Examination of Stress Experiences of the International Students who are Educated in American Universities with respect to some Variables

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Abstract
Stress sources and stress levels of international students who study at American Universities were examined with respect to their class-standing, gender and English language fluency. Research findings show that number one stressor for female students is “Concerns about the future (graduation, employment, marriage, etc.)”. Males' number one stressor is “Academic burdens (grades, difficult classes, excessive homework, etc.)”. A significant difference between males and females was observed with respect to “Inadequate orientation programs for newcomers at the university,”. A significant difference between freshmen and seniors was observed with respect to “Inadequate orientation programs for newcomers at the university,”. According to this finding, the need for orientation for freshmen is significantly higher than seniors'. It is observed that there is a significant, medium level, and negative correlation between stress level and English language fluency. It is found out that the stress level of international students does not significantly change with respect to gender. The stress levels of freshmen were found to be higher than senior and graduate students. In light of the findings, some suggestions were made to counseling centers, international offices and English preparatory programs of the Universities.

Keywords: international college students, stress, United States

The international student population in the United States has been growing steadily since the 1950s and constitutes a significant proportion of higher education students (Mori, 2000). Although international students may have diverse cultural, social, religious, and political backgrounds, they tend to share certain characteristics (Thomas & Althen, 1989). They are a group in transition who live in a foreign country to pursue their educational goals. Unlike

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immigrants, most international students plan to return to their home countries eventually (Sakurako, 2000). In addition to fulfilling basic study tasks, they also need to adapt to a sociocultural system that is different from their own (Zimmermann, 1995).

During the years of studying abroad, many of these students experience stressful life changes and cultural adjustments (educational and social difficulties) (Mallinckrodt & Leong, 1992). For example, difficulties have been reported with English language proficiency and with adjustments to the American culture that might increase their stress. Furthermore, international students have difficulties adapting to a new educational system in a short period of time. On top of that, immigration difficulties, culture shock and, educational progress can be mentioned (Cheng, Leong, & Geist, 1993; Parr, Bradley, & Bingi, 1992; Sakurako, 2000). International students often have high expectations of what their life will be like when they move to the United States, and they may experience psychological crises or social dysfunctions, such as interpersonal stress, low self-esteem, racial or ethnic discrimination, disappointment, anger, sadness, physical illness, and other symptoms of culture shock, when their expectations are unmet (Leong & Chou, 1996).

International students experience acculturative stress as they adapt to a new culture. Acculturative stress refers to the psychological impact of adapting to a new culture (Smart & Smart, 1995). Acculturation has traditionally been defined as the process by which individuals understand and incorporate values, beliefs, and behaviors of the host culture in the context of the values, beliefs, and behaviors of the culture of origin (Berry, 1980). In general, acculturative stress is defined as a stress reaction in response to life events that are rooted in the experiences of acculturation (Berry, 2005).

Researchers have reported that many potential acculturation factors (e.g., English language proficiency, length of stay in the United States, generational status, age of arrival to the United States, educational level, ethnic identity, and involuntary vs. voluntary immigration status) may have an effect on the cultural adjustment experiences of international college students (Chung, Bemak, & Wong, 2000; Harris-Reid, 1999). In particular, limited English language skills may be of concern to many of these students, because such ability may affect their cultural adjustment processes in the United States (Lin & Yi, 1997). For example, Nwadiora and McAdoo (1996) found that English speaking ability was associated with fewer acculturative stressors among a group of Amerasians aged 19 to 23. Because English language usage is a vital indicator of acculturation level (Mouw & Xie, 1999). The relationship between communicating in English and aspects of psychological wellbeing is strengthened. In this research, a negative correlation between English-language proficiency and stress level is assumed to exist.

Several previous investigators have noted that more acculturated students tend to experience greater levels of adjustment to their host culture because of their increased familiarity with the norms of that culture (Mouw & Xie, 1999). It is assumed that as the grade level increases, the level of stress will be lower.

International students experience academic (Essandoh, 1995) and financial stresses in addition to acculturation stress. Additional pressures to obtain financial support that is often limited for international students contributes to their stress (Mori, 2000). In this research, Stress Sources Survey includes stressors originated from academic and financial sources.
Gender differences also may influence a student’s perception and reaction to stressors. For example, female students more often report letting out their feelings, whereas men more often report controlling their emotions, accepting the problem, not thinking about the situation, and engaging in problem-solving efforts (Hyde & Plant, 1995). Coping styles to stressors also differ by gender. When compared at similar levels of stress, women exhibit stress more overtly than males (Hyde & Plant, 1995; Thomas & Williams, 1991). In this research, it is assumed that stress level and stress sources differ according to gender.

Excessive exposure to stressful situations can also lead to health problems such as lack of appetite and sleep, low stamina and energy levels, and headaches (Thomas & Althen, 1989). In addition, some international students may somaticize their feelings of stress to avoid the stigma of seeking psychological assistance. For example, international students’ experiences of headaches, loss of appetite, or sleep problems may be attributed to a physical illness even though the complaints have no clear organic basis (Mori, 2000). As such, they use the college health center more frequently than American students for stress-related problems (Essandoh, 1995).

To facilitate the improvement of cross-cultural education in the US, researchers have devoted their efforts to conducting studies among this population in order to better understand factors that affect these students’ adjustment. Moreover, increased knowledge regarding international students’ mental health could enhance both the therapy process and outcome with this population.

In this research, some subgoals were tried to be reached to better understand the stress experiences of international students and to offer a more efficient psychological support to them.

Subgoals of the study:
Examining the order of importance of stress sources with respect to gender.
Examining if the stress sources change according to gender.
Examining if the stress sources change according to class-standing.
Examining the relationship between stress level and English language proficiency.
Examining if the stress level change according to gender.
Examining if the stress level change according to class-standing.

METHOD

Participant
Number of students from 37 countries who joined the survey is 97. The students study at Georgia State University, Augusta State University and Georgia Institute of Technology. Number of the female students is 49 (50.5%) and the number of the male students is 48(49.5%). The average age is 22.39 (min.18, max.35). 56.7 % (55) of the students don’t receive any scholarship, 41.2 % (40) of the students receive some kind of scholarship. Muslims make up 30.9 % of the students and 43.3% are Christian, 4.1% are Buddhist, 1% are Hindu and 21.6% are atheist. Data were collected during 2011-2012 academic year.
Instruments

**Stress Sources Survey:** This survey was developed by the researcher utilizing the literature. There are 13 items in the survey. The items are related to psychological, academic, social and economical problem areas. The answers were graded according to the following criteria: 1 = Never, 2= Almost Never, 3 = Sometimes, 4 = Fairly Often, 5 = Very Often. The stress factors in this survey are those: 1. Academic burdens (grades, difficult classes, excessive homework, etc.), 2. Language barriers/difficulties, 3. Financial difficulties (tuition, rent, transportation, etc.), 4. Concerns about the future (graduation, employment, marriage, etc.), 5. Culture shock (confusing and nervous feelings a person may have when he/she moves to a new country), 6. Racial discrimination, 7. Not being able to find time for academic activities, 8. The fear of not being able to be successful in academic activities, 9. Not being able to find time for recreational activities, personal development, and socio-emotional interaction, 10. Inadequate orientation programs for newcomers at the university, 11. Inadequate professional psychological support at the university, 12. Inadequate University-sponsored opportunities to improve one's English, 13. The feeling of loneliness.

**Stress Level:** The total point received from the Stress Sources Survey determines the level of stress. Minimum point one can get is 13, and maximum point is 65. As the points increase, the level of stress increases.

**English language fluency:** Participants were asked to indicate their self-reported fluency in English language (Constantine, Okazaki, & Utsey, 2004). Self-reported fluency was measured by the combined score from the following three questions which were rated on a 4-point, Likert-type scale: (a) “What is your current level of fluency in English?” (b) “How comfortable do you feel communicating in English?” and (c) “How often do you communicate in English?” Scores on this measure range from 3 to 12, and higher scores are associated with greater English language fluency. Comparable methods of assessing English language fluency have been documented previously in the literature (Barratt & Huba, 1994; Sodowsky & Plake, 1992). The Cronbach’s alpha for this three-item scale was calculated as .84.

Data Collection

The surveys were applied to the students randomly at the residence halls, the student centers and the international student office. First, the purpose of the survey was explained to the subjects and the ones who volunteered to participate received the surveys.

Data Analysis

The SPSS program was used in the analysis of the data. The average and the standard deviation of each item in Stress Sources Survey were calculated to determine the order of importance of the sources of stress with respect to gender. T test was used to determine if the sources of stress change with respect to gender. One-way ANOVA was used to determine if the sources of stress change with class standing. The total points from the Stress Sources Survey corresponds to level of stress. The relationship between level of stress and English language fluency is measured by Pearson’s technique T test was used to determine if the level of stress changes with respect to gender. One-way ANOVA was used to determine if the level of stress changes with respect to class standing.
RESULTS

The orders of importance of the stress sources with respect to gender are presented in Table 1.

Table 1. The orders of importance of the stress sources with respect to gender.

<table>
<thead>
<tr>
<th>Order of Importance</th>
<th>Stress Sources</th>
<th>Female X</th>
<th>Female S</th>
<th>Male X</th>
<th>Male S</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4. Concerns about the future (graduation, employment, marriage, etc.)</td>
<td>3.34</td>
<td>1.25</td>
<td>3.29</td>
<td>1.11</td>
</tr>
<tr>
<td>2</td>
<td>2. Language barriers/difficulties</td>
<td>3.15</td>
<td>1.14</td>
<td>4.</td>
<td>3.09</td>
</tr>
<tr>
<td>3</td>
<td>1. Academic burdens (grades, difficult classes, excessive homework, etc.)</td>
<td>3.04</td>
<td>1.07</td>
<td>9.</td>
<td>2.85</td>
</tr>
<tr>
<td>4</td>
<td>8. The fear of not being able to be successful in academic activities</td>
<td>2.89</td>
<td>1.14</td>
<td>2.</td>
<td>2.77</td>
</tr>
<tr>
<td>5</td>
<td>7. Not being able to find time for academic activities</td>
<td>2.85</td>
<td>1.03</td>
<td>3.</td>
<td>2.67</td>
</tr>
<tr>
<td>6</td>
<td>9. Not being able to find time for recreational activities, personal development, and socio-emotional interaction</td>
<td>2.79</td>
<td>1.14</td>
<td>5.</td>
<td>2.65</td>
</tr>
<tr>
<td>7</td>
<td>3. Financial difficulties (tuition, rent, transportation, etc.)</td>
<td>2.75</td>
<td>1.21</td>
<td>7.</td>
<td>2.63</td>
</tr>
<tr>
<td>8</td>
<td>6. Racial discrimination</td>
<td>1.73</td>
<td>0.86</td>
<td>10.</td>
<td>2.53</td>
</tr>
</tbody>
</table>
According to Table 1: The most important stressor for females is “4. Concerns about the future (graduation, employment, marriage, etc.)”, and the least important stressor is “10. Inadequate orientation programs for newcomers at the university”. The most important stressor for males is “1. Academic burdens (grades, difficult classes, excessive homework, etc.)”, and the least important stressor for males is “6. Racial discrimination”.

2. T test results of the stress sources with respect to gender are presented in Table 2

Table 2. T test results of “10. Inadequate orientation programs for newcomers at the university.” stressor with respect to gender.

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>(\bar{X})</th>
<th>SD</th>
<th>Df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>46</td>
<td>2.17</td>
<td>0.94</td>
<td>90</td>
<td>2.30</td>
<td>0.024</td>
</tr>
<tr>
<td>Male</td>
<td>47</td>
<td>2.26</td>
<td>1.10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
According to Table 2, “10. Inadequate orientation programs for newcomers at the university” stressor shows a significant difference with respect to gender \((t(90)=2.30, p<0.05)\). Male students' average is higher than female students' average. Male students find the orientations in the US Universities more insufficient than female students. From the data, we understand that learning the environment and being attuned to it seem to be more important for male students than female students.

3. One-way ANOVA results of stress sources of international students with respect to class standing are presented in Table 3

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>P</th>
<th>Significant Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>11,503</td>
<td>5</td>
<td>2,301</td>
<td>2.289</td>
<td>.053</td>
<td>Fist year-Fourth year</td>
</tr>
<tr>
<td>Within Groups</td>
<td>81,416</td>
<td>81</td>
<td>1,005</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>92,920</td>
<td>86</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The analysis shows that there are significant differences between groups according to the stress source “10. Inadequate orientation programs for newcomers at the university” \(F(5\,\text{-}\,81) = 2.29, P<.05\). Tukey test was done to find out which groups differ from the others. The results indicate that there is diversity between first grade and forth grade. First grade's average \((X=2.83)\) is greater than the forth grade's average \((X =1.68)\). According to this data, first grade students need to learn and adjust to the new environment more than the forth grade students.

4. The correlation between stress levels and English language fluency of the international students is presented in Table 4.

<table>
<thead>
<tr>
<th>Language Level Pearson Correlation N</th>
<th>Stress level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-.536**</td>
</tr>
<tr>
<td>89</td>
<td>.000</td>
</tr>
<tr>
<td>-.536**</td>
<td>80</td>
</tr>
<tr>
<td>.000</td>
<td>1</td>
</tr>
<tr>
<td>80</td>
<td>86</td>
</tr>
</tbody>
</table>
When Table 4 is examined, it can be seen that the relationship between stress levels and English-language fluency of international students is medium, negative and significant. As level of stress increases, English language fluency decreases or vice versa. As we take determination coefficient ($r^2 = 0.29$) into account, 29% of the total variance of level of stress comes from English language fluency; or 29% of the total variance of English language fluency comes from level of stress.

5. T test results of stress levels of international students with respect to gender are presented in Table 5.

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>$X$</th>
<th>SD</th>
<th>Df</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>43</td>
<td>34.18</td>
<td>7.87</td>
<td>84</td>
<td>0.43</td>
<td>0.67</td>
</tr>
<tr>
<td>Male</td>
<td>43</td>
<td>33.37</td>
<td>9.73</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to Table 5, stress level average of the female is higher than males. However, there is no significant difference between stress levels of females and males [$t_{84} = 0.43$, $p > 0.05$].

6. One-way ANOVA results of stress levels of international students with respect to class standing are presented in Table 6.

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>P</th>
<th>Significant Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>907,485</td>
<td>5</td>
<td>181,497</td>
<td>2.493</td>
<td>.038</td>
<td>Fist year- Fourth year, First year- Graduate</td>
</tr>
<tr>
<td>Within Groups</td>
<td>5532,954</td>
<td>76</td>
<td>72,802</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6440,439</td>
<td>81</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of the analysis indicate that stress level of international students changes significantly depending on grade level that they attend [$F_{(5,76)} = 2.49$, $P < .05$]. Differences occurred between freshman and senior students and freshman and graduate students. Freshman's stress average ($X=41.10$) is higher than senior ($X=30.66$) and graduate students' ($X=31.00$) average.
DISCUSSION AND RECOMMENDATION

1. Order of importance of stress sources for female and male international students:
Research findings show that number one stressor for female students is “4. Concerns about the future (graduation, employment, marriage, etc.).”. The fact that this is number one stressor can be explained by the developmental period they are in. “Anxiety for future” is a developmental stress for the people in their adolescence period. This can also be explained with the fact that the stress level of females are generally higher than the stress level of males as a research indicated (Matud, 2004). Counseling centers of universities can make an effort to decrease females' level of anxiety for future. Males' number one stressor is “1. Academic burdens (grades, difficult classes, excessive homework, etc.)”. This finding of the research indicate that males have difficulty concentrating in their academic work. Maybe, males spend more time in concentrating their environment than their academic work. Researches' (Nolen Hoeksema, Morrow, & Fredrickson, 1993) findings indicate that females concentrate on their inner world while males concentrate on outside world during a stressful situation. Counseling centers of universities should make an effort in helping male students in coping with their academic stresses.

2. Examination of stress sources with respect to gender:
A significant difference between females and males was observed with respect to item 10 (Inadequate orientation programs for newcomers at the university). Males are in need of orientation more than females. It is an important need for males to get to know and getting used to the environment that they are new. In Table 1, This need is females' last, males' eighth need.

3. Examination of stress sources with respect to class standing:
Findings indicate that there is a significant difference between freshmen and seniors with respect to item 10 (Inadequate orientation programs for newcomers at the university). According to this finding, the need for orientation for freshmen is significantly higher than seniors'. The difference between the two groups must have emerged because freshmen are new to the environment while seniors have gotten used to the environment. International offices of the Universities should concentrate their orientation activities on freshmen; and the orientation activities should start before academic activities start. The findings of second and third of the research show that orientation is important especially for male freshmen. Counseling centers of universities in US should concentrate on orientation activities especially for male freshmen. Joining in the orientation activities for male freshmen should be compulsory.

4. Examination of stress levels of international students with respect to English language fluency:
In this research, it is observed that there is a significant, medium level, negative correlation between stress level and English language fluency. The findings of this research is in agreement with the findings in the literature (Duru & Poyrazli, 2011; Mallinckrodt & Leong 1992). One of the main factors in adjustment to a new culture and environment is language fluency. Students who are less fluent in English face a particularly difficult task in adjusting to the US. Individuals who work with international students have heard students report that they sometimes feel like children, powerless and unable to express themselves easily on topics on which they are expert, not knowing how to go about performing routine tasks, and having to depend heavily on others to accomplish simple goals. Other students
report that they are treated like children instead of the intelligent, respected, functioning adults they were in their own countries. Occasionally this situation is so discouraging that students abandon their academic plans and return home (Barratt & Huba, 1994). English preparatory programs and counseling centers of universities should provide assistance to international students in a coordinated manner. Through these two programs, while improving students' English language skills, their stress levels should be minimized.

5. T test results of stress levels of international students with respect to gender:
In this research, it is found out that the stress levels of international students do not significantly change with respect to gender. However, there are findings in the literature that shows that stress levels of females are significantly higher than stress levels of males (O’Neil, Lancee, & Freeman, 1984; Almeida & Kessler, 1998). The reason why this research did not find any difference could be because of the survey the researcher used. There are 13 stress sources in the survey. The survey may not include the stress sources that differs from males to females.

6. ANOVA results of stress levels of international students with respect to class-standing:
In this research, a significant difference was found between freshmen and senior and freshmen and graduate students. The stress level of freshmen was found to be higher than senior and graduate students. Freshmen experience more stress because they are not used to the environment they are in. Since seniors and graduate students have adjusted themselves to the environment and developed their language skills, they experience a lesser degree of stress compared to freshmen. Studies show that the students who study more years in the US have lower level of adjustment difficulties (Duru & Poyrazlı, 2011; Mouw & Xie, 1999). Counseling centers of universities in US should concentrate specially on freshmen. English preparatory programs should concentrate on developing English language skills in cooperation with counseling centers. Both programs should concentrate on group approach in their efforts.

REFERENCES


