

DEVELOPMENT OF AN ACCULTURATIVE STRESS SCALE FOR INTERNATIONAL STUDENTS: PRELIMINARY FINDINGS¹

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Summary.—Description of the development and testing of a new 36-item scale in Likert format, designed to assess the acculturative stress of international students, includes perceived discrimination, homesickness, fear, guilt, perceived hatred, and stress due to change (cultural shock), identified as major contributing factors. The psychometric properties of this instrument and implications for use by mental health practitioners are discussed.

The pursuit of learning beyond indigenous boundaries is quite old (Bois, 1956; Fasheh, 1984). In recent times, the United States of America, the world center of information about the most advanced technology and sophisticated knowledge, has become the Mecca for foreign students. More foreign students are now enrolled in U.S. colleges and universities than in any other country (Anderson & Myer, 1985; Schram & Lauer, 1988). According to Zikopoulos (1991) 407,529 undergraduate and graduate students from 193 countries studied in the United States in 1990-1991. This number is a steady increase of 63,752 foreign students (18.54%) within five years, as only 343,777 foreign students attended U.S. postsecondary institutions in 1985-86. All indicators suggest that the number of international students will continue to grow, especially when U.S. institutions with declining enrollments actively recruit students from as far away as Hong Kong and from many oil-producing rich countries in the Middle East.

The presence of these students on our university campuses provides an opportunity to promote cultural and international understanding. It is hoped that, in addition to the achievement of their personal goals, adventure, joy, and stimulation in a foreign land, these "cultural ambassadors" will enhance international understanding and collaboration to tackle problems such as hunger, AIDS, drug abuse, etc. which no country can solve alone.

However, the reality of being a "foreigner" makes living hard in a strange land when a person has to make a number of personal, social, and environmental changes upon arrival. Naturally, issues related to adjustment problems of international students seem to dominate the related literature (Altbach, Kelly, & Lulat, 1985). There seems to be a general consensus that

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the international students are a high-risk group who have more psychological problems than their U.S. peers (Dillard & Chisolm, 1983; Johnson, 1971; Klineberg & Hull, 1979; Naditch & Morrissey, 1976; Owie, 1982; Padilla, Alvarez, & Lindholm, 1986; Schram & Lauver, 1988). Pedersen (1991) summed up the situation in his statement that "International students are likely to experience more problems than students in general and have access to fewer resources to help them" (p. 24).

In the counseling literature variety of reasons have been suggested as contributing to the psychological problems of international students. The areas of language barrier (Babiker, Cox, & Miller, 1980; Church, 1982; Dillon, 1993; Heikinheimo & Shute, 1986; Padilla, *et al.*, 1986; Rubin, 1993), break from family support system (Bochner, 1972; Pedersen, 1988; Romero, 1981; Vega, Kolody, & Valle, 1988), and problems related to culture shock and social adjustment (Bochner, 1972; Day & Hajj, 1986; Pedersen, 1991; Spradley & Phillips, 1972) are obviously the recurrent themes.

Several authors have attempted to study the nature of psychological problems of international students. In one of the earliest studies concerned about international students, Klineberg and Hull (1979) identified personal depression, homesickness, and loneliness as the major concerns. Many other writers postulated the major concerns as high anxiety (Pedersen, 1991; Ward, 1967); stress, frustration, fear, and pessimism (Dillard & Chisolm, 1983); perceived alienation and racial discrimination (Heikinheimo & Shute, 1986); loneliness (Schram & Lauver, 1988); and psychosomatic disorders (Thomas & Althen, 1989).

Apparently research conducted on the psychological problems of international students is isolated, sporadic, inconsistent, varied, and desultory in nature. Most of the psychological problems of the international students have been conceptualized with very little supporting empirical data. As a result, there are few, if any, instruments available which are designed to assess the psychological needs of foreign students in a comprehensive manner. This study is an attempt to construct and test such an instrument that might fill this gap as a composite measure of adjustment problems of foreign students.

SCALE DEVELOPMENT

Selection of Items

An initial pool of 125 statements in Likert format was constructed by using two strategies. First, 13 international students, eight men and five women, were interviewed at an urban university in the southern United States to take into consideration their personal experiences and perspectives. These 13 students included two from China, one from Egypt, one from Ethiopia, two from Germany, two from India, one from Iran, one from Japan, two from Venezuela, and one from Nicaragua. Second, recurrent themes

of adjustment difficulties with high face validity were identified from the prevalent counseling literature related to international students. Specifically, works of Alexander, Klein, Workneh, and Miller (1981), Allen and Cole (1987), Altbach and Wang (1989), Anderson and Myer (1985), Berry (1984), Dillard and Chisolm (1983), Heikinheimo and Shute (1986), Johnson (1971), Klineberg and Hull (1979), Manese, Sedlacek, and Leong (1988), Pedersen (1991), Spaulding and Flack (1976), Walton (1971), and Zikopoulos (1991) were closely examined for this purpose. In this survey of literature, 12 recurring themes emerged. These themes, each with two sample items, are shown in Table 1. Also, the number of items constructed to represent each theme is given in parenthesis, resulting in a total of 125 items.

TABLE 1
TWELVE MAJOR RECURRING THEMES OF ACCULTURATIVE STRESS
FOR INTERNATIONAL STUDENTS AND SOME SAMPLE ITEMS

Themes With Two Sample Items	
1. Perceived Discrimination (14*)	
	Many opportunities are denied to me.
	I feel that I receive unequal treatment.
2. Social Isolation (9)	
	I am treated differently in social situations.
	Some people ostracize me.
3. Threat to Cultural Identity (10)	
	I am losing my ethnic identity.
	I feel lost for being unable to find my roots in this society.
4. Inferiority (15)	
	I am made to feel inferior in this society.
	I feel inadequate to function here.
5. Homesickness (8)	
	I feel sad leaving my relatives behind.
	I feel sad living in these unfamiliar surroundings.
6. Fear (14)	
	I feel insecure here.
	I dread to pass through certain residential areas where people from other ethnic groups live.
7. Anger/Disappointments (15)	
	It makes me angry when I hear negative stereotypes about my culture and people.
	I get angry when people use racial slurs and jokes about my culture.
8. Mistrust (6)	
	It is hard for me to make trustworthy friends here.
	I cannot trust somebody to discuss my personal problems.
9. Communication Problems (7)	
	I feel nervous to communicate in English.
	Due to language difficulties, I feel unable to express myself fully.
(continued on next page)	

*Number of items representing this theme.

TABLE 1 (CONT'D)
 TWELVE MAJOR RECURRING THEMES OF ACCULTURATIVE STRESS
 FOR INTERNATIONAL STUDENTS AND SOME SAMPLE ITEMS

Themes With Two Sample Items	
10. Culture Shock (9)	Multiple pressures are placed upon me after migration. I feel uncomfortable to adjust to new foods.
11. Perceived Hatred (13)	I am stared at in the public places scornfully. Some people show hatred toward me because of different ethnic background.
12. Guilt (5)	I feel guilty when I think that I am better off here but my people still suffer. I feel guilty that I am living a different lifestyle here.

*Number of items representing this theme.

The response format ranged from 1 as strongly disagree to 5 as strongly agree with 3 as not sure. Higher scores on each item meant higher acculturative stress.

Pilot Test

The initial 125-item Acculturative Stress Scale for International Students was pilot tested with 17 undergraduate and nine graduate international students. The first draft was also reviewed by three university professors at two different universities. These professors taught graduate courses in multicultural counseling and they were familiar with issues related to international students. The participants were encouraged to make comments about the wording of items and make suggestions. A number of items were eliminated or revised to avoid confusion, repetition, and ambiguity regarding intent of meaning. In its final refined and polished version, this scale resulted in 78 items, with six to nine items under each theme.

PSYCHOMETRIC PROPERTIES OF ACCULTURATIVE STRESS SCALE FOR INTERNATIONAL STUDENTS

Method

Sample.—The participants were 86 men ($M = 23.6$ yr.) and 42 women ($M = 22.8$ yr.), international students enrolled in ten regions of the United States. A large number of the participants ($n = 82$) in this study were undergraduate students. Asian students ($n = 56$) from China, India, Japan, Korea, and Taiwan accounted for 43.75%, students ($n = 34$) from Latin American countries accounted for 26.56%, 17.19% of students ($n = 22$) were from the Middle East, and the remaining 12.50% of students ($n = 16$) who participated in this study were from Europe and Africa.

Distribution of academic majors of the participants included $n = 24$, 18.75% business and management; $n = 18$, 14.06% engineering; $n = 16$, 12.50% health professions; $n = 20$, 15.62% computer and information ser-

vices; $n = 12$, 9.37% physical sciences; $n = 11$, 8.59% education; $n = 9$, 7.03% social sciences; $n = 8$, 6.25% psychology; and $n = 10$, 7.82% miscellaneous. Most of these students ($n = 106$), 82.81%, indicated that they received most of their financial support from their families, friends, sponsors in the United States, or their native governments. A very large percentage of these students, 92.97%, learned English as a second language when in their native country before pursuing higher education in the United States. This sample was represented by international students from 27 different countries.

Procedure.—To procure a national sample, a list of all colleges and universities was prepared that enrolled a minimum of 300 international students. These colleges and universities were further classified under ten categories by using ten U.S. Department of Education Regional Offices as a guide. One director of an International Student Center from each region was randomly contacted by phone. Because two directors declined to participate in this study, two new directors were selected using the random order again.

Material.—Twenty copies of the final version of the Acculturative Stress Scale for International Students, with instructions and answer sheets, were mailed to each of the ten previously selected directors of the International Student Centers. These directors were asked to distribute this scale randomly to 20 international students at their respective institutions. The participating students were instructed to return the completed scale to the director of their International Student Center within five working days. Self-addressed and stamped envelopes were provided for the convenience of the directors of International Student Centers to facilitate the completion process. The directors of International Student Centers and international students participating in this study were encouraged to seek clarifications by telephone.

After a second follow-up request, a total of 136 (68%) copies were received. Since eight of these copies were not fully completed, the remaining 128 were used for statistical analyses.

Statistical procedure.—The procedures used to analyze the data included correlation and factor analyses. The method of principal components was applied to extract factors. The SPSS^X Release 3.0 for UNISYS large computers was used to perform all necessary computations. Bartlett's test of sphericity was used to test the hypothesis that the population correlation matrix was an identity matrix. The value of the test statistic for sphericity was 3698.84 with an associated significance level of $p < .00001$. Although this test was based on the assumption that data were sampled from a multivariate normal population, the value of the test statistic was large enough to overcome the lack of normality. Therefore, the hypothesis that the population correlation matrix was an identity was rejected.

The anti-image correlation (the negative of the partial correlation coefficient) supported the feasibility of using factor analysis. The over-all Kaiser-

Meyer-Olkin measure of sampling adequacy was quite large, 0.864, "meritorious," as defined by Kaiser (1974). In addition, all of the individual measures of sampling adequacy were larger than .76, suggesting a strong support for the application of factor analysis for these data. The factor analysis in this study was based on principal components and intercorrelations among all items. It was not based on prior clustering.

Results

The method of principal components extracted six factors accounting for 70.6% of the total explained variance. These factors with their eigenvalues, percentages of variance, and cumulative percentages are presented in Table 2.

TABLE 2
SUMMARY OF EXTRACTED PRINCIPAL FACTORS OF ACCULTURATIVE
STRESS SCALE FOR INTERNATIONAL STUDENTS

Factors	Eigenvalue	% Variance	Cumulative Variance
1. Perceived Discrimination	13.78	38.30	38.30
2. Homesickness	3.24	9.00	47.30
3. Perceived Hate	2.60	7.20	54.50
4. Fear	2.20	6.10	60.60
5. Stress Due to Change/Culture Shock	1.33	3.70	64.30
6. Guilt	1.16	3.20	67.50
7. Nonspecific	1.11	3.10	70.60

The results of factor analyses are clearly recognizable. Six principal factors and their representative items with their factor loadings and communalities are shown in Table 3.

TABLE 3
PRINCIPAL FACTORS AND REPRESENTATIVE ITEMS WITH
THEIR FACTOR LOADINGS AND COMMONALITIES

Factor Name and Item Content	Loading	b^2
1. Perceived Discrimination		
Many opportunities are denied to me.	0.78	0.70
I am treated differently in social situations.	0.60	0.58
Others are biased toward me.	0.80	0.74
I feel that I receive unequal treatment.	0.79	0.74
I am denied what I deserve.	0.64	0.80
I feel that my people are discriminated against.	0.74	0.59
I am treated differently because of my race.	0.68	0.77
I am treated differently because of my color.	0.70	0.77
2. Homesickness		
I feel sad leaving my relatives behind.	0.86	0.83
Homesickness bothers me.	0.79	0.84
I feel sad living in unfamiliar surroundings.	0.79	0.80

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TABLE 3 (CONT'D)
 PRINCIPAL FACTORS AND REPRESENTATIVE ITEMS WITH
 THEIR FACTOR LOADINGS AND COMMONALITIES

Factor Name and Item Content	Loading	h^2
I miss the people and country of my origin.	0.69	0.73
3. Perceived Hate/Rejection		
People show hatred toward me nonverbally.	0.85	0.81
People show hatred toward me verbally.	0.91	0.84
People show hatred toward me through actions.	0.87	0.80
Others are sarcastic toward my cultural values.	0.67	0.57
Others don't appreciate my cultural values.	0.68	0.73
4. Fear		
I fear for my personal safety because of my different cultural background.	0.78	0.68
I generally keep a low profile due to fear.	0.77	0.81
I feel insecure here.	0.69	0.68
I frequently relocate for fear of others.	0.65	0.70
5. Culture Shock/Stress Due to Change		
I feel uncomfortable to adjust to new foods.	0.70	0.70
Multiple pressures are placed on me after migration.	0.61	0.77
I feel uncomfortable to adjust to new cultural values.	0.58	0.68
6. Guilt		
I feel guilty to leave my family and friends behind.	0.79	0.75
I feel guilty that I am living a different lifestyle here.	0.62	0.76

In Table 4, the varimax rotated factor matrix is presented. The item numbers listed in Table 4 are in concordance with full items of the scale as shown in Table 5. Items that contributed to the unexplained variance and did not fall under any one of these six factors are indicated by an asterisk (*).

All statements of the Acculturative Stress Scale for International Students in full are presented in random order in Table 5. The mean scores and standard deviations on each statement for male and female participants are also provided.

Scoring

The total scores range from 36 to 180 on this scale. Higher scores are indicative of greater acculturative stress perceived by the subjects. The scores on six subscales can be computed by adding the individual scores on the relative items. These items can be identified by the following numbers from Table 5:

1. Perceived Discrimination Items 3, 9, 11, 14, 17, 23, 26, 29.
2. Homesickness Items 1, 6, 21, 35.
3. Perceived Hate Items 4, 15, 20, 24, 33.
4. Fear Items 7, 18, 27, 31.
5. Stress Due to Change/Culture Shock Items 2, 13, 22.
6. Guilt 10, 34.
7. Miscellaneous 5, 8, 12, 16, 19, 25, 28, 30, 32, 36.*

TABLE 4
VARIMAX ROTATED FACTOR MATRIX

Item	Factor					
	1	2	3	4	5	6
9	0.80			0.16	0.11	0.20
14	0.79	0.11	0.19	0.15		0.17
11	0.79			0.24	0.15	
23	0.74	0.15				
29	0.70	0.32	0.37			
26	0.68	0.29	0.47	0.17		
17	0.64	-0.10		0.23	-0.39	-0.39
3	0.60	0.19	0.22	0.26		0.21
25	0.59	0.36	0.34	0.29	0.20	
30	0.57	0.16	0.18		0.38	
12	0.49	0.48	0.16	0.26	0.10	
35	0.11	0.86		0.18	0.14	
1		0.79	0.15		0.39	
6	0.15	0.79	0.15	0.20	0.11	0.17
21	0.32	0.69		0.24		
36	0.40	0.43	0.24	0.36	0.14	
33			0.91			
24	0.11		0.87	0.14		
15	0.13	0.14	0.85	0.22		
20	0.41		0.68		0.21	
4	0.22	0.13	0.67		0.17	0.14
7	0.22	0.13		0.78		
31		0.10		0.77		0.42
27	0.26	0.14	0.17	0.69	0.21	0.19
18	0.34	0.22	0.29	0.65		
28	0.28	0.42	0.19	0.53	0.22	0.17
32	0.38	0.32	0.24	0.45	0.22	0.17
16	0.22	0.12	0.41	0.44	0.13	
2		0.26	0.17	0.28	0.70	
13		0.51	0.20	0.23	0.61	
22	0.29	0.39	0.24		0.58	0.15
10	0.29			0.14	0.11	0.79
34		0.46		0.33	0.13	0.62
19		0.44		0.44	0.23	0.47
5	0.15		0.32	0.36		0.17
8	0.39	0.29		0.10	0.32	0.39

These items are important because they address the special concerns of international students; however, they do not fall under one particular factor.

DISCUSSION

Since Factor One, Perceived Discrimination, captured the highest percentage of total variation (38.3%), we can conclude that perceived discrimination and alienation are of the most concern. These findings are consistent

TABLE 5
ITEMS IN ACCULTURATIVE STRESS SCALE FOR INTERNATIONAL STUDENTS WITH
SEPARATE MEANS AND STANDARD DEVIATIONS FOR MEN AND WOMEN

Item No. and Content	Men, <i>n</i> = 86		Women, <i>n</i> = 42	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1. Homesickness bothers me.	.2	.6	.3	.8
2. I feel uncomfortable to adjust to new foods.	.3	.7	.5	1.0
3. I am treated differently in social situations.	.9	1.3	.8	1.1
4. Others are sarcastic toward my cultural values.	1.4	1.3	1.5	1.4
5. I feel nervous to communicate in English.*	.2	.7	.2	.7
6. I feel sad living in unfamiliar surroundings.	.3	.6	.3	.8
7. I fear for my personal safety because of my different cultural background.	.9	1.0	1.0	1.3
8. I feel intimidated to participate in social activities.*	.2	.5	.4	1.0
9. Others are biased toward me.	.8	1.0	.8	1.0
10. I feel guilty to leave my family and friends behind.	.3	.7	1.4	1.4
11. Many opportunities are denied to me.	1.0	1.1	.9	1.1
12. I feel angry that my people are considered inferior here.*	.4	.7	.5	.9
13. Multiple pressures are placed upon me after migration.	.3	.8	.4	.9
14. I feel that I receive unequal treatment.	.4	.9	.9	1.2
15. People show hatred toward me nonverbally.	1.5	1.1	1.6	1.3
16. It hurts when people don't understand my cultural values.*	.9	1.1	1.1	1.3
17. I am denied what I deserve.	.9	1.2	.9	1.1
18. I frequently relocate for fear of others.	1.8	1.5	.2	.5
19. I feel low because of my cultural background.*	.2	.7	.1	.5
20. Others don't appreciate my cultural values.	1.2	1.3	1.5	1.4
21. I miss the people and country of my origin.	.7	1.0	.5	1.1
22. I feel uncomfortable to adjust to new cultural values.	.4	.7	.4	.8
23. I feel that my people are discriminated against.	.4	.8	2.0	1.4
24. People show hatred toward me through actions.	1.7	1.2	1.6	1.4
25. I feel that my status in this society is low due to my cultural background.*	.3	.6	.2	.6
26. I am treated differently because of my race.	.7	1.2	1.1	1.2
27. I feel insecure here.	.2	.7	.4	.9
28. I don't feel a sense of belonging (community) here.*	.4	1.0	.5	1.1
29. I am treated differently because of my color.	.7	1.2	1.0	1.2
30. I feel sad to consider my people's problems.*	.6	1.1	.6	1.0
31. I generally keep a low profile due to fear.	.1	.4	.3	.8
32. I feel some people don't associate with me because of my ethnicity.*	.8	1.1	.6	1.0
33. People show hatred toward me verbally.	1.7	1.2	1.8	1.3

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*Please note that these items contributed to unexplained variance and could not be grouped under any one specific factor.

TABLE 5 (CONT'D)
ITEMS IN ACCULTURATIVE STRESS SCALE FOR INTERNATIONAL STUDENTS WITH
SEPARATE MEANS AND STANDARD DEVIATIONS FOR MEN AND WOMEN

Item No. and Content	Men, <i>n</i> = 86		Women, <i>n</i> = 42	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
34. I feel guilty that I am living a different life-style here.	.4	.7	.1	.5
35. I feel sad leaving my relatives behind.	.2	.6	.4	1.0
36. I worry about my future for not being able to decide whether to stay here or to go back.*	.4	.7	.6	1.1

*Please note that these items contributed to unexplained variance and could not be grouped under any one specific factor.

with some previous writings. Bois's (1956) observations made about perceived discrimination almost four decades ago seem to hold true that "probably relatively few foreign students have had personal experiences with the cruder varieties of racial discrimination. More suffer from difficulties of strangeness . . . sensitive students may interpret social distance as racial discrimination" (p. 47).

Why do foreign students feel socially alienated? The answer to this question is twofold. First, the natural response of foreign students during the acculturative response is to seek out other conationals for primary support and not to make special efforts to reach out to Americans. On the other side, American students being complacent with their situation do not feel the need to go out of their way to socialize with the foreign students. Language and cultural differences create further social barriers. Unfortunately, both foreign and native students dwell on what Pedersen (1991) called "superficial pleasantries." The end result is a sense of alienation which is far more severe among foreign students than others (Schram & Lauver, 1988). Three major elements of alienation, feelings of powerlessness, meaninglessness, and social estrangement as defined by Burbach (1972), are characteristic of foreign students' perceived sense of alienation.

The second major factor was Homesickness which contributed 9.0% to the total variance. The loss of emotional and social support systems due to separation from significant others (Pedersen, 1991; Romero, 1981) and limited social contacts with the U.S. nationals (Bochner, Hutnik, & Furnham, 1985; Furnham & Alibhai, 1985) due to language and cultural barriers are apparently the major reasons for foreign students' loneliness. In addition to achieving their educational and personal goals, the foreign students feel obligated to hold on to their cultural roots (Siegel, 1991), a phenomenon that keeps on causing *homesickness*.

The third factor that contributed 7.2% to the total variance, Perceived Hate in this study seems to be unique in the counseling psychology literature on international students. Apparently foreign students are ultrasensitive and perceive rejection in the verbal and nonverbal communication and behaviors

of some U.S. peers. Some plausible explanations for this perceived rejection might include status loss (Alexander, *et al.*, 1981), low self-esteem due to deprivation of family support system (Pedersen, 1991), and cultural shock (Allen & Cole, 1987) which foreign students experience after migration.

On the other hand, underutilization of foreign students' knowledge and skills (Mestenhauser, 1983), negative attitudes, and lack of sensitivity to the different values of other cultures by some Americans (Lee, 1981) confirm the perceptions of the foreign students that they are not welcome. Two other points also need to be considered that contribute to foreign students' perceptions of rejection. First, foreign students have unrealistic expectations of receiving special considerations in the United States, a country known for its generosity and as a beacon of human rights. Second, national students preoccupied with their own concerns and friendships do not make special acquaintance with foreign students to help them.

The fourth factor, Fear, contributing 6.10% to the total variance, was also found but unusual in the literature addressing the special concerns of foreign students. This fear seems to be related to the sense of insecurity in unfamiliar surroundings, high rates of crime and violence in American society, racial discrimination, and sociopolitical realities of off and on hostile relations between some foreign students' native countries (Iran, Iraq, etc.) and the United States.

The fifth factor, Stress Due to Change or Culture Shock, contributing 3.20% of the variance in this study, is the most researched topic in the literature on foreign students (Alexander, *et al.*, 1981; Bochner, 1972; Mena, Padilla, & Maldonado, 1987). Naturally most stress is placed upon the international students after their migration to a strange land where "they experience differences in climate, food, social values, modes of behavior and verbal and nonverbal communications" (Dillard & Chisolm, 1983, p. 101).

The last factor, Guilt, which contributed 3.1% to the total variance, like the other two factors, Perceived Rejection and Fear discussed earlier, was also unique. Adjusting to a host culture meant betrayal of the native culture for many foreign students. Adopting values of the host culture was perceived as being not sincere to their own culture by these participants. The international students seemed to be in "double bind," caught between the old values of their native culture which they cherish and new values of the host culture which they must adopt or adapt to in order to succeed.

Items 5, 8, 12, 16, 19, 25, 28, 30, 32, and 36 in this scale address some additional concerns of foreign students. Although these items have not been empirically identified under any of the above-mentioned six factors, we consider them significant enough to be included in this scale to assess the acculturative stress of international students in a comprehensive manner.

Conclusion

This scale might be useful for practitioners to identify and assess the acculturative stress of foreign students and improvise special strategies to help them. The researchers could also use this scale to compare the experiences of acculturative stress of foreign students of various ethnic groups and use that information to assess the efficacy of counseling strategies. Since present findings are preliminary, replication studies to verify further validity and reliability should be undertaken.

Basically, there are two major contributions of this scale. First, this scale is designed to assess in a comprehensive manner the acculturative stress of foreign students which is uncommon in the related literature. Second, it quantifies this acculturative stress which could facilitate opportunities for more empirical research.

Finally, it must be pointed out that pleasant experiences of foreign students such as joy, stimulation, and accomplishments of personal and educational goals are not included on purpose. It is not that foreign students do not have such positive experiences, but that the major concerns of mental health practitioners are their "retention, academic success, and satisfaction with time spent in the United States" (Schram & Lauver, 1988, p. 146).

REFERENCES

- ALEXANDER, A. A., KLEIN, M. H., WORKNEH, F., & MILLER, M. H. (1981) Psychotherapy and the foreign student. In P. Pedersen, J. Draguns, W. Lonner, & J. Trimble (Eds.), *Counseling across cultures*. (2nd ed.) Honolulu, HI: Univer. of Hawaii Press. Pp. 227-243.
- ALLEN, F. C. L., & COLE, J. B. (1987) Foreign student syndrome: fact or fable? *Journal of American College Health*, 35, 182-186.
- ALTBACH, P. G., KELLY, D. H., & LULAT, Y. G. M. (1985) *Research on foreign students and international study: an overview and bibliography*. New York: Praeger.
- ALTBACH, P. G., & WANG, J. (1989) *Foreign students and international study: bibliography and analysis, 1984-1989*. Lanham, MD: Univer. Press of America.
- ANDERSON, T. R., & MYER, T. E. (1985) Presenting problem, counselor contacts, and "no shows": international and American college students. *Journal of College Student Personnel*, 26, 500-503.
- BABIKER, F. E., COX, J. L., & MILLER, M. C. (1980) The measurement of cultural distance and its relationship to medical consultations, symptomatology and examination performance of overseas students at Edinburg University. *Social Psychiatry*, 15, 109-116.
- BERRY, J. W. (1984) Psychological adaptation of foreign students. In R. Samuda & A. Wolfgang (Eds.), *Intercultural counseling and assessment*. Toronto: Hogrefe. Pp. 235-248.
- BOCHNER, S. (1972) Problems in culture learning. In S. Bochner & P. Wicks (Eds.), *Overseas students in Australia*. Auburn: New South Wales Univer. Press.
- BOCHNER, S., HUTNIK, N., & FURNHAM, A. (1985) The friendship patterns of overseas and host students in an Oxford student residence. *Journal of Social Psychology*, 125, 689-694.
- BOIS, C. D. (1956) *Foreign students and higher education in the United States*. Washington, DC: American Council on Education.
- BURBACH, H. J. (1972) The development of a contextual measure of alienation. *Pacific Sociological Review*, 15, 225-234.
- CHURCH, A. T. (1982) Sojourner adjustment. *Psychological Bulletin*, 91, 540-572.
- DAY, R. C., & HAJJ, F. M. (1986) Delivering counseling services to international students: the experience of the American University of Beirut. *Journal of College Student Personnel*, 27, 353-357.

- DILLARD, J. M., & CHISOLM, G. B. (1983) Counseling the international student in a multicultural context. *Journal of College Student Personnel*, 24, 101-105.
- DILLON, T. W. (1993) "Copia rerum" confronting interlanguage with international students. *Journal of Business and Technical Communication*, 7, 246-255.
- FASHEH, M. (1984) Foreign students in the United States: an enriching experience or wasteful one? *Contemporary Educational Psychology*, 9, 313-320.
- FURNHAM, A., & ALIBHAI, N. (1985) The friendship networks of foreign students: a replication and extension of the functional model. *International Journal of Psychology*, 20, 709-722.
- HEIKINHEIMO, P. S., & SHUTE, J. C. M. (1986) The adaptation of foreign students: student views and institutional implications. *Journal of College Student Personnel*, 27, 399-406.
- JOHNSON, D. (1971) Problems of foreign students. *International Educational and Cultural Exchange*, 7, 61-68.
- KAISER, H. F. (1974) An index of factorial simplicity. *Psychometrika*, 39, 31-36.
- KLINEBERG, O., & HULL, W. F. (1979) *At a foreign university: an international study of adaptation and coping*. New York: Praeger.
- LEE, M. Y. (1981) *Needs of foreign students from developing nations at U.S. colleges and universities*. Washington, DC: National Association for Foreign Student Affairs.
- MANESE, J. E., SEDLACEK, W. E., & LEONG, F. T. L. (1988) Needs and perceptions of female and male international undergraduate students. *Journal of Counseling and Development*, 6, 24-29.
- MENA, F., PADILLA, A., & MALDONADO, M. (1987) Acculturative stress and specific coping strategies among immigrant and later generation college students. *Hispanic Journal of Behavioral Sciences*, 9, 207-225.
- MESTENHAUSER, J. A. (1983) Learning from sojourners. In D. Landis & R. W. Brislin (Eds.), *Handbook of intercultural training*. Vol. 2. New York: Pergamon. Pp. 153-185.
- NADITCH, M. P., & MORRISSEY, R. F. (1976) Role stress, personality and psychopathology in a group of immigrant adolescents. *Journal of Abnormal Psychology*, 85, 113-118.
- OWIE, I. (1982) Social alienation among foreign students. *College Student Journal*, 16, 163-165.
- PADILLA, A. M., ALVAREZ, M., & LINDHOLM, K. J. (1986) Generational status and personality factors as predictors of stress in students. *Hispanic Journal of Behavioral Sciences*, 8, 275-288.
- PEDERSEN, P. B. (1988) *A handbook for developing multicultural awareness*. Alexandria, VA: American Association for Counseling and Development.
- PEDERSEN, P. B. (1991) Counseling international students. *The Counseling Psychologist*, 19(1), 10-58.
- ROMERO, M. (1981) Multicultural reality: the pain of growth. *The Personnel and Guidance Journal*, 59, 384-386.
- RUBIN, D. L. (1993) The other half of international teaching assistant training: classroom communication workshops for international students. *Innovative Higher Education*, 17, 183-193.
- SCHRAM, J. L., & LAUVER, P. J. (1988) Alienation in international students. *Journal of College Student Development*, 29, 146-150.
- SIEGEL, C. (1991) Counseling international students: a clinician's comments. *The Counseling Psychologist*, 19(1), 72-75.
- SPAULDING, S., & FLACK, M. (1976) *The world's students in the United States: a review and evaluation of research on foreign students*. New York: Praeger.
- SPRADLEY, J. P., & PHILLIPS, M. (1972) Culture and stress: a quantitative analysis. *American Anthropologist*, 74, 518-529.
- THOMAS, K. A., & ALTHEN, G. (1989) Counseling foreign students. In P. Pedersen, J. Draguns, W. Lonner, & J. Trimble (Eds.), *Counseling across cultures*. (3rd ed.) Honolulu, HI: University of Hawaii Press. Pp. 205-241.
- VEGA, W. A., KOLODY, B., & VALLE, J. R. (1988) Migration and mental health: an empirical test of depression risk factors among immigrant Mexican women. *International Migration Review*, 21, 512-528.
- WALTON, B. J. (1971) Research on foreign graduate students. *International Educational and Cultural Exchange*, 6, 17-29.

WARD, L. (1967) Some observations on the underlying dynamics of conflict in a foreign student. *Journal of the American College Health Association*, 10, 430-440.

ZIKOPOULOS, M. (Ed.) (1991) *Open doors: 1990-91 report on international educational exchange*. New York: Institute of International Education.

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