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Relation between general self-efficacy, assertiveness, spirituality, and acculturative stress among

international students

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Abstract

This study investigates the relation between general self-efficacy, assertiveness, spirituality and acculturation stress among international students enrolled at a southeastern land-grant institution. Strong efficacy beliefs can assist international students in stressful situations. Good assertiveness skills have been linked to students' sense of control of their environment. Independent samples t test and MANOVA techniques, along with a hierarchical multiple regression are performed to analyze responses from the self-administered, pencil-and-paper census survey. Findings indicate that those with higher levels of general self-efficacy experience the least level of acculturative stress among international students.

Relation between general self-efficacy, assertiveness, spirituality and acculturative stress among international students

The number of international students in U. S. higher education institutes decreased by 2.4% in the 2003-04 school year to a total of 572,509 students, according to *Open Doors 2004* (Institute of International Education, 2004). The drop in enrollment in 2003-04 is the first decline in foreign students enrolled on American campuses in 30 years. More specifically, graduate student enrollments increased by 2.4% while undergraduate number of international student enrollments dropped to almost 5%. *Open Doors 2004* reports that the decline of foreign student enrollment may be attributable to several factors such as difficulties obtaining a student visa, difficulties paying the increased U.S tuition fee, competitive recruitments by other English-speaking countries such as Britain, Canada, Australia, and New Zealand and some negative perceptions that the U.S. no longer welcomes foreign students. Despite the drawbacks, degrees from U.S. higher education institutions still seem to be attractive to foreign students.

The U.S benefits from the enrollment of international students on the U.S. campuses for several reasons. Foreign students help their American classmates broaden their world perspective and they add cultural diversity and facilitate international understanding (Sandhu & Asrabadi, 1994). They also contribute to the economy where they live. The Department of Commerce reports that "international students brought over $13 billion dollars to the U.S. economy in money spent on tuition, living expenses, and related costs" (Institute of International Education, 2004). Furthermore, international students can help develop positive relations between their home countries and the U. S. (Sandhu & Asrabadi, 1994).

However, U.S institutions of higher education have been traditionally indifferent to the adjustment problems of international students (Mori, 2000; Sandhu & Asrabadi, 1998). This

population has been "the most quiet, invisible, underserved groups on the American campus" (Mori, 2000, p.143). International students undergo unique and diverse psychological problems with special concerns (Mori, 2000). Counselors on campuses should be aware that international students come from a myriad of cultural backgrounds and "make a mosaic of unique cultural experiences" (Sandhu, 1994, p.237). However, a majority of counseling services provided on campus do not include enough cultural sensitivity (Mori, 2000).

International students can encounter many problems upon arrival to the U.S. as they adjust to new surroundings. Most commonly reported difficulties they experience include language barriers, academic demands, homesickness, loss of social support and status, decreased self-esteem, lack of study skills and lack of assertiveness (Pederson, 1991; Poyrazli, Arbona, Nora, McPherson, & Pisecco, 2002). Research findings suggest that if international students fail to adjust to new, challenging, and diverse demands, they undergo high levels of loneliness, depression, and increased physical and mental health issues (Pedersen, 1995). Once they adapt to the new demands and roles of the new culture, international students are likely to have better academic performance and better psychological stability.

Sandhu (1994) argued that the psychosocial distress can include two major types of factors. One is associated with intrapersonal issues rooted in within self and the other type involves more external factors such as environment and cultural milieu. In general, both types interact and combine with each other (Sandhu, 1994). Intrapersonal distress includes profound sense of loss, sense of inferiority and sense of uncertainty, perceived discrimination, threat to cultural identity, mistrust, perceived hatred (Sandhu, 1994; Sandhu & Asrabadi, 1994). Interpersonal stressors are associated with communication barriers, culture shock, loss of social support system, academic overload and different educational expectation (Sanhu, 1994).

Sandhu's (1994) factor analysis of intrapersonal stressors revealed that international students perceived discrimination and alienation as the most stressful. Obvious discriminations can be rarely seen on campuses. It is assumed that "more international students suffer from difficulty of strangeness and sensitive students may interpret social distance as racial discrimination" (Bois's, 1956, p.47). Perceived discrimination was also reported to be more serious among international students than immigrant students (Sodowsky & Plake, 1992). Research findings report that perceived discrimination causes increased stress, more identity conflict, less academic satisfaction, and greater psychosocial and sociocultural adjustment issues (Leong & Ward, 2000; Pak, Dio & Dion, 1991).

High self-efficacy negatively predicts individual variation in stress and adjustment problems. Bandura (1986) argued that a strong sense of self-efficacy about one's ability and competence will help individuals with emotional adjustment. A strong self-efficacy also helps individuals deal with challenging situations without feeling overwhelmed and confused. Perceived self-efficacy reflects an optimistic self-belief (Schwarzer, 1992). This positive self-belief can help an individual perform new and challenging tasks and overcome hardships. Perceived self-efficacy also tends to help an individual facilitate goal-setting, effort investment, persistence in face of barriers, recovery from setbacks and emotional adaptiveness (Bandura, 1995; Schwazer, 1992; Poyrazli, Arbona, Nora, McPherson, & Pisecco, 2002).

Bandura (1995) notes:

Those who have a high sense of efficacy visualize success scenarios that provide positive guides and supports for performance. Those who doubt their efficacy visualize failure scenarios and dwell on the many things that can go wrong. It is difficult to achieve much while fighting self-doubt. (pp. 6).

During the stressful adaptation to a different culture, self-efficacy plays a critical role as a personal resource that can protect against negative experiences and emotions, and health impairment (Jerusalem & Mittag, 1995).

Perceived English skills can also affect an individual's self-efficacy. The criteria of a satisfactory score on the Test of English as a Foreign Language (TOEFL) for admission typically do not necessarily guarantee students' fluency of English (Cross, 1995; Mori, 2000). An individual student with higher TOEFL scores may still experience stress from language barriers and have poor interaction with American students and faculty. Individuals' perceived English fluency seems to be more related to a higher level of self-efficacy and confidence in social interactions. Consequently, this may lead to better adjustments to the host culture. International students with a higher level of perceived English fluency are reported to have more confidence in interacting with people and feel more comfortable in speaking and in class discussions (Yeh & Inose, 2003) and show higher level of assertiveness and academic efficacy, and they are more likely to take initiatives in more academic interaction and reach out for academic help (Poyrazli et al, 2002).

Assertiveness is generally considered the ability or skill to express what an individual thinks and feels. The assertiveness skill is usually regarded as a critical means for an individual to affirm his or her identity and succeed in the individualistic and competitive Western societies (Niikura, 1999). Assertiveness has been considered desirable for mental health and has been reported as critical for self-esteem, reduced anxiety, and enhanced feelings of personal power or internal control (Alberti, 1977; Williams & Stout, 1985).

A majority of international students come from collectivism societies in which interpersonal harmony is highly valued, such that self-restraint and passivity are encouraged

among members. Many research findings have reported that Asian international students are passive and less assertive than their Caucasian counterparts. Asian students have been reported to have more acculturative stress than other groups of international students. Further, the passivity can have a negative effect on relationships with their teachers, peers, and advisor in American culture (Poyrazli et al, 2002).

Spirituality has been drawing attention as a potential variable for health related research. "Spirituality refers to the divine expression and belief of a higher power, which govern one's existence" (Bowen-Reid & Smalls, 2004, p. 284). Spirituality can be differentiated from religion by the difference that religion can refer to a set of beliefs in God or higher power and practices such as church membership and prayer and worships, but spirituality can be personal and relational, and meaning individuals gain from life experience (Corbett, 1990; May, 1982; Zinnbauer, Pargament, & Scott, 1999). Therefore, individuals without religious beliefs in God or high power can also develop spiritual and meaningful experiences (Stoll, 1989). Spirituality can help individuals make meaning even from their stressful situations and make them more adaptive with stress and feel well being (Emmons, 1999).

Individuals with high spirituality and religious salience have a better chance of leading a health-promoting life by engaging in health diet, regular physical exercise, responsible health practices, social support and spiritual growth (Bowen-Reid & Smalls, 2004). Even further, Richard and Bergin (1997) argued that individuals with good spirituality can feel God's love, better self worth and more meanings from their life and they have better chance of fulfilling their potential to the fullest.

To the contrary, Winterowd et al. (2005) reported that college students with higher level of spirituality turned out to be associated with higher levels of anger and stress. They assume that

college students who have higher level of anger and stress are likely to turn to spirituality for coping. Finding in this study indicated that spirituality seems to play a role of coping moderating feeling of stress. Even though some inconsistent findings have been turned out and issues of construction of the spirituality have been raised, a growing attention to the benefits of spirituality has been paid by many researchers recently.

Despite the tremendously potential effect of these three variables on the acculturation stress of international students, very limited research has been done using the variables mentioned above. Theoretically, those three variables have been discussed in respect to psychosocial adjustment and mental health. However, the empirical research looking into the relation of these variables to intrapersonal acculturation stress of international students has been limited. In addition, most of research investigating acculturation stress among international students has used demographic information to predict which external factors account for variance of acculturation stress.

Objectives

The primary purpose of the study is to investigate the relationship between perceived self-efficacy, assertiveness, spirituality and the psychosocial adjustment among international students. This study is more focused on intrapersonal aspects that can predict acculturative stress among international students. Research hypotheses are as follows:

Hypothesis 1: International students with higher level of general self efficacy will show less acculturation stress than their counterparts with lower levels of self efficacy.

Hypothesis 2: International students with higher level of assertiveness will show less acculturation stress than their counterparts with lower levels of assertiveness.

Hypothesis 3: International students with a higher level of spirituality will display a significantly lower level of acculturation stress than those who have lower level of spirituality.

Hypothesis 4: There are significant differences in means of acculturation stress between religious believers and non-believers among international students.

Hypothesis 5: Self efficacy will be one independent predictor of acculturation stress among international students.

Method

Participants

A total of 73 international students (45 men: 62%, 28 women: 38%) enrolled in the University of Kentucky participated in this pilot study. Nineteen percent (n=14) of participants were undergraduate, 21% (n=15) were Masters, 56% (n=41) were Doctoral and 4% (n=3) were Professional. Age range was classified into five categories: 31 to 35 years (n=26, 35.6%), 26 to 30 years (n=22, 30.1%), 18 to 25 years (n=15, 20.5%), 36 to 40 years (n=8, 11.0%) and 45 to 50 years (n=2, 2.7%). Forty nine percent (n=36) of the students indicated being single and the other 51 % (n=37) of the students reported being married.

In regard to nationality, 29 % (n=21) of the students were from China, 28% (n=20) from Korea, 14% (n=10) from India, 11% (n=8) from Japan, 4 % (n=3) from Jordan, 3% (n=2) from Taiwan, 3% (n=2) from France and 1% (n=1) each from Spain, Africa, Italy, Dominican Republic and Thailand. Twenty six percent (n=19) of the students indicated being Protestant, 15% (n=11) Catholic, 11% (n=8) Hindu, 10% (n=7) Buddhist, 4% (n=3) Muslim, and 33% (n=24) No religion. Their length of stay in the U.S. was categorized into 1 year (n=15, 21%), 2 years (n=6, 8%), 3 years (n=20, 27%), 4 years (n=5, 7%), 5 years (n=10, 14%), and More than 5 years (n=17, 23%).

The majors of students were Business and Management (n=7, 10%), Computer and Information Service (n=8, 11%), Education (n=1, 1 %), Engineering (n=15, 21%), Health Professional and Medical (n=13, 18%), Physical Science (n=2, 3%), Humanities (n=1, 1%), Social Science (n=5, 7%), Fine Arts and Performing Arts (n=3, 4%) and others (n=18, 25%). The number of other international students in their classes was classified into five categories: Myself alone (n=12, 16%), 2 to 5 (n=35, 48%), 6 to 10 (n=16, 22%), 11 to 15 (n=8, 11%) and More than 15 (n=2, 3%).

Instruments

Demographic questionnaire. In the demographic questionnaire, participants reported information about their gender, marital status, age, major, degree they are seeking, area of study, length of residence in the U.S., general number of international students in classes and major. Demographic variables have not been studied well with respect to international students' intrapersonal acculturative stress.

To measure perceived English fluency of international students, three questions were borrowed from Cross (1995) and one question was to measure perceived understanding of professors in classes (*i.e., please rate your ability to understand your professors in classes*). The difficulty understanding professors in classes can be one of the most challenging stressors among international students. Perceived English language fluency was assessed using composite scores of four questions with 7-point scale ranging from 1 (*Very poor) to 7(Extremely good).* Cronbach's alpha of the four questions in this sample was calculated as .87. The four questions are as follows:

1. Please rate your ability to understand your professors in your classes.

2. Please rate your ability participate in class discussion.

3. Please rate your English conversation skills.

4. Please rate your ability to write papers.

To measure the level of religious coping/spirituality, five questions were borrowed from the "The Daily Spiritual Experience Scale (DSES)" developed by Underwood and Teresi (2002). The spirituality questions were self-report questions about how spiritually respondents live daily in the U.S. A 5-point Likert scale was used (1=Never, 2 = Rarely, 3 = Sometimes, 4 =Very often, 5 = Always). The composite scores of 5 questions assessed an individual international student's spirituality. Cronbach's alpha of the five questions in this study was calculated as .91. The five questions are as follows:

1. I actively participate in my religion or spiritual activity.

2. I ask for God or Higher Power's help in the midst of daily activities.

3. I feel deep inner peace and harmony.

4. I pray to God or Higher Power I believe in.

5. I find strength in my religion and spirituality.

The Rathus Assertiveness Schedule (RAS). The RAS (Rathus, 1973) was given respondents to measure their level of daily assertiveness. The RAS consists of 30 items that are scored on a 6-point Likert-type scale ranging from 1 (*Very much unlike me*) to 6 (*Very much like me*). The RAS has 17 reverse-coded items to avoid response bias. The RAS has moderate to high test-retest reliability ($r =.78$) and split-half reliability ($r =.77$). The internal reliability of the scale for the sample was reported as .82 (Poyrazli et al, 2002). In the current pilot study, the internal consistency reliability (Cronbach's alpha) was .84.

The General Self-Efficacy Scale (GSS). The GSS (Jerusalem & Schwarzer, 1979) was originally developed in German and later translated into 26 languages by various co-authors. An

English version of GSS was developed in 1993 by the original authors. The GSS was given to the sample of international students to assess a general sense of perceived self-efficacy to predict coping with daily hassles as well as adaptation after undergoing stressful experiences. The GSS consists of 10 items reflecting perceived optimistic self-belief of respondents. The authors report that Cronbach's alpha ranged from .76 to .90 with the majority in the high .80s. Criterion-related validity is reported in numerous correlation studies (Schwarzer & Jerusalem, 1995). In this pilot study, the internal consistency reliability (Cronbach's alpha) was .92.

The Acculturative Stress Scale for International Students (ASSIS). The ASSIS was developed to measure intrapersonal acculturative stress of international students (Sandu & Asrabadi, 1994). The ASSIS consists of 36 items scored on a 7-point Likert scale (1=Strongly disagree to 7=Strongly agree). Sandhu and Asrabadi (1994) extracted six factors and one nonspecific factor using a principal components analysis, accounting for 70.6% of the total explained variance in their survey research. The total of seven factors is Perceived Discrimination (38.30% of variance), Homesickness (9.0%), Perceived Hate (7.20%), Fear (6.10%), Stress due to change/cultural shock (3.70%), Guilt (3.20%), and Nonspecific (3.10%). It has been reported that ASSIS has internal consistency scores ranging from .87 to .95 for total items measured by Cronbach's alpha (Darcy & Durante, 2000; Sandu & Asrabadi, 1994; Sandhu & Asrabadi, 1998; Yeh & Inose, 2003). Validity was supported by the factor analysis. The internal consistency reliability (Cronbach's alpha) of this pilot study was .95.

Statistical Analysis

Pearson product moment correlation analysis was used to examine the relation between variables in the study: Gender, age, marital status, degree they are pursuing, the length of stay in the U. S., the number of international students in classes, spirituality, acculturation stress,

assertiveness, perceived English language fluency and general self efficacy. The bivariate

correlation, means, standard deviations for these variables are presented on the table 1. In this

pilot study, assertiveness is negatively correlated with acculturation stress ($p < .01$). Perceived

English skills are positively correlated with degree ($p < .01$) and assertiveness level ($p < .01$) and

negatively correlated with acculturative stress ($p < .01$). General self efficacy is positively

correlated with degree ($p < .05$), perceived English skill ($p < .01$), and assertiveness ($p < .01$) and

negatively correlated with acculturative stress ($p < .01$).

Table 1. Bivariate Correlations among Variables, Means, and Standard Deviations

Item	1	2	3	4	5	6	7	8	9	10	11
1.Gender	___										
2.Age	-.267*	___									
3.Marital status	-.124	.464**	___								
4.Degree	-.431**	.488**	.103	___							
5.Length of stay	.041	.176	.026	.041	___						
6.Other IntrStudnts	-.202	.142	-.118	.398**	-.002	___					
7.ACS	-.083	.014	.221	-.205	-.087	.035	___				
8.RAS	.010	.015	.024	.103	.004	-.136	-.341**	___			
9.SPIRIT	.024	.204	.144	-.078	.233	.042	-.001	.046	___		
10.ENGSKILL	-.091	-.016	-.246*	.338**	.173	-.011	-.425**	.350**	.155	___	
11.GSS	-.063	-.035	-.213	.267*	-.130	.096	-.616**	.369**	.003	.513**	___
M	___	___	___	___	___	___	2.64	3.58	3.03	5.03	3.06
SD	___	___	___	___	___	___	.64	.56	1.21	1.15	.53

Note. Other IntrStudnts = # of other international students in classes; ACS = Acculturation Stress; RAS = Rathus Assertiveness Scale; SPIRIT = religion/spirituality; ENGSKILL = English Skills; GSS = General Self-Efficacy Scale.
*P < .05. **P < .01.*

To test hypothesis 4, independent samples *t* test was executed to examine the mean

difference of acculturation stress between religious believers and non-believers. The test revealed

that religious believers ($M = 2.65$, $SD = .65$) were not significantly different from non-believers

($M = 2.61$, $SD = .66$), $t(70) = .25$, $p > .05$. The findings indicated that international students who

have religions seem to experience similar levels of acculturation stress as the students who do

not have religion.

For additional analysis, multivariate analysis of variance (MANOVA) was performed to investigate whether there were any differences between gender, country, major and religious denominations (independent variables) and general self efficacy, assertiveness, perceived English language, spirituality, and acculturative stress (dependent variables). The MANOVA, using Wilks' Lambada to estimate the F statistic, revealed significant main effects for country and religion (denomination), with each univariate effect on perceived English skills and on spirituality, F (20,47.383) = 2.257, p <.05 (Wilks' Lambada = .10) and F (25, 53.510) = 2.256, p < .05 (Wilks' Lambada = .07) respectively. However, no significant interaction effects were reported among independent variables.

In post hoc analysis, perceived English skills of international students from China (M=4.70, SD=.88), Korea (M=4.53, SD=1.10) and Japan (M=4.59, SD=1.41) were significantly different from others (M=6.22, SD=.71) and Indian international students (M=5.85, SD=.64) were significantly different from Korean (M=4.53, SD=1.10) and Chinese (M=4.70, SD=.88) international students. Because of the small sample size of students from some countries, small cases were regrouped into the "Other" category. Countries such as France (n=2), Germany (n=1), Jordan (n=3), Dominican Republic (n=1), Spain (n=1), Africa (n=1), Italy (n=1) were combined into "Other." Taiwan (n=1) and Thailand (n=1) who are descendents of the Chinese were regrouped into China.

In post hoc analysis for spirituality in relation to denomination, Muslim (M=4.93, SD=.11) is significantly different from Buddhism (M=2.60, SD=1.00), Catholic (M=3.30, SD=.99), Hinduism (M=2.75, SD=.81) and No religion (M=1.89, SD=.64). Protestant (M=4.02, SD=.73) is significantly different from Buddhism (M=2.60, SD=1.00), Hinduism (M=2.75, SD=.81) and No religion (M=1.89, SD=.64). Catholic (M=3.30, SD=.99) is just significantly different from No

religion (M=1.89, SD=.64). There were no significant differences in means of Muslim and

Protestant in respect to spirituality.

Results of Hierarchical Multiple Regression Analysis

As a final analysis, a hierarchical multiple regression was performed using gender,

countries, assertiveness, perceived English skills, and general self efficacy as predictor variables

and acculturation stress among international students as the criterion variable (see Table 2). This

analysis looked into how predictor variable(s) in each step (block) can be explained for total

variance of R-squared and change in significance of beta coefficient at each step.

The predictor variables were entered as four different blocks. The demographic variables

of gender and country were entered as Block 1, assertiveness was entered in Block 2, perceived

English skill was entered in Block 3, and the variable entered in Block 4 was perceived self

efficacy.

As shown in Table 2, gender and country, entered in Step 1, accounted for 17 % of

variance in acculturative stress, R^2 = .17, p =.03. Adding to assertiveness in Step 2, it accounted

for 22 % of the variance of acculturative stress, R^2 = .22, p =.03. In Step 3, with the addition of

perceived English skill, the amount of variance explained by the model increased to 28 % of

variance of acculturation stress, R^2 = .28, p =.02, and In Step 4, with addition of general self

efficacy, the model was increased accounting for 46% of variance of acculturative stress, R^2

= .46, p =.000.

Controlling other variables in Step 1, the international students from China, India, Japan,

and Korea showed a significantly higher level of acculturation stress than the comparison group.

In Step 2, adding to a new variable of assertiveness, Chinese, Indian and Korean students still

showed a significantly higher level of acculturation stress compared to the "Other" category and

assertiveness turned out to be a significant predictor of acculturation stress. In Step 3, when adding to perceived English skill, this perceived skill became a significant predictor of acculturative stress leaving country and assertiveness insignificant. In Step 4, adding to another new variable of general self efficacy, only self-efficacy was found to be a significant predictor of acculturation stress leaving all the variables entered in the model insignificant.

Perceived English skills were found to be more critical in predicting acculturation stress regardless gender, country, and level of assertiveness after controlling general self efficacy. However, when general self efficacy was entered in final step, the most significant predictor variable was changed to self efficacy, which indicate that general self efficacy are more deterministic than perceived English skills in predicting acculturation stress among international students.

Table 2. Hierarchical Multiple Regression Analysis

Model	Variables	B	β	R^2	Adjusted R^2	df	F	Sig.
Step 1				**.17**	.10	5,67	2.65	.030
	Gender	-.14	-.11					
	China	.78**	.57					.001
	India	.57*	.30					.038
	Japan	.60	.29					.047
	Korea	.67*	.46					.005
Step 2				**.22**	.15	6,66	3.10	.010
	Gender	-.14	-.10					
	China	.63*	.46					.007
	India	.54*	.29					.043
	Japan	.53	.26					
	Korea	.34*	.37					.024
	RAS	-.29*	-.25					**.034**
Step 3				**.28**	.21	7,65	3.69	.002
	Gender	-.14	-.11					
	China	.40	.29					
	India	.48	.26					
	Japan	.26	.12					
	Korea	.27	.19					
	RAS	-.22	-.19					
	ENGSKILL	-.18*	-.32					**.019**

Step 4				**.46**	.39	8,64	6.86	.000
	Gender	-.15	-.11				
	China	.26	.19				
	India	.41	.22				
	Japan	.07	.04				
	Korea	.10	.07				
	RAS	-.10	-.09				
	ENGSKILL	-.08	-.14				
	GSS	-.62**	-.51					.000

Note. RAS = Rathus Assertiveness Scale; ENGSKILL = English Skills; GSS = General Self-Efficacy Scale.
*p <.05. **p <.001

Discussion

This pilot study investigated the extent to which international students' gender, country, perceived English skills, general self efficacy, assertiveness, and spirituality are related to each other and further examined to what degree some variables of interests can predict acculturative stress using hierarchical multiple regression.

In the bivariate analysis, those who are seeking higher degree are more likely to be male students who are older than their female counterparts. In this sample, more international students are enrolled in higher degree program. Findings indicate that foreign students who are assertive are more likely to feel less acculturative stress than those who are nonassertive. Those who have a higher level of perceived English skills are more likely to be single and in a higher degree program. They are also less likely to experience acculturative stress and more assertive than those who have a lower level of perceived English skills. International students who have a higher level of positive and optimistic beliefs about their ability are likely to experience a lower level of acculturative stress and more apt to be assertive than those who are less optimistic and confident of their capability.

In contrast to the hypothesis that international students who have higher level of spirituality are less likely to feel acculturative stress than counterparts, there is no significant

correlation to acculturative stress. International students with a higher level of spirituality seem to have as much intrapersonal and psychosocial acculturative stress as those with a lower level of spirituality. In addition, students with religion displayed similar amount of acculturative stress as do those who do not have religion as shown in the test.

In multivariate analysis of variance (MANOVA), one of the interesting findings was that Muslim international students displayed the highest level of spirituality followed by Protestant students. There is some issue with sample size from Muslims (n=3), but it seems to be worth enough for further study using a lager sample.

In the hierarchical regression analysis, all the Asian international students showed a higher level of acculturative stress compared to the "Other" category. Perceived English skill is one of the predictors of acculturative stress among international students after controlling self efficacy. Assertiveness and perceived English skills became not significant predictors of acculturative stress when general self efficacy was added. This finding may indicate that optimistic belief of oneself can be more critical to cope with intrapersonal acculturative stress and assertiveness and perceived English skills are parts of more specific behavioral components representing self-efficacy beliefs. In sum, perceived self efficacy can be considered as the most significant predictor of acculturative stress among international students.

Implication for counseling international students

As consistently shown in many studies of acculturative stress among international students, perceived English skill proved one of the primary predictors again in this study. American universities need to make an effort to provide English speaking classes and workshops in which international students can learn how to communicate more effectively both on campus and in society (Sandhu, 1994).

Besides, it seems to be essential to educate international students assertive communication considering mental health benefits as reported as critical for self esteem, reduced anxiety, and enhanced feelings of personal power or internal control (Alberti, 1977; Williams & Stout, 1985). Respecting cultural values of nonassertiveness among international students, counselors need to teach foreign students to learn different values accepted in the host culture. In reality, passivity and non-assertiveness in the U. S. can make international students feel more alienated and discriminated from American peers and faculty. Therefore, it seems that taking the initiative and being assertive in social interactions should be fostered among foreign students.

In addition to educating international students in assertiveness skills, counselors on campus should help them with cognitive skills. Students with more optimistic beliefs about themselves will likely perform new and challenging tasks and put forth more effort to overcome hardships. As a cognitive approach, counselors should help students explore their internal strengths to boost low self esteem that may result from poor English skills and the stressful adaptation process.

Some cognitive and behavioral strategies that counselors can teach international students can include positive self talk such as "Hang in there," "You will survive" and any other positive phrases to encourage persistence despite the challenges. Full of self doubts, international students can grow more erratic in their cognitive skills and their performances can worsen (Bandura, 1995). There are some resources of developing self efficacy for distressed international students; vicarious experience from other international students' success story can benefit foreign students with acculturative distress. Counselors can teach foreign students to learn positive imaginary techniques as well, encouraging distressed students to recollect their success experiences made in the past to restore sense of self efficacy and self-esteem as well, which they may have lost from

the lack of appropriate social skills in host culture. More resources of fostering self efficacy can be referred to from Bandura's social cognitive theory.

This pilot study had some limitations. First, the sample size was too small for more accurate analysis using a hierarchical multiple regression. Second, there was not a solid method of building construct validity for measuring spirituality. Considering the multifaceted aspects of spirituality, these five questions are questionable as to their capability to measure individuals' spirituality. However, this study revealed an interesting finding that international students perceived similar levels of intrapersonal acculturative stress regardless of the degree of spirituality and whether religious believers or not. Further research investigating relations among acculturative stress, spirituality and denomination should be conducted using more accurate measurements due to the mixed findings. Finally, the limitations and weaknesses in this pilot study, can inform a larger study in the future.

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