CULTURAL DISTANCE AND DISTRESS: UNDERSTANDING THE INTERNATIONAL GRADUATE STUDENT EXPERIENCE

by

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ABSTRACT

International students are increasingly integrated into diverse college cultural landscapes across the United States. Insofar as the cultural distance between the United States and home cultures predicts the adjustment outcomes of international students, and distress is a manifestation of negative adjustment, the present study examines five cultural dimensions proposed by Hofstede – Power Distance, Uncertainty Avoidance, Individualism, Masculinity, and Long-term Orientation – in relation to graduate students' self-reported distress, which is measured with the Center for Epidemiologic Studies Depression (CES-D) Scale and an original Stressful Events Scale. Data was collected from American and international graduate students using a self-administered survey questionnaire. Statistical analyses indicate that cultural dimensions and distress are differentiated at all categorical levels and correlations exist between cultural dimensions and distress for sub-samples stratified by sex, academic discipline, and international student origin. Specifically, Power Distance, English fluency, and student origin are found to differentiate CES-D and Stressful Events significantly.

INTRODUCTION

According to the Open Doors 2006 data published by the Institute of International Education (IIE) released in November 2006, in the 2005/2006 academic year, there were a total of 564,766 international students enrolled in courses at institutions of higher education in the United States who were not U.S. citizens, immigrants (permanent residents) or refugees, making up 3.9 percent of all university and college enrollment in the United States. Included in the total number were 142,923 students who enrolled for the first time in Fall 2005. At 58 percent of total international student enrollment, Asia continued to be the largest sending region. The Open Doors 2006 report also indicated that the most popular fields of study for international students were Business and Management (18 percent of total), Engineering (16 percent), and Physical and Life Sciences (9 percent), followed closely by Social Sciences (8 percent) and Mathematics and Computer Sciences (8 percent). Of all international students in the United States, 54.6 percent were males and 45.4 percent were females, and 30.6 percent were enrolled in Bachelor's programs and 46.0 percent in graduate or professional programs (International Institute of Education 2006).

Across the United States, international students are integrated into diverse college cultural landscapes. With a contribution of US$13.5 billion and with 68 percent of all funding coming from sources outside of the United States (International Institute of Education 2006), international students represent a vital force in the United States economy, as they are in other major receiving countries of student sojourners such as Britain (Furnham 2004). Having been exposed to American values and familiarized with its social, political, and cultural systems during their sojourn, and endowed with the technological ability to keep abreast of developments

and maintain contact with networks in their countries of origin, international students inevitably play key roles in fostering bilateral relationships between their home countries and the United States as they proceed to join the labor force. They are symbolic of an internationally-oriented generation, characterized and motivated by curiosity and possessing a strong demand for educational and professional mobility.

Beneath these idealistic impressions however, the challenges of relocating to the United States are significant for international students. The university years are among the most influential, rewarding, and exciting periods in a young person's life. In order to function well socially and academically, a student must quickly adapt to college cultures and workloads, create and navigate new friendship and professional networks, and learn to manage the newfound autonomy in their personal lives. This process is doubly-fraught for international students, who must also negotiate the new lifestyles, social norms, professional expectations, and perhaps even foreign climatic and geographic conditions and the language of a different culture.

Typically, cultural patterns exist in the defense mechanisms used by international students to combat the culture shock they experience during their sojourn. Cultural distance – a variable of adjustment situated at various categorical levels – assumes that the more culturally distant or different a host culture is from a person's own, the more difficult it is for him or her to adjust (Church 1982). The process of international student adjustment has been widely documented and studied in social science research over the years and cultural distance as a determinant of international student adjustment is implicit in many studies. Simplistically, it is conceptualized as a deviation of the collective culture of international students from the host culture, and alternately operationalized by studying students from a specific country of origin in a specific host country, or by aggregating international students in a given location and

comparing them to the host population. More advanced studies have attempted to group students into countries or regions, delineate individual national or aggregated regional cultures, then draw comparisons with the host culture as the point of reference.

The present study is informed by a framework of cultural dimensions proposed by Hofstede (2001). By identifying universal problems that societies face, Hofstede developed five national-level cultural dimensions, as follows: Power Distance, Uncertainty Avoidance, Individualism, Masculinity, and Long-term Orientation. Each dimension is independent and national cultures may be assigned indices on each of them, which allows for a comparative examination of cultural dimensions across countries. It follows that cultural distance may be tested quantitatively using this framework.

Building on empirical research which has shown international students globally to be at high risk of distress and mental health problems, with lower tendencies to seek professional medical help, this study examines self-reported distress as an outcome of international student adjustment. The instruments used to achieve this are the Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff 1977) and an original nine-item Stressful Events Scale.

Insofar as cultural distance predicts the adjustment outcomes of international students, and depression is a manifestation of distress and negative adjustment, the primary goal of this study is to utilize cultural dimensions in work values to explore in greater detail the effects of cultural distance between United States and home cultures on international students' self-reported distress. Data for this study was collected from 72 American and international graduate students in three academic departments in a large Northeastern university during Fall 2006, using a self-administered survey questionnaire. It is hypothesized that graduate students' scores on the cultural dimensions will vary by academic discipline and gender (Hypothesis 1a) and

international students will differ from American students on the five cultural dimensions (Hypothesis 1b). Graduate students' self-reported distress is stratified by academic discipline and sex (Hypothesis 2a) and as a result of the demands on international students of adjusting to a new environment, graduate students' self-reported distress is also differentiated by international status and student origin (Hypothesis 2b). Finally, cultural dimensions are associated with distress for graduate students of different academic disciplines and both sexes (Hypothesis 3a) and for graduate students of different student origins (Hypothesis 3b). In other words, the strongest association between cultural dimensions and distress for international students will occur for the dimensions that most differentiate international student from students from the United States.

Just as few occurrences and relationships in the social world are constant, international student adjustment is a fluid process whose outcome is contingent on a multitude of temporal and background factors. The goal of this study is to obtain a simple cross-sectional snapshot of its pathway. By theoretically and systematically indexing cultural dimensions, it hopes to establish culture as an accessible independent variable. Considering cultural dimensions alongside a prevalent measure of distress, this study further aims to reinforce the relevance of culture to sojourner adjustment.

RESEARCH LITERATURE

Cultural Distance

Cultural novelty (Black, Mendenhall and Oddou 1991) is used to describe how some cultures are more difficult to adapt to than others, a background variable in international adjustment. The term has its roots in Church's (1982) concept of *cultural distance*, which implies

that the more culturally distant or different a host culture is from a person's own, the more difficult it would be for the person to adjust to it. In their discussion of this phenomenon, Mendenhall and Oddou (1985) highlighted earlier studies of American expatriates who experienced high levels of dissatisfaction in the areas of job satisfaction, stress and pressure levels, health care, housing standards, entertainment, food and the skills of co-workers during their overseas assignment. At the same time, since greater cultural barriers were reported specifically in Southeast Asia, Japan, Africa and the Middle East than any other areas in the world, Mendenhall and Oddou (1985) suggested that the extent of successful adjustment by expatriates partly hinges on the country of assignment. The authors referred to this phenomenon as *cultural toughness* (Mendenhall and Oddou 1985).

A large body of literature on cultural distance is found in studies of the adjustment difficulties of American professional expatriates (Mendenhall and Oddou 1985; Janssens 1995; Shaffer, Harrison and Gilley 1999) and the difficulties of their subsequent repatriation (Harvey 1989; Black, Gregersen and Mendenhall 1992), with a few variations on the theme. In a longitudinal study to examine domestic relocation adjustment involving United States Air Force personnel, Fisher and Shaw (1994) found that post-move experiences, including role ambiguity, degree of advancement and community and job satisfaction, were more significant than pre-move expectations in predicting attitudes and adjustment difficulties. Since post-move experiences are determined by cultural distance, it is thus implied that cultural distance is similarly significant in predicting adjustment difficulties. In separate studies on international adjustment by expatriates, Janssens (1995) and Shaffer et al. (1999) predicted that cultural distance is negatively related to intercultural interaction and adjustment. On the basis of this hypothesis, Janssens (1995) noted that, among a sample of 162 expatriate managers from five

multinational companies with operations in Belgium, Europeans on foreign assignments in Europe had fewer problems in intercultural interaction than Europeans elsewhere in the world, suggesting an inverse relationship between cultural distance and adjustment. In Shaffer et al.'s (1999) study of 452 expatriates in ten large American multinational companies in a variety of industrial sectors, the findings similarly supported the hypothesis.

The concept of cultural distance and its role as a predictor of adjustment is also implicit in the design and supported by the findings of many studies of international students (Babiker, Cox, and Miller 1980; Constantine, Okazaki, and Utsey 2004; Dadfar and Friedlander 1982; Furnham and Bocher 1982; Hechanova-Alampay, Beehr, Christiansen and Van Horn 2002; Kumar and Strandholm 2002; Sam 2001; Schram and Lauver 1988; Tsang 2001; Ward and Searle 1991; Wilton and Constantine 2003), since student sojourners are subjected to similar conditions and demands of adjustment as professional expatriates. It is intuitive that differences in cultural values and attitudes exist between domestic students and the international student population, but of great importance are studies that further discern and extrapolate the cultural distance between the host culture and international students from specific regions of origin, for they provide a more refined, nuanced understanding of the international student experience.

In a longitudinal study of domestic student sojourners (defined as American students who relocate to the university town or city for the purpose of obtaining higher education) and international student sojourners at Central Michigan University, Hechanova-Alampay et al. (2002) found that cultural distance between home and host environments was negatively related to adjustment and positively related to strain for both groups of students. However, international student sojourners were more likely to encounter greater and more distinct adjustment difficulties than domestic student sojourners upon entry into the host environment, validating the inverse

relationship between cultural distance and adjustment. Another study of international students in New Zealand yielded further support for a positive correlation between cultural distance and difficulties with sociocultural and psychological adjustment (Ward and Searle 1991).

Among international students, cultural distance remains a salient variable in predicting adjustment. Generally, non-Western (African and Asian) international students are perceived as more culturally distant from the United States (or other host countries) than Western (European and Latin American) international students. Therefore, they are more likely to deviate from normative behaviors and attitudes of the host countries, such as having less positive attitudes toward seeking professional psychological help (Dadfar and Friedlander 1982). Stratified by regional categories, Schram and Lauver (1988) found that non-European international students were most at risk of alienation and noted specifically that Asian students scored highest in alienation, followed by students from Africa, Middle East and Near East, and Latin America, in descending order. Yet, in spite of, or perhaps because of, such precise delineations, research on the cultural distance among international students show considerable variations. Contrary to Schram and Lauver (1988), one study found that Latin American students reported more psychosocial distress than Asian students (Wilton and Constantine 2003) and another found that international students from Africa have significantly higher depression scores than students from Asia (Constantine et al. 2004). Among the possible explanations for these discrepancies are the time period during which and locations where these studies were conducted, factors which have bearings on the demographic characteristics of international student samples and thus their adjustment outcomes.

Studies based in Europe appear to be more congruous with each other, which further suggest the importance of the context of reception. Both the United States and the European

continent are amalgamations of diverse cultures, values, beliefs, and institutions, but the apparent consistency in the effects of cultural distance among specific international students in Europe and the disparities in like effects among international students in the United States point to the fact that European higher education and the general European culture present different challenges to international students than American higher education and the general American culture. At Edinburgh University in Scotland, Babiker et al. (1980) developed a scale of cultural distance and found that American and European students clustered around Britons, while African and Asian students had scores more deviated from the hypothetical score for Scottish culture. In a study at the University of Bergen in Norway, Sam (2001) found that African students reported lower satisfaction with life and that perceived discrimination is closely associated with satisfaction with life particularly for African and Asian students.

Various reasons have been suggested to account for the above-mentioned functions of cultural distance. Firstly, the underlying cultural basis of study constructs potentially skews study outcomes. For instance, students from more collectivistic, non-Western cultures may be less acceptable of seeking help outside the family, which may explain African and Asian students' less favorable attitudes toward professional psychological help (Dadfar and Friedlander 1982). Secondly, existing structures in universities magnify cultural distance to portray a strong effect which may be more social than cultural in orientation. For instance, the higher psychosocial distress reported by Latin American students may be due to fewer social support resources caused by their lower numbers on campus and their higher attrition rates (Wilton and Constantine 2003). Lastly, prejudice and discrimination embedded in societies where studies were conducted are predominantly racial, which render students from Africa and Asia disadvantaged (Sam 2001).

Cultural distance is inferred and investigated in Kumar and Strandholm's study (2002) of the effects of American business education on the ethical orientation of international students. The authors found that, over time, international students gradually acquire personal changes that reflect the values and beliefs of United States, which suggests that changes in the social and cultural environments, coupled with sustained education, lead to modifications in students' ethical beliefs to include values preferred and desired in the new environment. Since belief patterns across different cultures are "the result of complex transactions between individuals and their social environment", it follows that significant changes will correspondingly occur in individuals' value and belief systems during their education in the United States (Kumar and Strandholm 2002:346). These findings imply that cultural distance is flexible and may be moderated by processes of acculturation and adjustment.

What can be gathered from these studies, at the minimum, is that cultural distance exists between regions of origin, that they differ in magnitude and direction, and that they exert differential influence in aspects of international student adjustment.

Cultural Dimensions

The operationalization of the concept of cultural distance, while widespread, generally remains ambiguous and undefined. In order to clarify magnitudes and directions associated with cultural distance, Hofstede's influential *cultural dimensions* (2001) are a useful tool. Culture, according to Hofstede, is "the collective programming of the mind that distinguishes the members of one group or category of people from another" (2001:9) and it is "to a human collectivity what personality is to an individual" (2001:10). Following analysis of survey questionnaires administered between 1967 and 1973 to more than 116,000 employees of IBM in

72 countries, Hofstede established four primary independent dimensions on which national cultures may be delineated. A fifth dimension was added in the 1980s after a new cross-national study. Table 1 presents a matrix of key societal norms associated with high and low scores of each of Hofstede's cultural dimensions. These five dimensions, described as follows, correspond to fundamental social problems which all societies confront but resolve differently:

1) *Power Distance* (PDI). This dimension is associated with social inequality in all domains and is defined as "a measure of the interpersonal power or influence between a boss B and a subordinate S as perceived by the less powerful of the two, S" (2001:83). Power distance is implicitly endorsed by both the boss and subordinate, supported by their social environment, and to a certain degree determined by their national culture. Theoretically, culture keeps at equilibrium efforts by the powerful to maintain or increase power distances, and efforts by the less powerful to reduce them, thereby determining the overall level of power distance. The genesis of the power distance concept is that "all societies are unequal but some are more unequal than others" (2001:81).

2) *Uncertainty Avoidance* (UAI). This dimension is associated with uncertainty about the future and measures intolerance of ambiguity at the national level, including "tendencies toward prejudice, rigidity, and dogmatism, intolerance of different opinions, traditionalism, superstition, racism, and ethnocentrism" (2001:146). Generally, societies use religion, law, and technology to copy with uncertainty, and cultures differ in being absolute or relative in their philosophical outlook.

3) *Individualism* (IDV). This dimension juxtaposes the individual with the collective, not merely along practical arrangements in society but also including social norms and value systems. It measures the degree of integration of individuals into groups and carries

strong overtones of morality. Dependent on the unit of analysis, individualism and collectivism are not necessarily oppositional. Specifically, at the individual level, a person may concurrently display individualistic and collectivistic traits. At the societal level, "collective mental programs and institutions that are individualistically inspired exclude those that are collectivistically inspired" (2001:216). According to Hofstede, among the five dimensions, the individualism dimension has the strongest association with a country's level of economic development.

4) *Masculinity* (MAS). This dimension deals with the implications of biological differences between sexes on the emotional and social roles of genders, and it is concerned with the division and distribution of roles. Specifically, femininity and masculinity refer to "the dominant gender role patterns: the patterns of male assertiveness and female nurturance" (2001:284). There is generally less differentiation among women's values across societies than men's values. In short, the masculinity dimension measures the gap between men's values and women's values in a given society.

5) *Long-term Orientation* (LTO). The values associated with both poles of this dimension are based in teachings of Confucius, and its inclusion is an attempt to compensate for the inherent Western orientation of the IBM instrument leading to the previous four dimensions. Long-term orientation refers to "the fostering of virtues oriented towards future rewards, in particular, perseverance and thrift" and short-term orientation refers to "the fostering of virtues related to the past and present, in particular, respect for tradition, preservation of 'face' and fulfilling social obligations" (2001:359). The long-term orientation dimension was derived from a separate survey of student samples from 23 countries, designed and conducted in Hong Kong, titled the Chinese Value Survey (CVS).

In most societies, teacher-and-student is an archetypal role pair (Hofstede 1986) accompanied by its own norms and expectations. When this role pair operates in an intercultural context, problems may arise due to differences between the teacher's and student's cultures in the social positions of teachers and students, the relevance of the curriculum, the profiles of cognitive abilities of respective populations, and the expected patterns of teacher/student and student/teacher interactions (Hofstede 1986). The cultural dimensions discussed above achieve even greater clarity when considered in this light. For an outline of teacher-student relationships in association with cultural dimensions, refer to Table 2.

The Values Survey Module 1994 (VSM94) is the latest instrument derived from the original IBM questionnaire. Testament to the popularity and recognition of Hofstede's cultural dimensions as a framework to understand national cultures, various versions of the Values Survey Module have been widely used in cross-national research of value orientations, specifically in organizational and intercultural studies (Merkin 2005; Nasierowski and Mikula 1998; Randall 1993; Shackleton and Ali 1990).

However, the model of cultural dimensions proposed by Hofstede has not been without its critics. A handful of recent studies which attempted to test Hofstede's cultural dimensions either saw poor internal consistencies and construct validity (Spector, Cooper, and Sparks 2001) or little correspondence between Hofstede's indices and authors' findings (Bearden, Money, and Nevins 2006). Smith (2002), for instance, pointed to the inherent contradiction between working to characterize cultures and the reluctance to relate individual behaviors to them, a bottom line clearly articulated by Hofstede in his rhetoric. He then questioned the predictive validity of country scores twenty years later, even if they had been valid at the point they were collected. Baskerville (2003) questioned Hofstede's ambiguous units of analysis and his equation of nation

states to cultures, entities which she contended are not congruous, even according to simple numerical classifications (she cited the differentiated number of cultures and countries in similar geographical regions in the Encyclopedia of World Cultures as evidence). The "plausibility of systematically causal national cultures" was discussed by McSweeney (2002:109), who suggested that social actions may be caused by non-national cultures or even non-cultural factors and not only by national cultures as laid out by Hofstede. The concept of nations is also unstable and changeable and McSweeney (2002) gave the examples of the disintegration of the former Yugoslavia and the political integration of Hong Kong into the People's Republic of China.

While these criticisms are mostly valid, they must not detract from the fact that national-level social norms exist and shape major institutions and legislations in every society. In turn, institutions and legislations impart preferential values and attitudes to individuals through such mechanisms as education, participation in civic life, and social control. The outcome – though not the end product, for individuals do return to feed the entities which mold them – is a cohesive system of beliefs shared by the majority. This process is not strictly linear and much interaction and negotiation occur in its midst. Yet, insofar as individuals respect state demarcations and their associated value connotations (which can be discerned through self-reported personal values), national cultures may be said to exist. Methodological inadequacies of Hofstede's original study must not be construed as ideological inadequacies of his constructs. The purpose of delineating cultural dimensions is not to dismiss the influence of other factors on individual decisions and behavior, but rather to examine one particular source of them – cultural values coalesced at the national level – and present a simplified, organized model of social norms which is useful in yielding a better understanding of intercultural interactions.

Table 1. Societal Norms Associated with Cultural Dimensions

	Low	High
Power Distance (PDI)	• All are interdependent • Inequality should be minimized • Superiors and subordinates view each other like themselves • All have equal rights • Stress on reward and legitimate, expert power • Change social system by redistributing power • Latent harmony between powerful and less powerful	• Most should be dependent • Order of inequality upheld • Superiors and subordinates view each other as different • Power holder have privileges • Stress on coercive and referent power • Change social system by removing those in power • Latent conflict between powerful and less powerful
Uncertainty Avoidance (UAI)	• Uncertainty accepted and each day taken as it comes • Low stress and anxiety • Suppression of emotions • Open to change and innovation • Tolerant of diversity • Comfortable with ambiguity and chaos • Self-belief in influencing one's life, superiors, and the world	• Uncertainty is threatening and must be fought • High stress and anxiety • Expression of emotions • Conservative • Xenophobic • Need for clarity and structure • Powerlessness against external forces
Individualism (IDV)	• Families or clans protect people in exchange for loyalty • "We" • Collective orientation • Identity based in social system • "Shame" cultures • Emphasis on belonging and membership • Guided by survival	• Individuals protect themselves and their immediate families • "I" • Self-orientation • Identity based in the individual • "Guilt" cultures • Emphasis on individual initiative and achievement • Guided by hedonism
Masculinity (MAS)	• Relationship orientation • Quality of life and people are important • Stress on "who you are" • Work in order to live • Minimum emotional and role differentiation between genders • Sympathy for the weak	• Ego orientation • Money and material things are important • Stress on "what you do" • Live in order to work • Maximum emotional role differentiation between genders • Sympathy for the strong
Long-term Orientation (LTO)	• Immediate gratification expected • Family life guided by imperatives • Short-term values such as social consumption are espoused • Analytic thinking	• Delayed gratification accepted • Family life guided by shared tasks • Long-term values such as perseverance are espoused • Synthetic thinking

Source: Hofstede 2001

Table 2. Teacher-Student Relationships Associated with Cultural Dimensions

	Low	High
Power Distance (PDI)	• Teacher should respect independence of students • Student-centered education (premium on initiative) • Students may speak up spontaneously in class • Students allowed to contradict or criticize teachers • Effectiveness of learning related to communication in class • Teachers expect students to find their own paths	• Teacher merits respect of students • Teacher-centered education (premium on order) • Students speak up in class when invited by teacher • Teacher is never contradicted nor publicly criticized • Effectiveness of learning related to excellence of teacher • Students expect teachers to outline paths to follow
Uncertainty Avoidance (UAI)	• Students feel comfortable with unstructured learning: broad assignments, no timetables • Students are rewarded for innovative problem solving • Teachers may say "I don't know" • Teachers see intellectual disagreement as stimulating • Teachers and students expected to suppress emotions	• Students feel comfortable with structured learning: detailed assignments, precise timetables • Students are rewarded for accuracy in problem solving • Teachers expected to have all the answers • Teachers see intellectual disagreement as disloyalty • Teachers and students allowed to behave emotionally
Individualism (IDV)	• Students expect to learn how to do • Students tend to speak up in small groups • Neither the teacher nor student should be made to lose face • Education is a way of gaining prestige and higher status • Acquiring diplomas more important than competence	• Students expect to learn how to learn • Students will speak up in large groups • Face-consciousness is weak • Education improves one's economic worth and self-respect • Acquiring competence is more important than diplomas
Masculinity (MAS)	• Teacher use average student as norm • System rewards students' social adaptation • Students admire friendliness in teachers • Students try to behave modestly • Students practice mutual solidarity	• Teachers use best student as norm • System rewards students' academic performance • Students admire brilliance in teachers • Students try to be visible • Students compete with each other

Source: Hofstede 1986

International Students in the United States

International students have been a subject of social science research in the United States and around the world for a long time (Furnham 1997; Furnham 2004; Furnham and Bochner 1982). Interest in this population has been growing due to increasing student mobility and student diversity, and the growing realization by faculty and college administrators of issues that student sojourners confront (Furnham 1997; Wilton and Constantine 2003). Furthermore, recent major occurrences such as the 2001 terrorist attacks in the United States, where some attackers entered the country on student visas, inspired a slew of new immigration laws and regulations for international students and introduced a general wariness of student sojourners. These developments had undoubtedly influenced the international student experience.

International students are a heterogeneous population of different races, ethnicities, linguistic backgrounds, and religious and political affiliations (Schmitt, Spears and Branscombe 2002; Spencer-Rodgers 2001). Existing literature on student sojourners typically revolves around adjustment, taking as indicators psychological issues, attitudes, perceptions, and academic performances.

Culture shock is a widely-known concept frequently and appropriately used to explore the international student experience (Furnham 1997; Furnham 2004; Furnham and Bocher 1982), and an attributable cause of psychological, social, and cultural adjustment difficulties. Its basic premise is that, "when a change in residence takes place from one socio-cultural system to another, those skills which enabled participation in the former system are, to varying degrees, inadequate in the new cultural system" (Spradley and Phillips 1972:520). Central to the concept is the notion of unexpectedness, which implies that an intercultural experience is not only new but also surprising (Furnham 1997). Even though technology and globalization have enabled

individuals to learn about new cultures without leaving his or her own, the stressors that accompany a prolonged physical relocation to an environment with a distinctive new culture remain relevant and real.

Definitions of culture shock are varied and at times ambiguous. Furnham and Bochner (1982:167) defined it as "distress experienced by the sojourner as a result of losing all the familiar signs and symbols of social interaction", guided by three conditions: (a) cultural differences, (b) individual differences, and (c) sojourn experience. At the macro level, differences between the sojourner culture and the host culture may affect the quality, quantity, and duration of social difficulties. At the personal level, demographic and personality differences between the sojourner and host nationals may impede adjustment. Finally, as sojourn experiences are highly individualized, sojourners who receive guidance and sympathy from host nationals from the onset of adjustment are likely to face fewer problems and fare better throughout their sojourn. The same pattern is true for sojourners who conduct themselves favorably compared to those who do so less, relative to the expectations and norms of the host culture.

More precisely, culture shock can be perceived as "a temporary stress reaction where salient psychological and physical rewards are generally uncertain, and hence difficult to control or predict", causing a person to be "anxious, confused, and apparently apathetic until he or she has had time to develop a new set of cognitive constructs to understand and enact the appropriate behavior" (Furnham 1997:15). This definition suggests a state of flux and constant negotiation on the part of the sojourner but fails to take into account the fact that adjustment is a two-way process. It neglects the parallel possibility that an environment with a significant international student presence may culturally adapt itself over time and be more accepting of cultural plurality, thereby posing fewer demands on newcomers to adjust to any one dominant culture. New York

City, with its diverse resident population and the largest congregation of international students in any metropolitan area in the United States (International Institute of Education 2006), is often cited anecdotally as an example of this phenomenon.

In essence, culture shock combines the component of intercultural experience with an element of adaptive reaction to portray international student adjustment. This theoretical formulation implies that, contrary to common perceptions and prevailing literature, culture shock is not necessarily negative all the time (Furnham 1997). Individuals who deliberately seek out unfamiliar situations may find intercultural experiences stimulating and invigorating. Adaptable and well-traveled individuals may be protected against the purported adverse effects of adjustment and could benefit socially and psychologically by incorporating new values into their repertoire. Even individuals who experience minimal, early culture shock may find that it leads to personal growth (Furnham 1997).

In addition to culture shock, host nationals' *perceptions of international students*, as well as international students' perceived discrimination, have a direct impact on their reception and adjustment (Perrucci and Hu 1995; Sam 2001; Schmitt et. al 2002; Spencer-Rodgers 2001; Surdam and Collins 1984). Positive or negative stereotypes affect student sojourners at both instrumental and psychological levels, determining the attention and services they receive, their self-evaluation, and their overall sense of well-being. In a study about stereotypic beliefs of international students, Spencer-Rodgers (2001) found that international students are frequently stereotyped by their American peers, university faculty, college administrators and members of the general community. International students in the United States may also be viewed as "handicapped, deficient or bewildered" (Spencer-Rodgers 2001:640) and as lacking English language ability, academic and teaching preparation, and familiarity with the American

education system. Furthermore, language and cultural barriers between student sojourners and native students lead to interaction difficulties and the perception that international students are socially inhibited, withdrawn, and insular. Finally, because international students compete for scarce and desirable educational and financial resources, they may be seen as competitors or outsiders who are illegitimately displacing American students (Spencer-Rodgers 2001). Such themes of stereotyping were similarly addressed in Chen's (2002) study of American undergraduate students' perceptions of intercultural interaction with international students, where the American students perceived intercultural interactions to give rise to higher uncertainty, higher anxiety, and lower quality of communication, particularly in initial encounters.

Sometimes, established and well-connected, perhaps even well-to-do, international students may find themselves become a "nobody" upon their arrival in the United States (Huang 1977). Reduced to a statistic and a function of stereotypes, and devoid of the attention and comforts they are used to, these students are likely to experience negative adjustment. This is especially true for older students and those who leave secure jobs, steady income, and spouses and children behind in home countries to pursue higher education in the United States, as the stakes to "do good" are paramount.

Other indicators and predictors of international student adjustment into the United States include *English language proficiency and academic performance* (Constantine, Okazaki and Utsey 2004; Fletcher and Stren 1989; Heggins and Jackson 2003; Perrucci and Hu 1995; Poyrazli 2003; Sam 2001; Surdam and Collins 1984; Ying 2003). In a large-scale longitudinal study of Taiwanese international student performance in the United States, Ying (2003) found that students with a better command of the English language as well as those who majored in engineering reported the highest GPAs. This finding was attributed to the fact that mastery of the

English language is essential to the successful completion of assignments and therefore salient for academic achievement. The field of engineering, being technical in nature, is least bounded by language and culture and thus accord students equal rates of success regardless of language or cultural backgrounds. English language proficiency is also significantly linked to international students' satisfaction with their social and educational experiences (Perrucci and Hu 1995), and difficulty with the English language "diminish(es) the overall experience of international students by undercutting satisfaction with their academic programs" (Fletcher and Stren 1989:306). This is especially true for graduate students who are teaching, graduate, or research assistants, as these appointments require considerable amounts of interpersonal contact where a good command of the English language is required. Finally, Constantine et al. (2004) and Poyrazli (2003) found support for a negative correlation between English language fluency and depression among international students since lower English language fluency was associated with higher levels of acculturative stress.

Despite their relevance, isolated predictors and outcomes such as perceptions, academic performance and English proficiency, as described above, offer limited insight into the pathway of international student adjustment. One area of research which fills the gap involves the *mental health of international students*. These studies are generally found within the domains of medicine or psychology, and sociological constructs of mental health variables such as depression are seldom attempted or employed. Not surprisingly, research generally found a high propensity for distress in international student populations around the world (Babiker, Cox, and Miller 1980; Cadieux and Wehrly 1986; Furnham 2004; Furnham and Trezise 1983; Huang 1977; Krämer, Prüfer- Krämer, Stock, and Tshiananga 2004; Mallinckrodt and Leong 1992; Wilton and Constantine 2003), which is consistent with findings from sociologically-oriented

studies of international student adjustment. For example, in a comparative study of international and domestic students at Edinburgh University, Babiker et al. (1980) found self-rated anxiety to be correlated with cultural distance. Similarly, Krämer et al. (2004) found that international students at University of Bielefeld were more likely than German students to self-report higher psychosocial stress.

Social support is critical in buffering stress for international students (Furnham 1997, Mallinckrodt and Leong 1992; Sam 2001; Tsang 2001; Ward and Searle 1991). In a study of international students in New Zealand, Ward and Searle (1991) found psychological well-being to be associated with indicators of social support, such as loneliness. Similarly, in a study of international graduate students in a large Eastern university, family support and graduate program support were shown to be negatively correlated with stress symptoms (Mallinckrodt and Leong 1992).

One component of social support – social contact and interaction between international students and natives or domestic students – is a significant mediator of stress and thus particularly noteworthy. Research has shown that the quantity and quality of such interaction is associated with international student distress (Fletcher and Stren 1989; Furnham and Bochner 1982; Tseng and Newton 2000; Sam 2001; Schram and Lauver 1988; Surdam and Collins 1984; Tsang 2001; Hechanova-Alampay et al. 2002; Ying 2003; Constantine et al. 2004). Successful and sustained interactions with natives or domestic students will provide international students with cues concerning appropriate behavior in the new environment, facilitate their entry into and engagement with American culture, and enable them to cultivate favorable attitudes towards aspects of American life. As a result, international students are likely to feel less alienated, more well-adjusted and the overall quality of the international experience is enhanced.

Medical services (including counseling services) provided in universities tend to be culturally Western-oriented (Cadieux and Wehrly 1986; Wilton and Constantine 2003). Given the diversity on university campuses, it is no surprise then that in times of distress or need, international students display *differential patterns of seeking help*, both among themselves and compared to their American counterparts (Cadieux and Wehrly 1986; Constantine, Okazaki, and Utsey 2004; Dadfar and Friedlander 1982, Leong and Sedlacek 1986; Wilton and Constantine 2003). In a study at a large Midwestern university, Dadfar and Friedlander (1982) found that Western international students (European and Latin) had more positive attitudes toward seeking professional psychological help than non-Western international students (African and Asian), and the length of time students spent in the United States was not correlated to attitudes. This implies that students' cultural orientations have a stronger influence on their attitudes about help than the influence adjustment can likely exert.

In the event that help is sought, international students also prefer different sources of help than American students. Leong and Sedlacek (1986) found that international students are more likely to turn to faculty members and counselors, and less likely to turn to friends, than American students. The authors attributed the international student preference for formal sources of help to their lack of an accessible social support system, unlike most American students who retain their social and personal networks even as they move through college, particularly if they attend the same university as high-school classmates.

Along a similar vein, Harlu and Valz (2003) found at a Southeastern college that international and domestic students viewed community resources differently. Specifically, international students had lower ratings of such resources as exercise facilities, restaurants, and health-promotion efforts. Insofar as individual perceptions of the availability and quality of

community resources are determinants of health-seeking behaviors, these findings may be associated with the preference and frequency with which international students utilize community resources and, by extension, medical and counseling services.

METHOD

Procedure

In Fall 2006, 350 paper surveys were distributed to all graduate students from three academic departments in a large northeastern university – two from the humanities and the third from the applied sciences. A recruitment letter was first sent to respective Chairpersons and permission obtained before the survey is conducted. Then, an email introduction of the survey was sent to all graduate students in the three departments through departmental graduate email lists. Subsequently, survey packets were distributed to student mailboxes and collection receptacles were installed in each department for ease of survey return. The investigator also introduced the study in-person to potential participants in randomly-selected graduate classes in the participating departments.

Demographic information of participants was collected on a separate sheet, and then given a code that corresponds to the survey questionnaire. Demographic sheets, survey questionnaires, and informed consent documents were stored apart to ensure confidentiality.

Participants

A total of 77 graduate students participated in the survey, of which 72 completed the questionnaire, yielding a response rate of 22 percent. Of the total sample, which was

predominantly male (75 percent, N=55), 67 percent (N=52) of participants were from the Applied Sciences and 33 percent (N=25) from the Humanities. Based on available data, about 32 percent (N=23) were American students and 68 percent (N=49) were international students. The average student from the Humanities was older (Mean=30.0, SD=7.79) than the average student in the Applied Sciences (Mean=24.0, SD=2.82) and the average American student in the sample was older (Mean=28.1, SD=8.31) than the average international student (Mean=25.4, SD=4.49). The mean length of time spent in the United States by international students was 20.8 months.

When broken down more precisely by the respondents' country or continent of origin (self-reported current nationality), the international students were primarily from Asia (44 percent of total sample), followed by Europe (14 percent of total sample). In terms of self-assessed English fluency, students from Asia generally reported being less fluent (Mean=1.71, SD=0.68) than students from Europe (Mean=1.45, SD=0.82). International students in the Applied Sciences also reported less English fluency (Mean=1.70, SD=0.70) than international students from the Humanities (Mean=1.41, SD=0.67).

Measures

The survey questionnaire (Appendix A) involved the following measures.

Cultural distance. The Values Survey Module 1994 (VSM94) (Hofstede 2001; Hofstede n.d.) is a 20-item instrument that measures cultural values in five dimensions – Power Distance, Uncertainty Avoidance, Individualism, Masculinity, and Long-term Orientation – designed especially for replication of the original IBM survey. Four questions are required to calculate each dimension score and higher scores indicate stronger effects of the named dimension. The questions were selected because country mean scores on the four questions belonging to the

same dimension were strongly correlated when matched samples from different countries were compared (Hofstede n.d.). The reliability of the dimension scores is tested through its proven validity and validity is shown through "correlations of test results with outside criteria related to the test scores by some kind of theory or logic" (Hofstede 2001:497). Because participants were graduate students, questions relating to the boss-subordinate relationship were adjusted to reflect the graduate student-academic advisor relationship, where necessary. Special care was taken to replicate the intended contexts of the original VSM94.

Distress. Distress is measured with two instruments – the Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff 1977) and an original Stressful Events Scale. The CES-D (Radloff 1977) is a 20-item, 4 point (0 = rarely or none of the time, 1 = some or a little of the time, 2 = occasionally or a moderate amount of time, 3 = most or all of the time), Likert scale that measures self-reported distress. The range of scores on the CES-D scale is 0 to 60, with higher scores indicating more frequent distress. The instrument has been found to have high internal consistency and test-retest correlation, as well as established validity through clinical and self-report criterion (Radloff 1977).

Stressful events are measured with a 9-item, 2-point (0 = no, 1 = yes) Stressful Events Scale. Participants are asked to indicate if they experienced in the past six months such stressful events as problems navigating the university system, conflicts with a faculty member, a fellow student, or a landlord, failing a course, personally becoming seriously ill or injured, having someone close to oneself become ill, injured, or died, having an important personal relationship break up, and financial problems. Scores range from 0 to 9, with higher scores indicating more stressful events experienced. The negativity of significant life events was found to be positively

correlated with depression scores (Radloff 1977). As such, the Stressful Events Scale serves to supplement the CES-D instrument.

Demographics. The demographic section includes questions about sex, age, current nationality, nationality at birth, English language fluency, highest educational degree earned, length of enrollment at UB, and length of stay in the United States.

RESULTS

Cultural Dimensions Index Values

Cultural dimension index values were computed for sub-samples by applying weighted formulas defined by Hofstede (2001; n.d.) to the sample means of responses on grouped items on the VSM94. The formulas are as follows, where mX refers to the mean of the sequential question which corresponds to the specific dimension being measured:

PDI = -35 (mPDI1) + 35 (mPDI2) + 25 (mPDI3) - 20 (mPDI4) - 20

UAI = 25 (mUAI1) + 20 (mUAI2) - 50 (mUAI3) - 15 (mUAI4) + 120

IDV = -50 (mIDV1) + 30 (mIDV2) + 20 (mIDV3) - 25 (mIDV4) + 130

MAS = 60 (mMAS1) - 20 (mMAS2) + 20 (mMAS3) - 70 (mMAS4) + 100

LTO[1] = -20 (mLTO2) + 20 (mLTO4) + 40

Taken on their own, cultural dimension indices are essentially meaningless. However, in comparisons among sub-samples, they indicate the relative cultural tendencies of each group,

[1] The original LTO index formula was LTO = 45 (mLTO1) - 30 (mLTO2) - 35 (mLTO3) + 15 (mLTO4) + 67. However, the formula was revised when, in a large-scale application of the LTO items, only LTO2 and LTO4 produced scores correlated with other LTO measures (Hostede n.d.).

although it is imperative that differences between indices are taken as arbitrary with no value thresholds and not absolute representations of the strength of particular cultural dimensions.

Hypothesis 1a: Graduate students exhibit cultural dimensions differentiated by academic disciplines and sex.

Analyses of responses by academic disciplines indicated that students from the Applied Sciences have lower Power Distance (17.86 versus 21.88), more Uncertainty Avoidance (39.90 versus 35.40), stronger Individualism (88.94 versus 80.00), stronger Masculinity (16.86 versus 1.20), and less Long-term Orientation (40.00 versus 58.40) than students from the Humanities (Table 3). Stratified by sex, female students have lower Power Distance (15.00 versus 19.51), less Uncertainty Avoidance (38.06 versus 41.67), weaker Individualism (73.06 versus 92.50), weaker Masculinity (-24.44 versus 25.56), and more Long-term Orientation (56.47 versus 43.40) than male students (Table 3).

Table 3. Cultural Dimensions Index Values by Academic Discipline and Sex

	Applied Sciences	**Humanities**	**Female**	**Male**
Power Distance (PDI)	17.86	21.88	15.00	19.51
Uncertainty Avoidance (UAI)	39.90	35.40	38.06	41.67
Individualism (IDV)	88.94	80.00	73.06	92.50
Masculinity (MAS)	16.86	1.20	-24.44	25.56
Long-term Orientation (LTO)	40.00	58.40	56.47	43.40

This differentiation by academic discipline and sex supports Hypothesis 1a that graduate students in the Applied Sciences and the Humanities, as well as male and female students, possess different value orientations with regards to their respective professional environments and their conduct. It may also be attributed to the profile of the present sample, where there was an oversample of graduate students in the Applied Sciences (2:1) and male graduate students in general (3:1). Specifically, there were more male students in the Applied Sciences sample than in the Humanities sample, and the opposite was true of females. This bias which first contributed to the stronger Masculinity index in the male sample could have also skewed the same index in the comparison between academic disciplines. Likewise, the pattern of more Uncertainty Avoidance, stronger Individualism, and weaker Long-term orientation in the male sample finds a corresponding pattern in the Applied Sciences sample.

The only dimension to display a pattern in the opposite direction than that mentioned above is Power Distance, for which the male sample scored higher than the female sample and the Applied Sciences sample scored lower than the Humanities sample, which suggests that the interaction between academic discipline and sex on the Power Distance dimension results in a negation effect. In other words, within the given sample, there exists a significant distinction of Power Distance between males and females in each discipline, and between Applied Sciences and Humanities graduate students of either sex.

Hypothesis 1b: Graduate students exhibit cultural dimensions differentiated by international status and student origin.

Analyses of responses by international status indicated that American students have lower Power Distance (13.86 versus 20.43), more Uncertainty Avoidance (44.13 versus 39.58),

stronger Individualism (87.50 versus 86.73), stronger Masculinity (38.26 versus 2.08), and more Long-term Orientation (53.64 versus 43.40) than international students (Table 4).

Table 4. Cultural Dimensions Index Values by International Status

	American Students	**International Students**
Power Distance (PDI)	13.86	20.43
Uncertainty Avoidance (UAI)	44.13	39.58
Individualism (IDV)	87.50	86.73
Masculinity (MAS)	38.26	2.08
Long-term Orientation (LTO)	53.64	43.40

A more precise analysis of cultural dimensions by student origin yielded a more nuanced picture. Graduate students from Asia have the highest Power Distance, followed by students from Europe and the United States (22.66 compared to 16.82 and 13.86). Students from Europe displayed the greatest Uncertainty Avoidance, followed by students from the United States and Asia (64.09 compared to 44.13 and 27.42). Students from Asia reported strongest Individualism, followed by students from the United States and Europe (90.00 compared to 87.50 and 84.55). In terms of Masculinity, students from the United States have the highest index, followed by students from Asia and Europe (38.26 compared to 22.12 and -59.09). Finally, students from the United States have stronger Long-term Orientation than students from Europe and Asia (53.64 compared to 52.00 and 40.00) (Table 5).

Table 5. Cultural Dimensions Index Values by Student Origin

	United States	Europe	Asia
Power Distance (PDI)	13.86	16.82	22.66
Uncertainty Avoidance (UAI)	44.13	64.09	27.42
Individualism (IDV)	87.50	84.55	90.00
Masculinity (MAS)	38.26	-59.09	22.12
Long-term Orientation (LTO)	53.64	52.00	40.00

Besides supporting Hypothesis 1b that cultural distance exists between American and international students, these indices indicate that cultural differences are neither unidimensional nor unidirectional. The lower Power Distance, higher Masculinity, and greater Long-term Orientation of American students are consistent between the two analyses. However, even though American students appear to have more Uncertainty Avoidance and stronger Individualism than international students on the first analysis, the second analysis suggested that interaction between responses of students from Europe and Asia were in effect. On Uncertainty Avoidance, the overall lower index of the aggregated international student sample was a function of European students' higher index and Asian students' lower index than that of students from the United States. On Individualism, the higher index of Asian students and the lower index of European students compared to students from the United States combined to present an overall lower index for the aggregated international student sample. These results hint at the imprecision of approximating international students into a singular population when studying cultural orientation.

Interpreting Cultural Distance and Distress

Consistent with Radloff's (1977) findings that the negativity of significant life events was positively correlated with depression scores, CES-D was found to be positively correlated to Stressful Events ($r = .522$, $p < .01$) for the sample in this study.

Hypothesis 2a: Graduate students' self-reported distress is differentiated by academic discipline and sex.

Analyses of distress by academic discipline indicated that graduate students in the Applied Sciences have a higher CES-D score (m = 16.90, SD = 9.94) than students in the Humanities (m = 15.40, SD = 9.78), although Humanities students reported a greater number of stressful events (m = 1.84, SD = 1.60) compared to students in the Applied Sciences (m = 1.30, SD = 1.33) (Table 6). Stratified by sex, female students have a higher CES-D score (m = 16.88, SD = 7.49) and reported more stressful events (m = 1.88, SD = 1.54) than male students did on CES-D score (m = 16.00, SD = 10.76) and stressful events (m = 1.25, SD = 1.34) (Table 7). However, when multiple analyses of variance (MANOVA) were performed to test the effects of academic discipline and sex on distress, results were not significant.

These findings indicate that, in spite of the demonstrated differences in mean distress scores (Hypothesis 2a), academic discipline and sex are not particularly predictive of CES-D scores or reported number of stressful events for the sub-samples. What is observable, however, is that the similar direction between CES-D and Stressful Events scores for male and female students is consistent with the strong positive correlation of the CES-D scale and the Stressful Events scale. On the contrary, the discrepancy in the relationship between CES-D and Stressful Events scores for graduate students in Applied Sciences and Humanities suggests that, despite

the strong correlation of distress measures for the entire sample, there exists one or multiple intervening factor(s) between depressive symptoms and stressful events for students in different academic disciplines. Insofar as the profile of the sample potentially skews the findings, the fewer stressful events reported by males in general may have influenced the fewer stressful events reported by students in the Applied Sciences (the pattern consistency for CES-D and Stressful Events scores for male and female students indicate the saliency of sex in determining distress).

Hypothesis 2b: Graduate students' self-reported distress is differentiated by international status and student origin.

By international status, American students have a lower CES-D score (m = 14.83, SD = 7.89) than international students (m = 17.13, SD = 10.67), although American students reported experiencing more stressful events (m = 1.96, SD = 1.49) than international students did (m = 1.27, SD = 1.38) (Table 6). The trend for self-reported stressful events was consistent even when international students were further categorized – American students experienced more stressful events than students from Asia (m = 1.00, SD = 1.18) or Europe (m = 1.55, SD = 1.57) (Table 7). However, a disparity was discerned when depression was analyzed by student origin. While Asian students have a higher CES-D score (m = 18.48, SD = 11.14) than American students, European students have a lower CES-D score (m = 12.81, SD = 9.61) than both Asian and American sub-samples (Table 9). When MANOVA were conducted, international status (Pillai's Trace, $F = 4.12$, $p < .05$) and specific student origin ($F = 4.72$, $p < .05$) were both found to have significant main effects on distress.

Taken together, these results suggest that distress is indeed differentiated by international status and student origin, as set forth in Hypothesis 2b. On the CES-D scale, American students appear to report fewer depressive symptoms than international students in general, although this finding is refuted by the even lower CES-D score of European students than American students when international students are categorized by origin. The consistently higher number of stressful events reported by American students is consistent between analyses by international status and student origin.

Table 6. Comparison of Distress Scores by International Status and Academic Discipline

			CES-D	Stressful Events Scale
American Students	Applied Sciences	Mean (SD) N	14.70 (6.22) 10	1.80 (1.32) 10
	Humanities	Mean (SD) N	14.92 (9.22) 13	2.08 (1.66) 13
	Total	Mean (SD) N	14.83 (7.89) 23	1.96 (1.49) 23
International Students	Applied Sciences	Mean (SD) N	17.56 (10.78) 34	1.16 (1.32) 37
	Humanities	Mean (SD) N	15.92 (10.73) 12	1.58 (1.56) 12
	Total	Mean (SD) N	17.13 (10.67) 46	1.27 (1.38) 49
Total	Applied Sciences	Mean (SD) N	16.90 (9.94) 44	1.30 (1.33) 47
	Humanities	Mean (SD) N	15.40 (9.78) 25	1.84 (1.60) 25

Table 7. Comparison of Distress Scores by Student Origin and Sex

			CES-D	Stressful Events Scale
United States	Male	Mean (SD) N	13.27 (6.63) 15	1.80 (1.37) 15
	Female	Mean (SD) N	17.75 (9.63) 8	2.25 (1.75) 8
	Total	Mean (SD) N	14.83 (7.89) 23	1.96 (1.49) 23
Europe	Male	Mean (SD) N	11.57 (11.28) 7	.86 (1.46) 7
	Female	Mean (SD) N	15.00 (6.58) 4	2.75 (.96) 4
	Total	Mean (SD) N	12.81 (9.61) 11	1.55 (1.57) 11
Asia	Male	Mean (SD) N	18.77 (12.02) 26	1.07 (1.25) 29
	Female	Mean (SD) N	17.00 (4.95) 5	.60 (.55) 5
	Total	Mean (SD) N	18.48 (11.14) 31	1.00 (1.18) 34
Total	Male	Mean (SD) N	16.00 (10.76) 48	1.25 (1.34) 51
	Female	Mean (SD) N	16.88 (7.49) 17	1.88 (1.54) 17

The pattern discrepancy in CES-D scores for American students between the two analyses may be attributed to the relatively higher CES-D score of American female students (m = 17.75, SD = 9.63) and the relatively lower CES-D score of European male students (m = 11.57, SD = 11.28). This harks back to the earlier inferential finding that sex is salient in determining distress. Similarly, the higher Stressful Event score for American students may be

explained by the relatively higher stressful events reported by American students from the Humanities (m = 2.08, SD = 1.66) in combination with the relatively lower stressful events reported by international students from the Applied Sciences (m = 1.16, SD = 1.32).

It is particularly noteworthy that graduate students consistently reported experiencing more non-academic stressful events (conflicts with a landlord, personally becoming seriously ill or injured, having someone close to oneself become ill, injured, or died, having an important personal relationship break up, and financial problems) than academic stressful events (problems navigating the university system, conflicts with a faculty member, conflicts with a fellow student, and failing a course) across all sub-samples (Table 8).

Table 8. Comparison of Stressful Event Type by Academic Discipline, Sex, and Student Origin

			Academic Stressful Events	**Non-Academic Stressful Events**
Academic Discipline	Applied Sciences	Mean (SD) N	.52 (.67) 52	.75 (.93) 52
	Humanities	Mean (SD) N	.76 (.88) 25	1.08 (1.08) 25
Sex	Male	Mean (SD) N	.58 (.76) 55	.75 (.93) 55
	Female	Mean (SD) N	.72 (.75) 15	1.22 (1.11) 15
Student Origin	United States	Mean (SD) N	.83 (.78) 23	1.13 (1.10) 23
	Europe	Mean (SD) N	.45 (.69) 11	1.10 (1.14) 11
	Asia	Mean (SD) N	.41 (.61) 34	.59 (.86) 34

Hypothesis 3a: The cultural dimensions of graduate students of different academic disciplines and both sexes are associated with distress.

A correlation analysis of cultural distance and distress variables for the study sample is shown in Table 9. Among the significantly correlated items, Power Distance has a positive correlation with CES-D ($r = .270$, $p < .05$) and Stressful Events has a positive correlation with CES-D, as mentioned earlier ($r = .522$, $p < .01$).

Table 9. Correlations of Cultural Dimensions and Distress

	PDI	UAI	IDV	MAS	LTO	CES-D
PDI						
UAI	.066					
IDV	-.033	.171				
MAS	-.063	-.130	.026			
LTO	-.066	-.043	.092	.049		
CES-D	.270 (*)	.186	.077	-.011	.014	
Stressful Events	.068	.111	.026	-.013	.192	.522 (**)

* Correlation is significant at the .05 level (2-tailed).
** Correlation is significant at the .01 level (2-tailed).

Tables 10 and 11 summarize the correlation of cultural dimensions and distress by academic discipline and sex. For graduate students in the Applied Sciences, CES-D is negatively correlated with Long-term Orientation ($r = -.327$, $p < .05$) and positively correlated with Stressful Events ($r = .519$, $p < .01$). For students in the Humanities, CES-D is positively correlated with Power Distance ($r = .446$, $p < .05$) and Long-term Orientation ($r = .510$, $p < .01$), and with Stressful Events ($r = .591$, $p < .01$). Additionally for this sub-sample, Individualism is

significantly correlated with Long-term Orientation (r = .435, p < .05). For female students, no correlations involving cultural dimensions are displayed, although Stressful Events is positively correlated and CES-D (r = .597, p < .01). For male students, CES-D is positively correlated with Power Distance (r = .338, p < 0.05) and Stressful Events (r = .498, p < .01).

Table 10. Correlations of Cultural Dimensions and Distress by Academic Discipline

		PDI	UAI	IDV	MAS	LTO	CES-D
Applied Sciences	**PDI**						
	UAI	.027					
	IDV	.027	.125				
	MAS	-.065	-.216	.037			
	LTO	-.163	-.180	-.164	.065		
	CES-D	.229	.197	-.023	-.101	-.327 (*)	
	Stressful Events	.-050	.108	.029	-.126	-.074	.519 (**)
Humanities	**PDI**						
	UAI	.222					
	IDV	-.182	.251				
	MAS	-.052	.042	-.008			
	LTO	.070	.171	.435 (*)	.131		
	CES-D	.446 (*)	.161	.216	.127	.510 (**)	
	Stressful Events	.383	.141	.059	.204	.308	.591 (**)

* Correlation is significant at the .05 level (2-tailed).
** Correlation is significant at the .01 level (2-tailed).

Table 11. Correlations of Cultural Dimensions and Distress by Sex

		PDI	UAI	IDV	MAS	LTO	CES-D
Female	**PDI**						
	UAI	.020					
	IDV	.420	.061				
	MAS	.253	-.151	.126			
	LTO	.325	-.024	.412	.242		
	CES-D	.049	.268	.239	.235	.310	
	Stressful Events	.000	.286	.408	.041	.477	.597(**)
Male	**PDI**						
	UAI	.182					
	IDV	-.200	.219				
	MAS	-.213	-.148	-.100			
	LTO	-.055	-.082	.014	.069		
	CES-D	.338 (*)	.143	.053	-.086	-.070	
	Stressful Events	.100	.011	-.102	.002	.021	.498(**)

* Correlation is significant at the .05 level (2-tailed).
** Correlation is significant at the .01 level (2-tailed).

These results suggest that, for students in the Applied Sciences, greater Long-term Orientation is associated with fewer depressive symptoms. For students in the Humanities, more Power Distance and greater Long-term Orientation are associated with more depressive symptoms. Greater Power Distance is also associated with more depressive symptoms for male students.

To examine the specific effects of cultural dimensions and English fluency on distress when academic discipline and sex are employed as categorical independent variables, they were entered as covariates in two separate multiple analyses of covariance (MANCOVA). In the analysis by academic discipline, the results indicate that Power Distance (Pillai's Trace, $F = 3.92$, $p < .05$) and English fluency ($F = 3.43$, $p < .05$) have strong interaction effects with CES-D and Stressful Events, although academic discipline was not predictive of distress when all covariates were controlled for. In the analysis by sex, Power Distance ($F = 3.99$, $p < .05$) and English fluency ($F = 3.44$, $p < .05$) likewise displayed strong effects but sex was not predictive of distress when all covariates were controlled for. In sum, in partial support of Hypothesis 3a, although there are significant correlations between certain cultural dimensions and CES-D and Stressful Events, only Power Distance has a demonstrated predictive effect on distress. Additionally, English fluency, which is not explicitly encompassed in the measure of cultural dimensions, exerts a strong influence on distress when the sample is stratified by academic discipline and sex.

Hypothesis 3b: The cultural dimensions of American students and international students are associated with distress.

Correlations of cultural dimensions and distress by student origin are displayed in Table 12. While no cultural dimension appears to have particularly significant correlation with distress for American students, CES-D and Stressful Events are positively correlated for this sub-sample ($r = .656$, $p < .01$). For students from Europe, CES-D is positive correlated with Long-term Orientation ($r = .650$, $p < .05$) and Stressful Events ($r = .676$, $p < .05$). For students from Asia, CES-D is significantly correlated with Power Distance ($r = .529$, $p < .01$) and Stressful Events ($r = .590$, $p < .01$). Inter-dimensional correlations are also significant between Power Distance and

Uncertainty Avoidance ($r = .387$, $p < .05$), Power Distance and Masculinity ($r = -.397$, $p < .05$), and Uncertainty Avoidance and Long-term Orientation ($r = -.488$, $p < .05$) for this sub-sample.

To further explore the relationship between cultural distance and distress, a MANCOVA was conducted with student origin as the categorical independent variable, cultural dimensions and English fluency as covariates, and CES-D and Stressful Events as dependent variables. The estimated marginal means used in the model are shown in Table 13. The results indicated that when cultural dimensions and English fluency were controlled, the effect of student origin on distress remained significant ($F = 3.28$, $p < .05$). Since the overall F-test suggested a significant difference in CES-D by Power Distance ($F = 5.82$, $p < .05$) and Stressful Events by English fluency ($F = 4.05$, $p < .05$) for graduate students of different origins, a second MANCOVA was performed using the only these covariates. The results demonstrated strong interaction effects by Power Distance ($F = 4.46$, $p < .05$) and English fluency ($F = 3.52$, $p < .05$) and, in controlling these variables, student origin continued to exert significant main effect on distress ($F = 4.53$, $p < .05$). It may thus be concluded that Power Distance, English fluency, and student origin are the independent variables that most differentiate CES-D and Stressful Events.

Table 12. Correlations of Cultural Dimensions and Distress by Student Origin

		PDI	UAI	IDV	MAS	LTO	CES-D
United States	**PDI**						
	UAI	.419					
	IDV	-.087	.039				
	MAS	.075	.066	-.041			
	LTO	.267	-.074	.327	.195		
	CES-D	.199	-.039	.002	.211	.339	
	Stressful Events	.122	-.028	.007	.016	.344	.656 (**)
Europe	**PDI**						
	UAI	-.599					
	IDV	-.467	.354				
	MAS	.128	-.221	-.104			
	LTO	.089	.424	.526	-.269		
	CES-D	-.109	.548	.242	-.040	-.650 (*)	
	Stressful Events	-.336	.597	.164	-.332	.325	.676 (*)
Asia	**PDI**						
	UAI	.387 (*)					
	IDV	.198	.174				
	MAS	-.397 (*)	-.167	.132			
	LTO	-.254	-.488 (**)	-.241	.142		
	CES-D	.529 (**)	.356	.085	-.321	-.329	
	Stressful Events	.272	-.101	.155	-.025	-.235	.590 (**)

* Correlation is significant at the .05 level (2-tailed).
** Correlation is significant at the .01 level (2-tailed).

Table 13. Estimated Marginal Means of Distress in MANCOVA with Student Origin

		Mean	Standard Error	95% Confidence Interval	
				Lower Bound	Upper Bound
CES-D	United States	16.15*	2.28	11.57	20.73
	Europe	11.78*	3.11	5.53	18.02
	Asia	18.08*	1.92	14.23	21.93
Stressful Events	United States	2.04*	.33	1.37	2.70
	Europe	1.45*	.45	.54	2.36
	Asia	.89*	.28	.33	1.45

* Covariates are evaluated at the following values: PDI = 20.42, UAI = 35.93, IDV = 84.15, MAS = 15.25, LTO = 46.78, and English fluency = 1.39.

It is evident that cultural dimensions have different predictive powers for distress for students of different origins, and some dimensions hold more significant correlations with distress for specific sub-samples, thereby supporting Hypothesis 3b. For students from Europe, greater Long-term Orientation is associated with a higher CES-D score. For students for Asia, a higher CES-D score is related to high Power Distance. Yet, at the same time, the MANCOVA results suggest that the associative relationship between student origin and distress defies narrow conceptualizations. Firstly, not all cultural dimensions are equally predictive of distress. Secondly, there are factors embedded in student origin but not captured by cultural dimensions or English fluency that possess sustained, strong effects on CES-D and Stressful Events.

DISCUSSION

In spite of their different national origins, international students share the common denominator of not being American citizens. On one level, international students are likely to identity with the "chronically accessible category" that is nationality, since "identification with that category is likely to be an important source of psychological well-being" (Schmitt et. al 2002:4). Yet, on a second, more abstract level, since the international student identity is based not on "who they are, but on who they are not" (Schmitt et. al 2002:9), student sojourners are equally likely to identify those in their predicament. Such identification is then based not on similar intra-group traits but constructed in context based on common treatment from the majority group (Schmitt et al. 2002). Furthermore, the element of self-selection inherent in the international student experience lends itself to the shared characteristics of adventurousness and resiliency among student sojourners. Grounded in these conceptualizations of the international student identity, this study examines the relationship between cultural distance and distress within an aggregated international graduate student sample. Additional data stratified by academic discipline and sex provide background, as well as complement, the main thesis.

The results indicate that graduate students from the Applied Sciences have greater Uncertainty Avoidance, stronger Individualism, and stronger Masculinity, but lower Power Distance and less Long-term Orientation than students from the Humanities. In terms of distress, Applied Sciences students have higher CES-D scores than Humanities students, although Humanities students reported experiencing a greater number of stressful events compared to Applied Sciences students (this pattern is consistent between the general sample and the international student sub-sample). In sum, CES-D is negatively correlated with Long-term

Orientation and positively correlated with Stressful Events for students in the Applied Sciences. For students in the Humanities, CES-D is positively correlated with Power Distance, Long-term Orientation, and Stressful Events. If, indeed, the technical nature of such Applied Science fields as engineering accord international students equal success rates regardless of language or cultural backgrounds, as found in an earlier study (Ying 2003), then the higher CES-D scores of students from the Applied Sciences demonstrated in the present study suggest that better predicted academic performance have little synonymy with lower distress for international students. One plausible explanation is that English fluency overrides academic discipline effects, since international Applied Sciences students in this sample reported less English fluency than international students from the Humanities.

Stratified by sex, male graduate students have higher Power Distance, greater Uncertainty Avoidance, stronger Individualism, and stronger Masculinity, but less Long-term Orientation than female students. Distress means show female students to have higher CES-D scores and more reported stressful events – in other words, higher overall distress – than male students, which is consistent with findings from some earlier studies (Kelly, Kelly, Brown, and Kelly 1999; Mallinckrodt, Leong, and Kralji 1989). However, although this pattern holds true for the American and European student sub-samples, it is reversed for the Asian student sub-sample. This discrepancy in distress pattern between male and female international students of different origins resonates with earlier studies (Constantine et al. 2004; Dadfar and Friedlander 1982; Schram and Lauver 1988) in which investigations of sex as a predictor variable of international student attitudes and distress were generally inconclusive. It does suggest, however, that perception and experience of distress by male and female international students differ by their region of origin and that such variations necessitate further research. In general, for female

students, Stressful Events is positively correlated with CES-D. For male students, CES-D is positively correlated with both Power Distance and Stressful Events.

It was predicted that differences exist between American students and international students on five cultural dimensions. This was proven to be true, although the magnitude and direction of differences varied between the dimensions. Among the three sub-samples, graduate students from Europe have the greatest Uncertainty Avoidance, the weakest Masculinity and Individualism, and indices for Power Distance and Long-term Orientation in between those for students from Asia and the United States. Students from Asia have the strongest Power Distance and Individualism, the least Uncertainty Avoidance and Long-term Orientation, and a Masculinity index between those for students from Europe and the United States. It follows that students from the United States have the strongest Masculinity and Long-term Orientation, the lowest Power Distance, and indices for Uncertainty Avoidance and Individualism in between those for students from Europe and Asia. Because of the small sample of students from Africa and South America in the current study, these continents of origin were not aggregated or individually analyzed for statistical reasons. It must be emphasized that cultural dimensions are inter-relational and contextual in the setting where the study was conducted. As a result, differences may surface when alternate or new groups are studied simultaneously, or once the said context is removed. The findings in the present study support existing literature suggestive of general cultural distance between American and international students (Dadfar and Friedlander 1982; Harlu and Valz 2003; Hechanova-Alampay et al. 2002; Kumar and Strandholm 2002; Leong and Sedlacek 1986). Consistent with the variety in the review of literature earlier (Babiker et al. 1980; Constantine et al. 2004; Dadfar and Friedlander 1982; Schram and Lauver 1988; Wilton and Constantine 2003), this study likewise produces no

evidence of Asian students being singularly more culturally distant from American students than European students are. The only cultural dimensions on which such a presumed hierarchy was observable are Power Distance (where Asian students have the highest score and American students the lowest score) and Long-term Orientation (where Asian students have the lowest score and American students the highest score). The salience of this distribution in conjunction with distress is discussed later.

The prediction that international students will report greater distress than American students is partially supported by the results. Asian students have the highest CES-D score (which is synonymous with more depressive symptoms), followed by American students, then students from Europe. However, American students self-reported experiencing the most number of stressful events, followed by students from Europe, then students from Asia. In spite of the difference between the patterns of CES-D and Stressful Event scores for the sub-samples, they have in common significant correlations of the scales within each of them. The discrepancy could be due to the fact that depression for Asian international students may be caused by more or other factors than stressful events. Similarly, an experience of a stressful event may not translate directly into depressive symptoms for American students or European international students.

Further correlation analyses hint at these transactions – that cultural orientations or mental programming (Hofstede 2001) have equal bearings on distress outcomes – and support the third hypotheses concerning the predictive effect of cultural distance on distress. This is consistent with earlier studies (Babiker et al. 1980; Constantine et al. 2004; Dadfar and Friedlander 1982; Hechanova-Alampay et al. 2002; Sam 2001; Schram and Lauver 1988; Ward and Searle 1991; Wilton and Constantine 2003) which arrived at similar findings using various

measures of cultural distance and distress. In the present study, Long-term Orientation was found to be positively correlated with CES-D for European students, and CES-D was positively correlated with Power Distance for Asian students.

In the meantime, it is useful to revisit the outline of norms and teacher-student relationships associated with cultural dimensions (Tables 1 and 2) in order to further assess the relationship between culture and distress tendencies for the sub-samples in this study. For instance, it may be suggested that, compared to American or European international students, Asian international students have a greater likelihood of internalizing such Power Distance norms as dependence, coercive and referent power, and the upholding of inequality, as well as perceiving differences between superiors and subordinates, that privileges belong to power holders, and latent conflict between the powerful and less powerful in society. Where teacher-students relationships are concerned, Asian students tend to be of the perception that teachers merit the respect of students and should not be contradicted nor publicly criticized, that the effectiveness of learning is related to the excellence of the teacher, that students should speak up in class when invited by teacher, and that teachers should outline a path for students to follow. Since high Power Distance is associated with high CES-D scores for students from Asia, the above-mentioned tendencies, in turn, contribute to more depressive symptoms for international students from Asia.

In summary, Power Distance, English fluency, and student origin were found to differentiate CES-D and Stressful Events significantly. This result is cumulatively evident and supported at multiple levels. Firstly, there was an observable, significant difference in Power Distance between males and females in each discipline, and between Applied Sciences and Humanities graduate students of either sex (1b). Secondly, international status and specific

student origin displayed significant main effects on distress (2b). Thirdly, between academic disciplines and sex, Power Distance had a demonstrated interaction effect on CES-D and Stressful Events (3a).

However, not all cultural dimensions were equally predictive of distress in the present sample. One possible explanation is that because graduate students consistently reported experiencing more non-academic stressful events than academic ones, an instrument which measures cultural distance in work values – a discrepancy which Hofstede's cultural dimensions were intended to reflect – may be empirically less predictive of distress, since the stressors of graduate student life are largely non-Academic, and non-professional by extension, in nature. Additionally, the fact that English fluency and other variables embedded in student origin (but not captured by cultural dimensions) maintained strong effects on CES-D and Stressful Events indicates that the model of cultural dimensions operationalized in this study may be inadequate in accounting for distress. The interaction effect of English fluency on CES-D and Stressful Events in the present study lends support to earlier research that found English language proficiency to be salient for international student adjustment and experience (Constantine et al. 2004; Fletcher and Stren 1989; Perrucci and Hu 1995; Poyrazli 2003).

Culture is not a static entity, nor does it lend itself easily to overt simplification. Concurrent memberships in different categorical groups, including sex, class, and nationality, affect cultural orientations for individuals, which in turn interact to predict distress outcomes. By its very nature, the effect of culture is feasibly examined only at a spatial and temporal cross-section, although shifts in cultural orientations may be discerned with longitudinal study designs. The present study predicted and found specific cultural distance effects on the self-reported distress of international students. It also demonstrated that culture need not necessarily be

reduced to abstraction. This data is expected to be useful for college administrators, faculty members, and American and international students alike, as they navigate intercultural interactions on campus. For these results to be qualitatively meaningful, alternate research methods such as personal interviews or focus groups should be employed in addition to the survey. The exploratory nature of the present study is an invitation to further investigation of issues addressed in this thesis.

LIMITATIONS

This study is first limited by its small, unmatched sample size. There is an oversampling of participants who are males, graduate students in the Applied Sciences, as well as international students. The small sample size compels the international student sub-sample to be aggregated, increasing the potential of international students with different characteristics negating each other when they are placed in the same group, thereby reducing or magnifying study effects.

The element of self-selection inherent in the international student experience means that there may be limited variation on the cultural dimensions as well as the dependent variables of stressful events and distress. Also, resultant cultural dimensions and distress may not belong exclusively to international students, but potentially to co-nationals who are not international students as well. Spurious effects can therefore not be ruled out entirely.

Another caveat is that, while quantitative research designs as this enable statistical analyses of variables, they fail to match the richness of qualitative data.

Finally, this study is restricted by the very theoretical framework it chose to model on, for cultural dimensions may not be exhaustive of all pertinent cultural traits possessed by the study

population. While this study considers the cultural dimensions of specific groups, it is unable to capture the extent to which individuals mobilize cultural values. In other words, the strength with which a certain dimension is upheld or the volatility which renders particular dimensions changeable are not measured, nor can they be readily done.

APPENDIX: STUDY INSTRUMENT

Please think of an ideal job. In choosing an ideal job, how important would it be to you to… (*please circle one answer in each line*):

5 = of utmost importance
4 = very important
3 = of moderate importance
2 = of little importance
1 = of very little or no importance

01.	have sufficient time left for your personal or family life	1	2	3	4	5
02.	have good physical working conditions (good ventilation and lighting, adequate work space, etc.)	1	2	3	4	5
03.	have a good working relationship with your direct superior	1	2	3	4	5
04.	have security of employment	1	2	3	4	5
05.	work with people who cooperate well with one another	1	2	3	4	5
06.	be consulted by your direct superior in his/her decisions	1	2	3	4	5
07.	have an opportunity for advancement to higher level jobs	1	2	3	4	5
08.	have an element of variety and adventure in the job	1	2	3	4	5

In your private life, how important is each of the following to you? (*please circle one answer in each line*):

09.	Personal steadiness and stability	1	2	3	4	5
10.	Thrift	1	2	3	4	5
11.	Persistence (perseverance)	1	2	3	4	5
12.	Respect for tradition	1	2	3	4	5

13. **How often do you feel nervous or tense in school or the office/lab?**

1 never
2 seldom
3 sometimes
4 usually
5 always

14. **In your experience, how frequently are graduate students afraid to express disagreement with their advisors/professors?**

1 very seldom
2 seldom
3 sometimes
4 frequently
5 very frequently

How much do you agree or disagree with the following statements? (*please circle one answer in each line*):

5 = strongly agree
4 = agree
3 = undecided
2 = disagree
1 = strongly disagree

15.	Most people can be trusted	1	2	3	4	5
16.	One can be a good advisor/professor without having precise answers to most questions that graduate students may raise about their work	1	2	3	4	5
17.	An organization structure in which some graduate students have two superiors should be avoided at all cost	1	2	3	4	5
18.	Competition between students usually does more harm than good	1	2	3	4	5
19.	A university's or department's rules should not be broken – not even when the graduate student thinks it is in the university's best interest	1	2	3	4	5
20.	When people have failed in life it is often their own fault	1	2	3	4	5

Below is a list of the ways you may have felt or behaved. Please indicate how many times you have felt this way during the <u>past week</u>. (*please circle one answer in each line*):

		Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)
21.	I was bothered by things that usually don't bother me.	0	1	2	3
22.	I did not feel like eating; my appetite was poor.	0	1	2	3
23.	I felt that I could not shake off the blues even with help from my family or friends.	0	1	2	3
24.	I felt I was just as good as other people.	0	1	2	3
25.	I had trouble keeping my mind on what I was doing.	0	1	2	3
26.	I felt depressed.	0	1	2	3
27.	I felt that everything I did was an effort.	0	1	2	3
28.	I felt hopeful about the future.	0	1	2	3
29.	I thought my life had been a failure.	0	1	2	3
30.	I felt fearful.	0	1	2	3

31.	My sleep was restless.	0	1	2	3
32.	I was happy.	0	1	2	3
33.	I talked less than usual.	0	1	2	3
34.	I felt lonely.	0	1	2	3
35.	People were unfriendly.	0	1	2	3
36.	I enjoyed life.	0	1	2	3
37.	I had crying spells.	0	1	2	3
38.	I felt sad.	0	1	2	3
39.	I felt that people disliked me.	0	1	2	3
40.	I could not get "going."	0	1	2	3

41. **In the <u>past month</u>, how often have you talked by phone, email, or in person, to a family member about professional or personal problems you had while in school?**

1 Daily
2 2-3 times a week
3 Once a week
4 Once or twice a month
5 Never

42. **Some people feel more comfortable talking about their problems to persons from their own country. In the <u>past month</u>, how often have you spoken about your problems to someone who is NOT from your country?**

1 Daily
2 2-3 times a week
3 Once a week
4 Once or twice a month
5 Never

Have any of the following events happened to you in the <u>past six months</u>? (*please check one answer in each line*):

	Yes	No
43. Had problems navigating the university system.		
44. Had conflicts with a faculty member.		
45. Had conflicts with a fellow student.		
46. Had conflicts with a landlord.		
47. Received funding to support your education.		
48. Failed a course.		
49. Became seriously ill or injured.		
50. Someone you are close to became ill, injured, or died.		
51. An important personal relationship broke up.		
52. Had financial problems.		

Some information about yourself:

53. Are you

    1 male
    2 female

54. What year were you born? _____

55. What is your nationality? _____

56. What was your nationality at birth? _____

57. How fluent are you in speaking English? (*please circle one answer*)

    Very Fluent
    Somewhat Fluent
    Not Fluent

58. What is the highest degree you have earned? (*please circle one answer*)

    B.A. or B.S. (or equivalent)
    M.A. or M.S. (or equivalent)
    Ph.D. (or equivalent)

59. How long have you been enrolled at UB? _____

60. If you are an international student, how long have you lived in the United States? _____

REFERENCES

Babiker, I. E., J. L. Cox, and P. M. Miller. 1980. "The Measurement of Cultural Distance and its Relationship to Medical Consultations, Symptomatology and Examination Performance of Overseas Students at Edinburgh University." *Social Psychiatry* 15:109-116.

Baskerville, Rachel F. 2003. "Hofstede Never Studied Culture." *Accounting, Organizations and Society* 28:1-14.

Bearden, William O., R. Bruce Money, and Jennifer L. Nevins. 2006. "Multidimensional versus Unidimensional Measures in Assessing National Culture Values: The Hofstede VSM94 Example." *Journal of Business Research* 59:195-203.

Black, J. Stewart, Hal B. Gregersen and Mark Mendenhall. 1992. "Toward a Theoretical Framework of Repatriation Adjustment." *Journal of International Business Studies* 23(4):737-760.

Black, J. Stewart, Mark Mendenhall and Gary Oddou. 1991. "Toward a Comprehensive Model of International Adjustment: An Integration of Multiple Theoretical Perspectives." *The Academy of Management Review* 16(2):291-317.

Cadieux, Ron A. J. and Ben Wehrly. 1986. "Advising and Counseling the International Student." Pp. 51-63 in *Guiding the Development of Foreign Students*, edited by K. Richard Pyle. San Francisco, CA: Jossey-Bass Inc.

Chen, Ling. 2002. "Perceptions of Intercultural Interaction and Communication Satisfaction: A Study on Initial Encounters." *Communication Reports* 15(2):133-147.

Church, A. T. 1982. "Sojourner Adjustment." *Psychological Bulletin* 9:540-572.

Constantine, Madonna G., Sumie Okazaki and Shawn O. Utsey. 2004. "Self-Concealment, Social Self-Efficacy, Acculturative Stress, and Depression in African, Asian, and Latin

American International College Students." *American Journal of Orthopsychiatry* 74(3):230-241.

Dadfar, Sohrab and Myrna L. Friedlander. 1982. "Differential Attitudes of International Students Toward Seeking Professional Psychological Help." *Journal of Counseling Psychology* 29(3):335-338.

Fisher, Cynthia D. and James B. Shaw. 1992. "Relocation Attitudes and Adjustment: A Longitudinal Study." *Journal of Organizational Behavior* 15(3):209-224.

Fletcher, Joseph F. and Richard E. Stren. 1989. "Language Skills and Adaptation: A Study of Foreign Students in a Canadian University." *Curriculum Inquiry* 19(3):293-308.

Furnham, Adrian. 1997. "The Experience of Being an Overseas Student." Pp. 13-29 in Overseas *Students in Higher Education*, edited by David McNamara and Robert Harris. London, UK: Routledge.

Furnham, Adrian. 2004. "Foreign Students: Education and Culture Shock." *The Psychologist* 17(1):16-19.

Furnham, Adrian and Stephen Bochner. 1982. "Social Difficulty in a Foreign Culture: An Empirical Analysis of Culture Shock." Pp. 161-198 in *Cultures in Contact: Studies in Cross-Cultural Interaction*. Oxford, UK: Pergamon Press.

Furnham, Adrian and Lorna Trezise. 1983. "The Mental Health of Foreign Students." *Social Science and Medicine* 17(6):365-370.

Harlu, Beverly and Krista L. Valz. 2003. "International and American Students Health Behaviors in College." Pp. 128-134 in *Catching the Future: Women and Men in Global Psychology*, edited by R. Roth, L. Lowenstein, and D. Trent. Lengerich, Germany: Pabst Science Publishers.

Harvey, Michael G. 1989. "Repatriation of Corporate Executives: An Empirical Study." *Journal of International Business Studies* 20(1):131-144.

Hechanova-Alampay, Regina, Terry A. Beehr, Neil D. Christiansen and Roger K. Van Horn. 2002. "Adjustment and Strain Among Domestic And International Student Sojourners." *School Psychology International* 23(4):458-474.

Heggins, Willie J., III and Jerlando F. L. Jackson. 2003. "Understanding the Collegiate Experience for Asian International Students at a Midwestern Research University." *College Student Journal* 37(3):379-391.

Hofstede, Geert. 1986. "Cultural Differences in Teaching and Learning." *International Journal of Intercultural Relations* 10:301-320.

Hofstede, Geert. 2001. *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations*. Thousand Oaks, CA: Sage Publications.

Hofstede, Geert. n.d. "Values Survey Module 1994: Manual." The Netherlands: Geert Hofstede. Retrieved November 17, 2006 (http://feweb.uvt.nl/center/hofstede/manual.html).

Huang, Ken. 1977. "Campus Mental Health: The Foreigner at your Desk." *Journal of American College Health Association* 25:216-219.

International Institute of Education. 2006. *Open Doors 2006*. New York, NY: International Institute of Education. Retrieved November 13, 2006. (http://opendoors.iienetwork.org/?p=89189)

Janssens, Maddy. 1995. "Intercultural Interaction: A Burden on International Managers?" *Journal of Organizational Behavior* 16(2):155-167.

Kelly, William E., Kathryn E. Kelly, Franckin C. Brown, and Hillary B. Kelly. 1999. "Gender Differences in Depression Among College Students: A Multicultural Perspective." *College Student Journal* 33(1):72-76.

Krämer, Alexander, Luise Prüfer- Krämer, Christiane Stock, and Jacques Tshiang Tshiananga. 2004. "Differences in Health Determinants Between International and Domestic Students at a German University." *Journal of American College Health* 53(2):127-132.

Kumar, Kamalesh and Karen Strandholm. 2002. "American Business Education – Effect On The Ethical Orientation of Foreign Students." *Journal of Education for Business* 77(6):345-350.

Leong, Frederick T. L. and William Sedlacek. 1986. "A Comparison of International and U.S. Students' Preferences for Help Sources." *Journal of College Student Personnel* 27:426-430.

Mallinckrodt, Brent and Frederick T. L. Leong. 1992. "International Graduate Students, Stress, and Social Support." *Journal of College Student Development* 22:71-78.

Mallinckrodt, Brent, Frederick T. L. Leong, and Mary M. Kralji. 1989. "Sex Differences in Graduate Student Life-Change Stress and Stress Symptoms." *Journal of College Student Development* 30:332-338.

McSweeney, Brendan. 2002. "Hofstede's Model of National Cultural Differences and their Consequences: A Triumph of Faith – A Failure of Analysis." *Human Relations* 55(1):89-118.

Mendenhall, Mark and Gary Oddou. 1985. "The Dimensions of Expatriate Acculturation: A Review." *The Academy of Management Review* 10(1):39-47.

Merkin, Rebecca S. 2005. "Uncertainty Avoidance and Facework: A Test of the Hofstede Model." *International Journal of Intercultural Relations* 30:213-228.

Nasierowski, Wojciech and Bogusz Mikula. 1998. "Cultural Dimensions of Polish Managers: Hofstede's Indices." *Organization Studies* 19(3):495-509.

Perrucci, Robert and Hong Hu. 1995. "Satisfaction with Social and Educational Experiences Among International Graduate Students." *Research in Higher Education* 36(4):491-508.

Poyrazli, Senel. 2003. "Ethnic Identity and Psychosocial Adjustment Among International Students." *Psychological Reports* 92:512-514.

Radloff, Lenore Sawyer. 1977. "The CES-D Scale: A Self-Report Depression Scale for Research in the General Population." *Applied Psychological Measurement* 1(3):385-401.

Randall, Donna M. 1993. "Cross-cultural Research on Organizational Commitment: A Review and Application of Hofstede's Value Survey Module." *Journal of Business Research* 26:91-110.

Sam, David Lackland. 2001. "Satisfaction with life among international students: An exploratory Study." *Social Indicators Research* 53(3):315-337.

Schmitt, Michael T., Russell Spears and Nyla R. Branscombe. 2002. "Constructing a minority group identity out of shared rejection: The case of international students." *European Journal of Social Psychology* 33:1-12.

Schram, Judith L. and Philip J. Lauver. 1988. "Alienation in International Students." *Journal of College Student Development* 29:146-150.

Shackleton, Viv J. and Abbas H. Ali. 1990. "Work-related Values of Managers: A Test of the Hofstede Model." *Journal of Cross-Cultural Psychology* 21(1):109-118.

Shaffer, Margaret A., David A. Harrison and K. Matthew Gilley. 1999. "Dimensions, Determinants, and Differences in the Expatriate Adjustment Process." *Journal of International Business Studies* 30(3):557-581.

Smith, Peter B. 2002. "Culture's Consequences: Something Old and Something New." *Human Relations* 55(1):119-135.

Spector, Paul E., Cary L. Cooper, and Kate Sparks. 2001. "An International Study of the Psychometric Properties of the Hofstede Values Survey Module 1994: A Comparison of Individual and Country/Province Level Results." *Applied Psychology: An International Review* 50(2):269-281.

Spencer-Rodgers, Julie. 2001. "Consensual and individual stereotypic beliefs about international students among American host nationals." *International Journal of Intercultural Relations* 25:639-657.

Spradley, James P. and Mark Phillips. 1972. "Culture and Stress: A Quantitative Analysis." *American Anthropologist* 74(3):518-529.

Surdam, Joyce C. and James R. Collins. 1984. "Adaptation of International Students: A Cause for Concern." *Journal of College Student Personnel* 25:240-245.

Tsang, Eric W. K. 2001. "Adjustment of Mainland Chinese Academics and Students to Singapore." *International Journal of Intercultural Relations* 25:347-372.

Tseng, Wen-Chih and Fred B. Newton. 2000. "International Students' Strategies for Well-Being." *College Student Journal* 36(4):591-597.

Ward, Colleen and Wendy Searle. 1991. "The Impact of Value Discrepancies and Cultural Identity on Psychological and Sociocultural Adjustment of Sojourners." *International Journal of Intercultural Relations* 15:209-225.

Wilton, Leo and Madonna G. Constantine. 2003. “Length of Residence, Cultural Adjustment Difficulties, and Psychological Distress Symptoms in Asian and Latin American International College Students.” *Journal of College Counseling* 6:177-186.

Ying, Yu-Wen. 2003. “Academic Achievement and Quality of Overseas Study Among Taiwanese Students in the United States.” *College Student Journal* 37(3):470-480.