

Stressors, anxiety, acculturation and adjustment among international and North American students

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Abstract

The acculturation process generally contributes greatly to stress and anxiety levels among international students. The objectives of the present study were: (1) to see whether international students experience more anxiety, irritability, and stress from being apart from family and friends, pressure from school, difficulties with language, work and finances than students with permanent US residency, and (2) to investigate the same stressors in groups within the international student population. Surveys were distributed to 246 students aged 17–51 at an ethnically diverse community college in Southern California, US. Analysis of variance was conducted to investigate group differences between students: permanent US residents vs. international students, and, permanent US residents vs. European and Asian students, respectively. No significant differences were found between international students and students with permanent US residency. However, when the international student population was sub-grouped by above cultural regions a different pattern emerged. Difficulties of not being able to work and of socially related problems were perceived as more severe for the European and the Asian groups, while finance problems were hard for all three groups. The variable of language difficulties was harder for Asian students, while that of stress of being apart from family was harder for students from Europe. Findings are not only congruent with prior research results on international students but also demonstrate that international students with culturally diverse needs should not be considered as one homogenous group. It is suggested that educational systems need to properly adapt in order to accommodate international students' unique cultural needs.

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Keywords: Stressor; Anxiety; Adjustment; Acculturation; International students; Cultural psychology

1. Introduction

Intercultural adjustment is of considerable importance in today's global society as the demand for international education experience increases worldwide (Association of Universities and Colleges of Canada; Trends in Higher

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Education, 2007). With the escalation of people crossing borders between countries for personal-, academic-, or work-related reasons, intercultural adjustment has become the topic of many studies (Hullett & Witte, 2001; Lee, Koeske, & Sales, 2004; Jung, Hecht, & Chapman Wadsworth, 2007; Ying & Han, 2006). In order to be successful in global communication it is necessary to be able to think and act in interculturally appropriate ways. Hammer, Bennett, and Wiseman (2003) call this intercultural competence and suggest that this is essential to enhance relations across the globe. Even though a vast number of countries today are composed of multicultural societies, the hardship of acculturation after migration persists. It is evident that individuals and groups embark on the acculturation process in different ways. Thus, the experiencing of migration is heterogeneous and its psychological as well as biological effects for both migrants and the recipient population need to be investigated (Bhugra, 2004). How adjustment develops is multifaceted and depends upon reasons for migration, cultural differences and similarities, the host society's way of responding, and the migrant's personality (Berry, 2005; Bourhis, Moise, Perreault, & Senécal; de Verthelyi, 1995).

The present paper makes use of the following definition of acculturation by Berry (2005, p. 698). "Acculturation is the dual process of cultural and psychological change that takes place as a result of contact between two or more cultural groups and their individual members." Understanding and applying this definition is necessary in order to create usable tools to identify problems associated with the process of acculturation that is often experienced as stressful and difficult, and to prepare preventive strategies to address them.

In a new cultural context people often experience doubt and uncertainty concerning the host culture's behaviours, values, and attitudes (Berry, 1976). That is, newcomers frequently endure anxiety about the lack of predictability in anticipating the new culture's worldview and ways of being (Koltko-Rivera, 2004). Anxiety emanates from unease, worry, and perceived threats. Individuals who are able to manage their anxieties and uncertainties by accurately understanding the hosts' behaviours and attitudes experience less stress in the acculturation process. Possibilities for attaining sufficient communication levels and for maintaining psychological wellbeing can be identified as well as created. Gudykunst (1998) developed the anxiety/uncertainty management (AUM) theory with the aim of making communication easier for strangers in a new host culture and helping them adjust to living in countries with different customs.

The theory operates under the assumption that you need to be able to manage your feelings of anxiety and uncertainty in order to adapt to the new host culture (Gudykunst, 1998). In the current paper these assumptions are applied to international students who are subject to many of the same acculturation stressors as employees working in foreign countries. The concept and definition of international students have been of some debate lately (*Trends in Higher Education*, 2007). The ACE Center for International Initiatives also brings up the construct of international students in their *Issue Brief Students on the Move: The Future of International Students in the United States* by Bain, Luu, and Green (2006). International students, referred to by the term "internationally mobile students," are students who are noncitizens of the host country, who do not have permanent residency in the host country, and who did not complete their entry qualification to their current level of study in the host country (United Nations Educational, Scientific and Cultural Organization, UNESCO, 2006). When referring to international students in this article, this UNESCO definition is operative.

Another theory that addresses similar issues of intergroup anxiety is the integrated threat theory (ITT) of prejudice by Stephan and Stephan (1985). Here anxiety is seen as the fundamental cause for negative coalition between 'in' and 'out' groups. As threats are experienced individuals tend to rely more heavily on stereotypes, and express more negative emotions and evaluations (Stephan, Stephan, & Gudykunst, 1999). Thus, unfavourable relations with host students decrease international students' wellbeing function (Leong & Chou, 1996). Tseng (2001) suggests a growing consideration of types of psychological mechanisms and mental stressors involved in the process of cultural adjustment. Thus, it is vital to meet culturally diverse students with interventions and programs specifically directed toward their differing needs.

Stephan et al. (1999) suggest that anxiety decreases as people come to know one another, and when anxiety is low sojourners' maladaptive behaviours are less likely to occur (Hullett & Witte, 2001). Thus, as international students establish ties with other international, co-national, and local students they are more likely to experience a pleasant adjustment (Kashima & Loh, 2006). Research findings by Ye (2006) indicate that international students felt less discriminated against, perceived less hatred and less negative emotions when they were more satisfied with their social network of support. However, the experiencing of interpersonal support did not decrease their fear. Understanding of and being able to predict the host's behaviour together with the reducing of perceived anxiety are of vital importance for the migrant's wellbeing.

The focus on and interaction of mental health, acculturation stressors, and anxiety in existing research, has led the current authors to further investigate the stressors endured by international and national college students in order to more fully understand the effects of migration on mental health. Furthermore, an identification of ‘between group’ differences in anxiety levels and experienced difficulties will add to the much needed knowledge of mental health issues in diverse groups of sojourners (Spencer-Rodgers & McGovern, 2002; Ying, Lee, & Tsai, 2007).

The issue explored in this study is whether or not international students report higher levels of anxiety in general compared to students that are permanent US residents, with the main focus on differences experienced within the international student group.

Hardships that students experience in adapting to the new environment, such as difficulties with language, making new friends, and strained finances (Jung et al., 2007) were explored as well. Previous studies have suggested the need for further research in the area of international students in order to help with their assimilation and acculturation issues (Ladd & Ruby, 1999; Selvadurai, 1992). Studies regarding mental health and acculturation of international students point to the importance of cultural analysis as part of assessing both the culture of origin’s as well as the host culture’s impact for understanding coping patterns and symptom construction (Abbassi, 1999; Choe, 1996; Leavell, 2002; Oei, 1990).

2. Hypotheses

International students who study in the United States have been the subjects of many studies over the years. The majority of these studies have been conducted on Asian students, as they constitute the largest population of international students in the United States (Mori, 2000). Given that previous studies mostly have been concerned with Asian populations, this study looks at the differences between Asian and European students as well. It is expected that students from different cultures will not react similarly to all new adaptations, and the closer one’s own culture is to the new environment, the easier the adaptation will be. However, even if cultures share certain elements such as technical development, industrialization, and social standards, there are enormous differences in socialization and political preference.

There is a global growth in foreign students and current trends in countries all over the world emphasize implementations of various strategies to increase their international student population (Bain et al., 2006; GAO-07-1047T: Higher Education, 2007). Simultaneously there is an increase in the number and cultural variations of countries, attesting to this global arena which augments the acculturative stress (GAO-07-1047T: Higher Education; Jung et al., 2007). This compels the authors of the present paper to explore the following hypotheses:

1. International students will experience greater anxiety than students that are permanent US residents.
2. International students in hypothesis 2 will also experience more difficulties regarding language, social issues, being apart from family and friends, not being able to work, and finances.
3. Furthermore, there will be group differences within the international student population with regard to the above-stated difficulties.

3. Method

3.1. Subjects

The population of interest here is the international student group at an ethnically diverse community college in southern California in the US. The study has been designed to measure differences between international students and students that were permanent US residents; the sample was randomly stratified from these two groups. Some classes that were sampled consisted exclusively of international students: English ESL and Human Development. Other classes were randomly chosen: Political science, Psychology, and English. This enhanced the probability of obtaining a large enough international student sample. The present study group consisted of all subjects with complete data in the variables and instrument used ($n = 246$), ranging in age from 17 to 51 ($M = 22$) and with 85% of the students being between 18 and 26 years old.

The questionnaire was distributed at this community college. In the year 2000, when data were gathered, this college enrolled international students from Asia, South and Central America, Europe, the Middle East, and Africa as

Table 1
Breakdown of countries included in subgroups of the Asian and European cultural regions

Asian group		European group	
Japan	30	Ukraine	6
Korea	12	France	5
China	11	Turkey	5
Taiwan	6	England	4
Indonesia	3	Sweden	3
Singapore	3	Germany	2
Afghanistan	1	Italy	2
Bangladesh	1	Russia	2
Indo	1	Yugoslavia	2
Malaysia	1	Austria	1
Philippines	1	Bosnia	1
Thailand	1	Bulgaria	1
		Denmark	1
		Finland	1
		Hungary	1
		Netherlands	1
		Poland	1
		Spain	1

Asian group ($N = 71$), European group ($N = 40$).

well as from other parts of the world. The students with permanent US residency also consisted of an ethnically diverse group including Native Americans, Latinos, African Americans, Caucasians, etc., and thus should not be considered a homogenous group. In separating the students into two groups of “permanent US resident and students with green cards” ($n = 128$) and “students with F1 and other visas” ($n = 102$), 16 students were excluded that did not fall into either of these two categories. When sub-grouping the students into regional areas; Asians ($n = 71$), Europeans ($n = 40$), and permanent US residents ($n = 97$), 38 students did not fit the regional categorization and were therefore excluded in the analyses with the regional area as grouping variables. It is arguable that this subdivision is questionable because of large variation within the cultural areas. However, the authors used this grouping since it seemed to be the most favourable/the least controversial one based on geographical and sociopolitical grounds. However, the authors are conscious of the problem of deciding at what level culture should be defined (Berry, Poortinga, Segall, & Dasen, 1996).

Because of some missing data on items randomly distributed over the instrument, the final study group of the international students in the European subgroup was comprised of students from 35 European countries. For a breakdown of countries comprising the Asian and European regional groups see Table 1.

A prerequisite in attending this community college of any international student is to obtain minimum requirements on the TOEFL test. If students do not meet these requirements an intensive ESL program is available before entering the general curriculum. The assumption of the researchers was therefore that the students participating in the study had the capacity to complete the survey in English.

This comparative study between- and within categories will serve as an illustration, not only of academic stressors but also of adjustment stressors, experienced by national and international students.

3.2. Procedure

All students present in the classes at the time of the survey distribution were included in the study. It was explained to the student that participating in the study was optional and that if any questions arose regarding interpreting the questions in the questionnaire, in English; the distributor was present and available to offer assistance. Thus, the students were given the questionnaire to be completed in class. It consisted of the following parts: demographics; status for studying in the US (such as citizenship, green card or student visa); financing of school tuition fees and living expenses; why the desire to study in the US; grade point average (GPA); and, if their grades changed any since starting school here in the US.

3.3. Measures

3.3.1. The Symptom Checklist (SCL)-90

The Symptom Checklist (SCL)-90, a self-report inventory designed to screen for a broad range of psychological problems, was used as a part of the questionnaire (Derogatis, 1977). In the present study only the anxiety scale, consisting of 15 items was used (see Appendix A). The anxiety SCL-90 measures anxiety by rating how often the participants have experienced the following within the past month: nervousness or shakiness inside, tension and trembling, feelings of fearfulness, spells of terror or panic, and, apprehension and dread. The previously mentioned symptoms are self-rated, ranging from 1 being ‘not at all’ to 5 being ‘extremely’. In the current study the students were asked to rate these particular statements in relation to “How much have you been bothered by the following things in the past month?” Information data concerning test psychometrics have been gathered and show good internal consistency (alpha coefficients: .77–.90) and good test–retest reliability (Derogatis, 1994; Morgan, Wiederman, & Magnus, 1998). Additional reliability estimates have also been conducted on specific populations such as comparing Cronbach’s alphas of Hispanic and Anglo college students (Martinez, Stillerman, & Waldo, 2005). In this study internal consistency reliability for the instrument was acceptable and multivariate analyses were used to validate that the subscales operated similarly for both groups (Martinez et al., 2005).

3.3.2. The Student Differential Questionnaire

The Student Differential Questionnaire (SDQ) (see Appendix B) was developed by the first two authors at the Psychology Department of their affiliation in 1999. In addition to the SCL-90, questions about anxiety pertaining to being away from home were asked, which compared their anxiety levels prior to coming to the US with the anxiety level they were having during their stay here in the US. The students were also asked to rate their mood level on a Likert-type scale (*mood and anxiety differences*). Finally, they rated additional difficulties on a scale of “not difficult at all”, “somewhat difficult”, and “very difficult.” Difficulties that were examined included: language, social differences, being apart from family and friends, making new friends, not being able to work (because of immigration laws), financial problems, and other immigration issues such as illegal spouses or friends. One open-ended item was included where the students had an opportunity to name other difficulties not included in the questionnaire (*academic and social differences*). We also assessed to whom the students talked when they felt the need to, whether it was friends, family, God, psychologist or no one (*help-seeking*). The questionnaire was subjected to limited pilot testing (including international students as well as students with US residency) whereby adjustments and modifications were made.

3.4. Data analysis

The information collected by the surveys was entered into an SPSS database. Descriptive statistics were conducted as well as analyses of variance (ANOVA) to examine possible differences between groups. The students were first divided into groups of US citizens/residents and international students that were compared. Next, the group of international students was separated into Asian students and European students, and the differences between these groups and the US citizens/residents were tested using one-way ANOVAs. Students from other countries were not included in the latter analysis. Post hoc comparisons were conducted using the LSD test.

4. Results

4.1. Hypothesis 1

4.1.1. Comparisons of anxiety between international students and citizens/residents

Contrary to what was expected, no differences were found between the international students and the students with US residency when it came to their state of mood and irritability, which was measured by reports on a scale from “never”, “not very often”, “sometimes”, to “very often” when asked: “How often do you feel irritable or are in a bad mood,” nor was there a difference in anxiety levels, as measured by the SCL-90.

Table 2

Mean scores (*M*) and standard deviations (S.D.) of students divided into subgroups of international students (*n* = 100) and students with US residency (*n* = 120); ratings of the Student Questionnaire and the SCL-90

Differences	International students		US resident students		<i>p</i>
	<i>M</i>	S.D.	<i>M</i>	S.D.	
Mood and anxiety					
*SCL-90	21.7	7.8	22.6	8.5	Ns
**Anxiety change	3.4	1.0	3.3	1.3	Ns
Irritability and mood	2.7	0.7	2.8	0.7	Ns
Financial issues	2.1	0.7	1.9	0.7	Ns
Immigration issues	1.7	0.6	1.6	0.6	Ns
Academic and social					
Work	2.4	0.7	1.5	0.6	0.001
Language	2.0	0.7	1.6	0.6	0.001
Acculturation	1.9	0.6	1.7	0.7	0.05
Making new friends	1.9	0.8	1.8	0.8	Ns
Apart from family	1.9	0.7	1.8	0.6	Ns
Help-seeking					
(*)Campus psychologist	7	92	4	119	Ns

F-ratio for independent *t*-test (d.f. 2, 218) and significant *t* (5%) for subgroup comparisons. Note: *SCL-90 ranging from 15 to 75. **Answer alternatives ranging from 1 = much higher in home country to 5 = much higher in America. (*)1 = yes, 2 = no. Remaining variables: 1 = not difficult at all, 2 = somewhat difficult, 3 = very difficult.

4.2. Hypothesis 2

4.2.1. Comparisons of difficulties in language, social issues, being apart from family and friends, work, and finances between international students and citizens/residents

Similarly, there was no significant difference between the two groups regarding their feelings about pressure from school. However, findings did show significant differences in how the students perceived other difficulties such as language, social differences, and not being able to work. Specifically, international students in general rated these issues as much more difficult than the national students. Academically, the students did not differ in their reported current GPA.

Students were also asked to whom they talk when concerned; they were given the choices: to their friends, to their family, to God, to a psychologist, or if they chose to speak to no one. The results showed no significant differences between the international and national students. One of the questions concerning to whom the students would talk about their problems or concerns, was left open-ended so that the students could specify their answer. The answers were then coded. Some of the responses of both national and international students were to their significant other. Some described listening to music when they felt down, and some reported that they wrote in their journals. However, there were no significant differences between the international and national students (see Table 2 for means and standard deviations).

4.3. Hypothesis 3

4.3.1. Comparisons of anxiety, difficulties in language, social issues, being apart from family and friends, work, and finances, between international student regional groups

As a second step, we broke down the international students into geographical regions, and compared students from Asia, Europe, and US. One-way ANOVA test was performed to examine possible differences between the regional groups regarding the variables mentioned above (see Table 3 for means and standard deviations).

In contrast to the comparison between international and US students, we did find significant differences by region in performance on the SCL-90 anxiety measure. Findings showed that the difference between the European group and the Asian group was highly significant ($p = 0.01$), but there was no significant difference between European students and US students. Similarly, there were no difference between Asian students and US students. That is, Asian students reported significantly higher anxiety levels than European students.

Table 3

Mean scores (*M*) and standard deviations (S.D.) of students divided into subgroups of regional belonging; Asian students (*n* = 70), European students (*n* = 35), and US resident students (*n* = 96) ratings of the Student Questionnaire and the SCL-90

Differences	Asian students (A)		European students (B)		US resident students (C)		<i>p</i>	Post hoc <i>p</i> < 0.05
	<i>M</i>	S.D.	<i>M</i>	S.D.	<i>M</i>	S.D.		
Mood and anxiety								
*SCL-90	23.3	9.5	18.7	3.6	22.0	8.0	0.04	A > B
**Anxiety change	3.3	1.0	3.5	1.1	3.2	1.0	ns	
Irritability and mood	2.7	0.7	2.8	0.6	2.7	0.7	ns	
Financial issues	2.0	0.7	2.1	0.7	2.0	0.7	ns	
Immigration issues	1.7	0.6	1.7	0.7	–	–	ns	
Academic and social								
Work	2.3	0.7	2.1	0.9	1.4	0.6	0.001	A > C, B > C
Language	2.1	0.7	1.7	0.6	1.4	0.6	0.001	A > B > C
Acculturation	2.0	0.6	1.8	0.6	1.5	0.6	0.001	A > C, B > C
Make new friends	2.0	0.7	1.6	0.8	1.7	0.7	0.005	A > B, A > C
Apart from family	1.8	0.7	2.1	0.6	1.7	0.6	0.01	B > A, B > C
Help-seeking								
(*)Ever talk to psych	1.9	0.3	1.8	0.4	1.5	0.5	0.001	A > C, B > C
(*)Campus psych	2.0	0.1	1.9	0.3	2.0	0.2	ns	

F-ratio for one-way ANOVA (d.f. 2, 198) and significant *t* (5%) for subgroup comparisons (LSD). Note: *SCL-90 ranging from 15 to 75. **Answer alternatives ranging from 1 = much higher in home country to 5 = much higher in America. (*)1 = yes, 2 = no. Remaining variables: 1 = not difficult at all, 2 = somewhat difficult, 3 = very difficult.

In contrast to what was expected, all three groups reported a level of change in anxiety (comparing before entering the US and after), irritability and mood, and on questions regarding difficulties with financing. Both Asian and European students reported great difficulties dealing with immigration issues.

Results of the ANOVA test further indicated significant differences with respect to difficulty with being able to work ($F(2, 139) = 16.44; p < 0.001$). As expected, Asian and European students reported greater difficulties with not being able to work than did US students ($p < 0.001$), but no difference was found between the Asian and European groups. Another difficulty, highly significant between the groups, was how the international students struggle with language issues. Differences in level of difficulties were found among all three groups. Post hoc comparisons using the LSD test found that Asian students had significantly more difficulties with language than European students ($p < 0.01$), and European students found it significantly more difficult than the US students ($p < 0.05$).

On ratings of social differences, both Asian ($p < 0.001$) and European ($p < 0.01$) students found it harder to acculturate than US students. When it came to making new friends the Asian population in particular found it to be very hard ($p < 0.01$). There was no significant difference between US and European students. European students found being apart from their family the most difficult among all the groups. They reported significantly higher difficulties than both the Asian and the US students ($p = 0.01$).

Considering help-seeking behaviors, fewer Asian students as compared to US and European students had ever seen a psychologist ($F(2, 192) = 17.419, p < 0.001$). However, there was no significant difference among the three groups when asked if they had ever talked to the psychologist provided for them on campus. Regarding whom they chose to talk to about their problems or concerns, there were no significant differences among the groups.

5. Discussion

5.1. Primary findings

When making a general comparison of the international students as a single group and the US students, no statistically significant differences were found with respect to anxiety or social adjustment areas as measured by the internationally used measure, the SCL-90, anxiety scale. However, another picture emerged when looking at subgroups within the international student population. Therefore, though international students share many of the

same problems when adapting to a new environment, there are important differences between cultural groups that are missed when classifying this population as one homogenous group. We see here the “lumping of culturally diverse groups together syndrome,” which results in the particular groups’ unique cultures, socialization patterns and psychosocial adjustment strategies getting lost in the homogenous categorization. In terms of examining group acculturation and adaptation needs, research and policy studies in the fields of cultural psychiatry and immigrant mental health emphasize the importance of assessing cultural groups separately in order to gain a deeper understanding of both problem and resource areas (Committee on Cultural Psychiatry, 2002; Kirmayer, Rosseau, & Santhanam, 2001) as well as differing worldview constructions that provide an acculturation filter (Koltko-Rivera, 2004).

Two findings of the present study support results from previous studies conducted on international student populations in different countries. However, though all cultural groups experience problems in the acculturation process, there are different experiences of this process at group and individual levels. First, results from the present study show that Asian students found it harder to deal with the new language and to make new friends, which support the findings of the Mori (2000) and Hayes and Lin (1994) studies. Second, the European students in this study found it more stressful to be apart from family and friends, supporting the results of the Orr and MacLauchlan study (2000), which found that members of the southern European group of international students were more homesick than those of other international groups.

Speculations as to why the Asian students scored significantly higher on the *anxiety* measure are several: the Asian population is perhaps more anxious than the European population even in their home countries or, this measure is not well suited for eastern cultures. Clearly, investigating these speculations further needs to be done in light of recent findings concerning both cultural bias in instrument development as well as application (Marsella & Yamada, 2000). Speculation as to whether students with permanent US residency and European students have a lesser anxiety level in general compared to the Asian students is also possible, building on a previous study (conducted in Norway with international students) showing that students from North America and Europe feel greater satisfaction with their life as students than their peers from Asia (Sam, 2001). Alternatively, the Asian students may feel more anxiety and pressure because their failure is not perceived as an individual one, but rather implicates their whole family, since the Asian culture is of collectivistic nature compared to the more individualistic nature dominant in North American and European cultures (Brislin, 2000).

Similarly, previous studies have shown that Asian students have a tendency not to speak to psychologists as much as other nationalities do (Mori, 2000). On the other hand, in answering the question item *who one chooses to talk to when in need* most students reported that it was okay to talk to a psychologist, however, very few of them had ever seen a psychologist or would choose a psychologist to be the one to whom they would talk. This might be due to the stigma attached to sharing emotional problems, often seen as shameful in contrast to medical or academic problems (Brislin, 2000). Both the European and the Asian groups reported difficulties with not being able to work in the US, which is consistent with results from previous studies (Selvadurai, 1992).

5.2. Program application of findings

Based on these findings, as new international students arrive at the college or university setting, one approach to deal with these issues would be to have a three-step program. In step one, the entering international group of students would be initially separated into groups based on different cultural regions. This would serve to permit discussion concerning the distinct difficulties that each specific cultural group might encounter. In this way a preventive measure could be taken. It is important that any such program also include a means of individual and not only group assessment as acculturation and adaptation processes vary within as well as between groups (Kirmayer et al., 2001).

As a second step, and of major importance, well-validated instruments should be used to help anticipate special areas of need at the individual level, and the creation of a safe setting encompassing support and event-planning services for bridging the cultural gap among the different student cultural groups, including the host culture, should be provided. Research suggests that intervention programs that support intercultural contact are beneficial for the acculturation of international students (Lee et al., 2004; Nesdale & Todd, 2000; Schofield, 1995).

As a third step, building from integrated threat theory, ongoing contact on individual and group levels can be used to measure, discuss, and address prejudicial attitudes and perceived discrimination. Periodic assessment of strength of

identification with the home culture; knowledge of the host culture; and, the perceived relative status of the different cultures variables, can be used to measure increases or decreases in the perception of threat (Stephan et al., 1999).

This type of program supports the importance of combining the different groups of international students with the goal of personalizing the encounter with other cultures. In a study by Hubbert, Gudykunst, and Guerrero (1999) results suggest that after using AUM theory in intergroup encounters respondents reduced their anxiety. Furthermore, revealing information about oneself was an excellent element in getting to know each other better. Other findings showed that communication changed from being based on social identities to personal identities (Hubbert et al., 1999).

5.3. Study limitations

Potential limitations of the current study are multifold but for this discussion the following six points in particular appear relevant. First, the study population size severely limits the generalizability of the results to other academic populations, and naturally to international populations outside the academic context. Second, cross-cultural validity of the SCL-90 is an important concern. One of very few cross-cultural validity studies on this instrument was conducted on both community and patient samples of Native Americans and Korean immigrants (in Toronto), and Koreans living in Korea. The findings support cross-cultural comparisons as the profiles of each sample were more similar than dissimilar (Noh & Avison, 1992). However, concerns regarding validity need to be taken into account not only concerning cross-cultural but also acculturation validity issues (Marsella & Yamada, 2000). Third, the use of an original questionnaire, *The Student Differential Questionnaire*, developed by the authors, due to the limited inventories available on the issues explored in this study, naturally has its limitations. For future research our recommendations are to use established inventories if possible. However, in line with international research approaches addressing the importance of gaining accurate information on under-represented or under-studied populations and sub-population groups, we also want to stress the value of a mixed method or when suitable mixed model approach to data gathering (including more qualitative approaches) in order to contribute to the further development of intercultural methods and measures research (Tashakkori & Teddlie, 2003).

Fourth, an important limitation is the lack of a gender analysis component. The authors are well aware of the importance of this component of analysis, based on an understanding that within culture resides the concept of gender which contributes to self perception and to the gender role one possesses both in the homeland and the host culture. It is known for instance that separation from family stress is more associated with depressive symptoms in women while higher depressive symptoms in men are more associated with social marginalization (Hiott, Grzywacz, Arcury, & Quandt, 2006).

Unfortunately, the current study by not including a gender question in the demographic information cannot take into account how gender issues may influence the acculturation process or the stressors perceived in the academic setting.

Fifth, an additional limitation is that the acculturation stressors are only analyzed heterogeneously in the international student sample and the diversity of the students with US residency (such as second or third generation African-, Native-, Asian-, European American, etc.) is not taken into consideration. Sixth, the present study does not account for the length of stay in the host culture.

Additional studies of the level of anxiety experienced by groups in their national environment are needed. Thus, if knowing what anxiety level is normative in any given cultural environment and to what this anxiety pertains, unbiased comparisons between culturally diverse groups in a new cultural environment would be possible and more meaningful.

6. Conclusion

The findings of the current study stress the necessity for rethinking the current trend of treating international students as a homogenous population. Making use of acculturation findings and attention to the impact of perceptions of the new cultural environment are critical for gaining an understanding of the actual and perceived challenges to cultural adaptation (Committee on Cultural Psychiatry, 2002). The multi-level advantages of having international students in our academic institutions, including where relevant the extensive financial contribution from international students' tuition fees, ought to be reflected in a multicultural educational system that strives to identify and address the needs of its international consumers. Acculturation needs research related to both international student groups as well as host cultural groups must become a priority area. Programs developed to meet such needs should be accompanied

by appropriate quality assurance measures, which can also serve as the basis for applied evaluation research in this area.

Acknowledgement

Great appreciation is given to Professor Britt af Klinteberg, Department of Psychology, Stockholm University, for her continuous support, constructive attitude, and creative input.

Appendix A. Symptom Checklist-90

How much have you been bothered by the following things in the **past month**?

- 1 Not at all
- 2 A little bit
- 3 Moderately
- 4 Quite a bit
- 5 Extremely

- Nervousness or shakiness inside. _____
- Feeling afraid in open spaces or on the streets. _____
- Trembling. _____
- Feeling suddenly scared for no reason. _____
- Feeling afraid to go out of your house alone. _____
- Feeling afraid to travel on buses, subways, or trains. _____
- Feeling fearful _____
- Heart pounding or racing. _____
- Having to avoid certain things, places, or activities because they frighten you. _____
- Feeling tense or keyed up. _____
- Feeling uneasy in crowds, such as when shopping or at a movie _____
- Spells of terror or panic. _____
- Feeling uncomfortable about eating or drinking in public. _____
- Feeling nervous when you are left alone. _____
- Feeling afraid you will faint in public. _____

Appendix B. The Student Differential Questionnaire

1. Country of Citizenship: _____
2. Birthplace: _____
3. Ethnic background: _____
4. Age: _____
5. On what status are you in the United States:
 - Citizenship
 - Green Card
 - F1-VISA (Student Visa)
 - Other: _____
6. How long have you been in the United States? Years: _____ Months: _____
- 7a. If you have been in the US less than 5 years, where did you live before moving to the US: _____
- 7b. For how long? Years: _____ Months: _____
8. How is your education here being paid for (check all that apply):
 - Scholarship/s
 - Government Sponsors i
 - Family Funds
 - I work
 - Other: _____
9. Why did you choose to study in the US (check all that apply): (US residents skip to # 10)
 - To be at a better position on the jobmarket in my home country when I go back
 - To be at a better position on the jobmarket in the US
 - To be able to see more of the world
 - So that I could be legally in the US
 - To be near friends/relatives that are already here
 - Other: _____
10. What grades did you have in your home country:
(If you studied in the US, what grades did you have at your last school):
 - A's on average
 - B's on average
 - C's on average
 - D's on average
 - F's on average

11. If you have most of your family/friends in your home country, or if you are from the US and have most of your family/friends in an other part of the US (if not, skip to next question), How do you feel about being apart from them while you are studying? (please mark one):

1	2	3	4	5
I-----I-----I-----I-----I				
Don't like it at all			Like it very much	

12. How difficult was each of these situations to deal with at this school? (please mark one on each scale): If you are a US resident answer only the items that apply to you.

A. Language

I-----I-----I		
1=Not difficult at all	2=Somewhat difficult	3=Very difficult

B. New environment and social differences (culture)

I-----I-----I		
1=Not difficult at all	2=Somewhat difficult	3=Very difficult

C. Being apart from family/friends

I-----I-----I		
1=Not difficult at all	2=Somewhat difficult	3=Very difficult

D. Having a hard time making new friends

I-----I-----I		
1=Not difficult at all	2=Somewhat difficult	3=Very difficult

E. Not being able to work

I-----I-----I		
1=Not difficult at all	2=Somewhat difficult	3=Very difficult

F. Having financial problems

I-----I-----I		
1=Not difficult at all	2=Somewhat difficult	3=Very difficult

G. Pressure from school

I-----I-----I		
1=Not difficult at all	2=Somewhat difficult	3=Very difficult

H. Having spouse/friend(s) with me from home country that is/are illegal (check only if it applies to you, if not, skip to next question)

I-----I-----I		
1=Not difficult at all	2=Somewhat difficult	3=Very difficult

I. If there is another difficult issue that we haven't asked about please let us know:

13. Do you feel that your anxiety level has changed since you got to the US, compared to the anxiety level you had in your home country? (If you are a student with US residency, please skip to # 14)

1 2 3 4 5

I-----I-----I-----I-----I

Much higher in home country A bit higher in home country Same in home country & here A bit higher here Much higher here

14. How often do you feel irritable or are in a bad mood?

1 2 3 4

I-----I-----I-----I

Never Not very often Sometimes Very often

15. Who do you turn to, to talk with, when you feel anxious or bad? (check all that apply):

- No one
 My family
 My friends
 A psychologist/counsellor/therapist
 God
 Other: _____

16. Would you feel that it was okay to talk to a school psychologist?

- Yes
 No
 Maybe

17. How have your grades changed since you came to the United States? (if you are a US resident, please skip to #18):

- They have not changed
 They are worse now, in the United States
 They are better now, in the United States

18. What is your current GPA at this college? _____

- 19a. Have you ever been diagnosed by a doctor/psychologist with an emotional or behavioral problem?
- Yes
 No
- 19b. If yes, what diagnose? _____
- 19c. How long ago was this? _____
- 20a. Have you ever seen a psychologist, therapist or counsellor for an emotional or a behavioural issue?
- Yes
 No
- 20b. If yes, how many times?
- Once
 2-5 times
 6-12 times
 More than 12 times
- 20c. How long ago was this? _____
- 20d. Did you find the counselling/therapy helpful?
- Yes
 Not sure
 No
21. What was the issue you sought counselling for? _____
22. Have you ever talked to a psychologist at the college's Health Services about a problem?
- Yes
 No
23. Have you ever had a problem with drugs or alcohol use?
- Yes
 No

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