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CLASHING CULTURES
A Model of International Student Conflict

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Although researchers have noted that interactions among people from different cultural backgrounds can result in interpersonal conflict, little is known about the nature of this conflict and its effects on the individuals involved. The current study attempts to address this gap in the literature. It conceptualizes interpersonal, intercultural conflict as a stressor and proposes and tests a model of conflict experiences, using data from graduate students representing approximately 50 countries. Results of path analyses of the model indicate that although cultural distance does not predict interpersonal, intercultural conflict, conflict strongly predicts poor work-related and sociocultural adaptation, and these negative effects occur over and above the baseline effects of work stress. Work-related and sociocultural adaptation in turn predicts poor psychological adaptation, which mediates the negative effects on health-related adaptation.

Keywords: conflict; stress; intercultural relations

Since the early 1900s, intercultural adjustment has captivated the interest of researchers and other scholars in a variety of fields, from communication and business to anthropology, psychology, education, and social work. Although the diverse approaches have sometimes led to overlapping effort and misunderstanding, the work has also resulted in a rich understanding of many adjustment-related issues. It suggests that adjustment is a complex, multidimensional phenomenon that is experienced by a wide range of individuals and groups and has implications for almost every field and profession.

The literature on intercultural adaptation suggests that groups of people experience some form of adaptation—from employees in the United States adjusting to a more culturally diverse U.S. workforce to refugees forced to leave their native land for an indeterminate period. Although there are similarities in the adjustment experienced by the different groups, many of the groups also experience unique adaptation-related challenges. The stress associated with the adjustment of refugees, for example, is compounded by the realization that they may never return to their homeland (Ward, Bochner, & Furnham, 2001), and the adjustment of expatriate professionals is inextricably linked to the adjustment of other family members (e.g., Takeuchi, Yun, & Tetlock, 2002).

One group of sojourners receiving considerable attention from researchers is the population of undergraduate and graduate students studying abroad. The group represents a particularly exciting focus for research, as their numbers continue to grow, with nearly 600,000 international students enrolled in American colleges and universities today (Institute of

International Education, 2006). These students also play an important role in international relations (Hechanova-Alampay, Beehr, Christiansen, & Van Horn, 2002), in part because they offer a way to decrease misperceptions and increase cultural understanding through extended intercultural contact. Given their importance in the academic, national, and global contexts and their relative accessibility to researchers, it is not surprising that international students have attracted considerable attention from psychologists and other scholars during the past 50 years. The current study contributes to this literature on international student adaptation; it develops and tests a stress-based model linking cultural distance to interpersonal conflict experienced by the students and to four aspects of adaptation.

THEORY AND RESEARCH ON INTERNATIONAL STUDENT ADJUSTMENT

Researchers studying international student adjustment have generally taken one of three approaches. Some researchers examine the consequences of living in another culture, essentially treating adjustment as an independent or predictor variable. Researchers taking this approach often treat the life changes accompanying a stay abroad as a stressor, drawing on the stress and coping literature (e.g., Folkman & Lazarus, 1985; Lazarus, 1993) to provide a conceptual foundation for understanding the variety of negative outcomes sojourners may experience. In addition to the literature on stress and coping, research on adjustment outcomes has been conceptualized using an adjustment framework developed by Ward and her colleagues (e.g., Ward & Kennedy, 1993; Ward & Searle, 1991). Their work identifies and describes psychological and sociocultural adjustment, two major types of adjustment students and other sojourners typically experience. Psychological adjustment is largely affective in nature, reflecting the sojourner's satisfaction and psychological well-being related to the intercultural experience (e.g., Ward & Kennedy, 1993; Ward & Searle, 1991). Sociocultural adjustment, on the other hand, is characterized by the ability to "fit in" the host culture and is linked to effective communication and other social skills (e.g., Ward & Kennedy, 1993, 1999; Ward & Searle, 1991). Although the two types of adjustment are theoretically and empirically related, they are predicted by different variables and follow different patterns of change during the course of the sojourner's experience (Ward, Okura, Kennedy, & Kojima, 1998). As is the case for the actual process of adjustment, the consequences can be classified as sociological (e.g., decreased performance; Tsang, 2001) and psychological (e.g., psychological distress and depression; Constantine, Okazaki, & Utsey, 2004; Sodowsky & Lai, 1997).

A second group of researchers treats adaptation as a dependent or criterion variable, examining factors that predict successful adaptation. This work indicates that a host of factors, including social support and self-efficacy (Tsang, 2001), communication competence, and other language-related skills (e.g., Zimmerman, 1995), interaction with host members (e.g., Tsang, 2001; Ward & Kennedy, 1993), and personality (e.g., Tomich, McWhirter, & Darcy, 2003; Tsang, 2001) significantly predict intercultural adjustment.

Finally, a smaller group of researchers has attempted to describe the dynamic nature of adjustment. Like the research described above, much of this process-centered research incorporates the stress and coping literature. However, it is more often couched in a learning-based framework, describing the sojourner's acquisition of skills and knowledge which allow him or her to better manage the new culture. Perhaps the best known of this literature is work on the so-called *U*-curve, put forth by Lysgaard (1955) and expanded by Oberg (1960). According to the *U*-curve theory, the initial process of adjustment presents the excited sojourner with few difficulties and is thus experienced as relatively pain free. After this

honeymoon stage, however, the sojourner is likely to experience a period of crisis, characterized by intense loneliness and unhappiness, as he or she struggles to fit into the new culture. Eventually, the sojourner adjusts to the crisis and another period of relative happiness and well-being sets in, as he or she becomes better integrated into the culture. Unfortunately, although the *U*-curve offers intuitive and parsimonious appeal, an accumulating body of research indicates that adjustment typically changes in more of a linear fashion (e.g., Ward et al., 1998).

More recent process-oriented theory and research have characterized the process of adaptation as more interactive in nature. In their three-stage model of adjustment, for example, Hammer, Bennett, and Wiseman (2003) describe adjustment as a process of "working out a fit between the person and the new cultural environment" (p. 107), which requires the sojourner to make cognitive shifts and change his or her role. Kim and Ruben's (1988) intercultural transformation theory, on the other hand, describes the sojourner's role as dynamic and self-reflective, requiring frequent adjustments to failed expectations. This process of coping with adjustments provides the sojourner with experiential lessons, allowing him or her to grow into a more skilled and knowledgeable individual.

In sum, the literature on international student adjustment has provided a rich description of the adaptation experience as a dynamic, long-term process during which the sojourner must acquire knowledge and skills in an effort to fit into a new environment. Because intercultural adjustment represents a life change accompanied by misunderstandings, uncertainty, and failed expectations, it is typically experienced as quite stressful. Like other stressors, adjustment difficulties can be manifested in a variety of psychological, school-related, and social consequences.

The current study extends this work on international student adaptation. Like much of the earlier work, it borrows from the stress and coping literature in conceptualizing adaptation as an inherently stressful process and examines a potential predictor of student adaptation. Specifically, it conceptualizes interpersonal, intercultural conflict as a stressor and examines the experience and consequences of this conflict by testing a structural model linking cultural distance to conflict and four aspects of cultural adaptation (see Figure 1).

CULTURAL DISTANCE AND INTERPERSONAL CONFLICT

The model claims that cultural distance is related to interpersonal, intercultural conflict, a hypothesized relation based in part on a conceptual framework developed by Triandis (1994; Triandis, Kurowski, & Gelfand, 1994). According to Triandis, the extent to which interpersonal interactions are rewarding is related to the distance between the cultural backgrounds of the individuals involved, and this relation is mediated by perceived similarity or dissimilarity. Perceived dissimilarity in turn causes individuals both to desire less contact and to experience fewer rewards from the contact that they do have with dissimilar others.

Social psychology's social identity theory (Tajfel & Turner, 1979) provides a second theoretical basis for the hypothesized cultural distance–conflict relation. According to the theory, individuals think of themselves as belonging to a variety of social groups, all of which contribute to the individual's identity. Because their social groups have direct implications for how they see themselves, individuals are highly motivated to see their in-groups in a favorable light relative to other groups. This so called in-group bias is manifested in a variety of ways, including negative beliefs about the out-groups and conflict and other negative behavior directed toward out-group members (e.g., Fiske, 2004). When individuals are
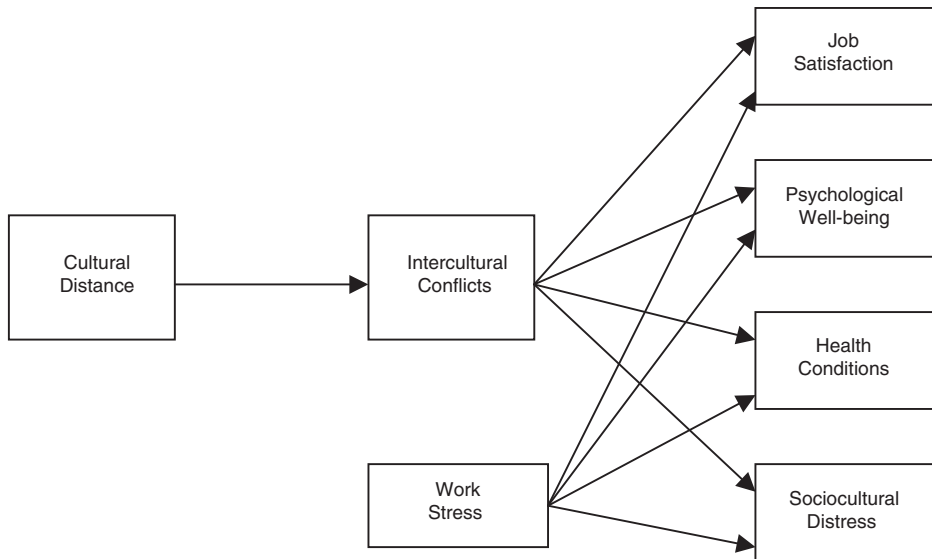
Figure 1:   The Intercultural Conflict as a Stressor Model

in the clear minority (as is the case for most international students), the situation may be particularly conducive to conflict and other negative behaviors, as the students may feel that their culture-based identity is threatened. As others have noted, "The perceived threat to group security and identity posed by another group . . . ignites intercultural conflict" (Worchel, 2005, p. 748). Furthermore, research suggests that in-group bias is particularly common in situations in which ingroup–outgroup distinctions are pronounced and the out-group is salient (for a review, see Ashforth & Mael, 1989). In-group–out-group distinctions and out-group salience are both likely in a situation involving interactions among members of very different cultures.

Thus, although there is apparently no direct empirical evidence for the hypothesized relation between cultural distance and conflict, there is certainly a theoretical basis for the relation. There is also some empirical evidence suggesting that cultural *differences* lead to conflict, at both the interpersonal and intergroup levels. For example, in his study of conflict between managers and researchers in a biotechnological firm, Dubinskas (1992) found that differences in the cultural dimension of time perspectives were often at the root of conflict. Similarly, research on small groups and teams suggests that diverse groups often experience lower levels of cohesion, more attitudinal and perceptual problems, and more conflict (for reviews see Adler, 2000; Jackson, 1992). Finally, there is evidence suggesting that cultural distance is related to the amount of overall stress experienced by international students (Babiker, Cox, & Miller, 1980).

OPERATIONALIZING CULTURAL DISTANCE

One of the challenges in studying cultural distance is determining how to measure the potentially ambiguous and complex construct (Babiker et al., 1980). In the current study,

cultural distance is conceptualized and operationalized in terms of the individualism and collectivism cultural dimensions. The decision to focus on these dimensions as the basis for cultural distance reflects their importance as cultural dimensions (e.g., Goeveia, Clemente, & Espinosa, 2003), their strong theoretical links to intercultural conflict (Holt & DeVore, 2005; Ting-Toomey, 1997), and their widespread use in the literature (e.g., Miller, 2002; Oyserman, Kemmelmeier, & Coon, 2002). Despite these advantages, the use of the individualism and collectivism constructs also has limitations.

In a recent series of articles, several prominent scholars suggest that research on individualism and collectivism during the past 20 years has been burdened by significant theoretical problems (e.g., Fiske, 2002; Kitayama, 2002). In their rush to get on the individualism–collectivism (I–C) "bandwagon," researchers have often approached their study of cultural differences in an overly simplistic and sometimes unsophisticated way. They have too often treated individualism and collectivism as a strict dichotomy, categorizing countries and individuals as being one or the other, without a recognition of the different forms and expressions the constructs take (Miller, 2002; Oyserman, Coon, & Kemmelmeier, 2002; Tripathi & Leviatan, 2003). Similarly, critics argue that researchers have taken an overly broad, global approach to the study of individualism and collectivism, failing to acknowledge the importance of other factors in influencing individual or national level differences (e.g., Miller, 2002; Oyserman, et al., 2002).

Although a handful of scholars characterize these and other concerns as insurmountable and call for the abandonment of the I–C constructs (e.g., Fiske, 2002), most advocate for their continued use. Instead, they urge researchers to reconceptualize the constructs as "general cultural meta-schemas" (Oyserman, Kemmelmeier, et al., 2002), "omnibus constructs" (Bond, 2002), or "polythetic" cultural syndromes (Triandis, 1996), and to make a fundamental shift in their theoretical and methodological approach to studying the constructs. Specifically, they propose the development of a multifaceted approach to culture—a process-centered approach that maintains the role of context (Miller, 2002; Triandis, 1996), treats culture as a system of shared meanings (Kitayama, 2002), and is sensitive to the complexities and subtleties of cultures (e.g., Goeveia et al., 2003; Miller, 2002). They further recommend identifying and studying other cultural dimensions, fine-tuning the individualism and collectivism constructs, and exploring possible derivations of individualism and collectivism, such as "expressive individualism" (Goeveia et al., 2003).

In addition to these arguments, several critics have noted that the uses of individualism and collectivism have developed into value-laden labels. Individualistic cultures are often described in ways that suggest they are more highly evolved than their collectivist counterparts, who struggle to "catch up" (Goeveia et al., 2003; Tripathi & Leviatan, 2003). They caution researchers and practitioners to reflect on their own personal biases and take care in conceptualizing, studying, and describing the constructs.

In the context of these criticisms and recommended paradigm shift, the choice to use an individualism and collectivism–based measure in the current study may seem misguided. However, the role served by the individualism and collectivism scales in the current study is quite different from the role they have served in most previous research. The majority of earlier studies cited by critics used measures of individualism and collectivism to categorize individuals from a small number of cultures (usually two or three) as either collectivistic or individualistic. It is this type of comparison, based on a simple, dichotomized conceptualization of the constructs, that has been most sharply criticized. In addition to their somewhat narrow use of individualism and collectivism, many previous researchers attempted to make broad generalizations about national or cultural groups based on their

individual-level data. As several scholars have noted, this common ecological fallacy often results in misguided and faulty conclusions (Kitayama, 2002; Oyserman, Kemmelmeier, et al., 2002). Unlike this earlier research, the current study does not use the constructs to categorize individuals or to draw inferences about their larger national groups; rather, it uses individualism and collectivism measures as a means of operationalizing the distance between individuals from a culturally diverse group of international students and the host culture. Finally, given that categorization, labeling, and group-level comparisons will not be made, it seems unlikely that the use of the individualism and collectivism constructs will contribute to the tendency to attach values to the two constructs. Thus, the aforementioned criticisms seem less relevant to the use of individualism and collectivism in the current study. However, it is also recognized that individualism and collectivism are not the only important dimensions along which cultures vary (e.g., Triandis, 1996). Indeed, other dimensions such as power distance and cultural tightness are also likely to be relevant to the distance among individuals from different cultures. Given its somewhat limited scope, the cultural distance construct in the current study will be subsequently referred to as I–C-based cultural distance.

INTERPERSONAL, INTERCULTURAL CONFLICT

Although cultural differences are likely linked to many types of conflict, the current study focuses on informal, often unexpressed, "hidden" conflict (Kolb & Putnam, 1992). Interpersonal conflict occurring at school or in the workplace has been traditionally conceptualized as something that is publicly expressed and is dealt with through formal channels of resolution. However, research suggests that the majority of interpersonal, intraorganizational conflict is actually carried out in a private arena and is guided by normative principles rather than formal rules (Martin, 1992). A growing body of theoretical rationale and empirical evidence suggests that misperceptions and misattributions often characterize conflict and other interactions among people from very different backgrounds (Adler, 2000; Brislin, Cushner, Cherrie, & Yong, 1986; Kavanaugh & Kennedy, 1992). This suggests the tendency for "hidden" conflict might be especially pronounced in intercultural contexts.

In addition to focusing on hidden conflict, the current study conceptualizes intercultural conflict as a potential stressor that results in negative physical, psychological, and/or behavioral effects on the students' lives. Although measures of cultural adaptation vary, it is often indicated by work-related criteria such as the ability to effectively complete tasks (Brislin et al., 1986; Hammer, 1987), psychological criteria such as well-being and satisfaction (Brislin et al., 1986; Ward & Searle, 1991), and sociocultural criteria such as the ability to fit in and to have good interactions with members of the host culture (Brislin et al., 1986; Hawes & Kealey, 1981; Ward & Searle, 1991). These conceptualizations of adaptation, a long history of findings demonstrating negative psychological, work-related, and health-related effects of stress (Kahn & Byosiere, 1992), and theory and research indicating that successful cultural adaptation depends in large part on the person's ability to manage stress (Matsumoto et al., 2001) support the proposed link between stressful conflict and cultural adaptation.

THE CURRENT STUDY

In sum, the purpose of the current study is to examine the interpersonal conflict experienced by international students at an American university using the intercultural conflict as a stressor model as a framework (Figure 1). The model assumes that I–C-based cultural

distance will predict the incidence of intercultural conflict, which in turn will predict nega-
tive job-related attitudes, lowered psychological well-being, an increase in poor health con-
ditions, and increased sociocultural distress. It is further predicted that the incidence of
intercultural conflict will predict these four indicators of poor adaptation over and above the
effects of general work-related stress.

METHOD

PHASE I—INSTRUMENT DEVELOPMENT

Participants

Participants were 15 male and 10 female international graduate students at the University
of Illinois. Participants from each geographical region were contacted by e-mail and asked
if they would be willing to volunteer for the study.

Procedure

Participants were individually interviewed by a researcher on campus and were asked
questions about their experiences in three domains: (a) general impressions of the United
States, American culture, the university, and their departments, (b) daily hassles in a new
culture, and (c) interpersonal conflict related to their work at the university. Because the
purpose was to gain a rich understanding of the students' experiences, the interview was rel-
atively unstructured and tailored to each participant.

Resulting Measures

A rational-empirical approach was used in developing two measures from the interview
data. First, lists of daily sociocultural hassles and interpersonal work-related problems were
compiled based on participants' experiences. Next, several emerging themes were identified
for each list, and for each theme items were developed based on the participants' experi-
ences. A measure of interpersonal, intercultural conflict experiences was developed based
on the list of work-related experiences, and a measure of sociocultural distress was devel-
oped based on the daily sociocultural hassles list and augmented with three items from
Searle and Ward's (1990; Ward & Searle, 1991) measure of sociocultural adaptation. Both
measures were independently reviewed by six international graduate students, and the
wording was revised accordingly.

PHASE II—SURVEY

Participants

Participants were 206 international graduate students who had been enrolled at the
university for one semester.

Procedure

Packets containing a survey, letters of endorsement from the university, an informed
consent form, and a return envelope were mailed to the on-campus addresses of the 530
second-semester international graduate students at the university, which constituted the

TABLE 1
Characteristics of Phase II Participants

	Sample Population			
	n	%	n	%
Gender				
Males	123	61	327	62
Females	80	39	199	38
Total	203	100	526	100
Academic programs				
MA (or equivalent)	103	51	—[a]	—
PhD (or equivalent)	90	44	—	—
No response	10	5	—	—
Total	203	100	—	—
Geographical regions				
Africa	6	3	10	2
Asia (Far East)	112	55	284	54
Asia (Near East or Middle East)	5	2	17	3
Asia (South and West)	25	12	65	12
Europe	35	17	86	16
North and Central America, West Indies	11	5	27	5
Oceania and Australia	0	0	0	0
South America	9	4	36	7
Total	203	100	526	100

a. Relevant information was not available.

entire population of interest. A total of 206 completed surveys were received, resulting in a response rate of 39%. Of these, 3 surveys were less than 50% complete and were therefore removed from the data set. Thus, the analyses presented here were based on a total sample of 203. Table 1 gives the profile of these participants in terms of gender, academic program, and geographical regions. The mean age of the sample was 27.

Materials

The survey consisted of measures of the following constructs: I–C-based cultural distance, intercultural work-related conflict, psychological, sociocultural, work-related, and health-related aspects of adaptation, and work stress. To reduce respondent expectancy effects, the measures of adaptation came before the measure of intercultural experiences in the survey.

I–C-based cultural distance. A measure of cultural distance based on values and attitudes was developed and used in the current study. Although the attitude-value composite had not been previously used as a measure of cultural distance, it was chosen because there is considerable research indicating that there are clear cultural differences in both values and attitudes and that these differences influence a variety of types of social behavior, including interpersonal conflict (Gelfand, Kuhn, & Radhakrishnan, 1996).

Values were assessed with a shortened version of the Schwartz Value Scale (e.g., Schwartz, 1992; Schwartz & Bilsky, 1987), which asks participants to rate the extent to which each of 24 values (e.g., social order) represents a "guiding principle" in their lives. The items included

TABLE 2
Summary Statistics for Phase II Measures

Measure	# of Items	n Scale	M	SD	Item M	α
INDCOL Attitudes[a]						
Collectivist	12	203	72.89	12.94	6.1	.76
Individualistic	12	203	68.07	11.83	5.7	.79
Values[b]						
Collectivist	12	196	58.04	9.34	4.8	.80
Individualistic	12	197	57.23	8.40	4.8	.78
Intercultural Conflict[c]						
Disrespectful	9	187	13.32	4.39	1.5	.78
Communication	7	194	12.63	4.93	1.8	.82
Distance	6	192	9.66	3.45	1.6	.69
Work Satisfaction	7	197	15.8	5.07	2.2	.79
Graduate Student Satisfaction	6	199	13.65	3.79	2.3	.65
Advisor Satisfaction	6	195	14.37	4.30	2.4	.77
Work Stress[d]	5	189	8.11	4.00	1.6	.68
Life Satisfaction[e]	5	203	28.70	8.89	5.7	.86
Psychological Well-being[f]	9	200	55.42	13.18	6.2	.86
Health Conditions[g]	10	202	2.75	2.11	0.28	.63
Sociocultural Distress[h]						
Unknowns/Uncertainties	11	192	42.05	15.37	3.8	.81
Home/Family	10	202	38.39	14.05	3.8	.81

a. 1 = *strongly disagree*, 9 = *strongly agree*.
b. 1 = *not important*, 7 = *supreme importance*.
c. 1 = *never*, 5 = *most of the time*.
d. 0 = *no*, 3 = *yes*.
e. 0 = *strongly disagree*, 5 = *strongly agree*.
f. 1 = *seldom*, 9 = *frequently*.
g. 0 = *no*, 1 = *yes*.
h. 1 = *no distress*, 9 = *extreme distress*.

three values from each of the following eight basic value types: security, power, achievement, hedonism or stimulation, self-direction, universalism, benevolence, and conformity or tradition (Schwartz, 1992), resulting in 12 values considered individualistic and 12 values considered collectivistic.[1] The Schwartz Value Scale has been successfully used to assess the value structure of individuals from more than 50 different countries (Schwartz, 1992, 1994; Schwartz & Bilsky, 1987). The 12-item versions of the Collectivism and Individualism subscales used in the present study yielded Cronbach's coefficient alphas of .80 and .78, respectively (see Table 2 for summary statistics for measures used in the survey).

Attitudes were measured with the 24-item version of the INDCOL Scale (Triandis, 1995). The scale measures the extent to which respondents endorse attitudes associated with individualistic and collectivistic cultures and has been validated with participants from diverse cultural backgrounds (e.g., Singelis, Triandis, Bhawuk, & Gelfand, 1995). In the current study, the 12-item Collectivism and Individualism subscales yielded alphas of .76 and .79, respectively.

In creating the cultural distance composite, the absolute value of the difference between participants' mean scores on the Collectivistic and Individualistic Value and Attitude subscales and the mean scores from a U.S. sample were computed. These four difference scores were then standardized, and the standardized scores were summed.

Intercultural conflict experiences. The frequency with which participants experienced interpersonal, intercultural conflict was assessed with the Intercultural Conflict Scale, a measure developed based on interviews conducted in Phase I of the current study. Respondents were asked to indicate on a 5-point scale how often they had experienced each of 22 types of interpersonal conflict incidents, such as "Someone tried to sit or stand too close to you" and "You held back a comment to a professor because it is generally not appropriate to criticize a professor in the U.S.," in their work at the university during the previous 6 months (see the appendix for a complete listing of items).

Intercultural adaptation—Psychological aspects of adaptation. The students' overall life satisfaction was assessed with the Satisfaction With Life Scale (Diener, Emmons, Larsen, & Griffin, 1985), which has been shown to have excellent reliability and validity in samples from a variety of cultures. In the current study, the 5-item scale had a coefficient alpha of .86. Participants' psychological well-being was assessed with a shortened version of the General Health Questionnaire (GHQ; Banks et al., 1980). Participants rated the extent to which they agreed with nine symptom-related statements, such as "I have lost sleep over worry" and "I have felt constantly under strain," in the previous 6 months. The GHQ has been shown to be a valid indicator of psychological well-being in nonclinical samples from a variety of cultures (Banks et al., 1980; Bhagat et al., 1994). In the current study, the GHQ yielded a coefficient alpha of .86.

Intercultural adaptation—Work-related aspects of adaptation. The students' satisfaction with their work in graduate school was assessed with seven items from the work satisfaction scale of the Job Descriptive Index (JDI; Smith, Kendall, & Hulin, 1969; Roznowski, 1989), and satisfaction with other graduate students and satisfaction with academic advisors were each assessed with six items from the Coworker Satisfaction and Supervisor Satisfaction scales of the JDI. Wording of items from the three scales was revised for relevance to the graduate students' experiences in a university setting. Participants circled *yes*, *no*, or *?* (don't know) to indicate if they thought three lists of adjectives characterized their work at the university, other graduate students, and their advisor. In the current study, the Work Satisfaction, Graduate Student Satisfaction, and Advisor Satisfaction scales yielded coefficient alphas of .79, .65, and .77, respectively.

Intercultural adaptation—Health-related aspects of adaptation. Students' health conditions were assessed with a health conditions checklist, adapted from the Cornell Medical Checklist (Brodman, Erdman, Lorge, & Wolff, 1949). Participants indicated whether or not they had experienced 10 conditions, such as nausea and severe headaches, within the previous 6 months.

Intercultural adaptation—Sociocultural aspects of adaptation. Sociocultural distress was assessed with a measure developed for the current study based primarily on Phase I interviews. Participants rated the extent to which they had experienced distress as a result of 26 activities that can be particularly stressful for people living in a new culture, such as "the pace of life" and "worshiping in your normal way" (see the appendix).

Work Stress (Covariate)

Work stress was assessed with five items from the Stress in General (SIG) Scale, which provides a global measure of job stress (Smith, Sademan, & McCrary, 1992). The scale has

been shown to be a valid indicator of general work-related stress and to be related to a number of physical and psychophysiological health symptoms. In the current study, the scale yielded a coefficient alpha of .68.

MISSING DATA

A data imputation procedure described by Finkbeiner (1979) was used in handling missing data. First, item means were separately computed for participants from individualistic countries and from collectivistic countries. The appropriate item mean was then substituted for missing responses if a participant omitted 1 item on scales with 10 or fewer items or up to 2 items on scales with more than 10 items. Data from participants who had omitted items exceeding these criteria were excluded from relevant analyses.

RESULTS

PSYCHOMETRIC PROPERTIES OF CONFLICT AND SOCIOCULTURAL DISTRESS SCALES

In the first phase of data analysis, the psychometric properties of the scales developed for the current study were determined. For the Intercultural Conflict Scale, principle components analysis with varimax rotation suggested a three-factor solution, accounting for 36% of the variance. Items loading on the first factor describe interpersonal communication difficulties, items loading on the second factor represent unfair and disrespectful actions of others, and items loading on the third factor describe difficulties related to interpersonal space. Correlations between the subscales based on these factors ranged from .52 to .53, and Cronbach's coefficient alphas for the subscales were .82, .78, and .69, respectively.

For the Sociocultural Distress Scale, principle component analysis with varimax rotation suggested a two-factor solution, accounting for 33% of the variance. The first factor consists of 11 items describing worries and hassles related to the unknowns and uncertainties encountered in a new culture, and the second factor consists of 10 items concerning distressing situations directly related to one's home life (e.g., finding and preparing food). The correlation between the two subscales was .61, and the Cronbach's alpha for both of these scales was .81.

CREATION OF INDICATORS FOR MODEL

I–C-based cultural distance. A composite consisting of standardized scores representing differences in collectivistic and individualistic values and attitudes was used as the indicator for cultural distance. As described earlier, the absolute value of the difference between the participants' mean scores and mean scores from a U.S. sample on the four value and attitudinal subscales was first computed. These four scores were then standardized, and the standardized scores were summed to create a measure of cultural distance.

Intercultural conflict. The incidence of conflict experiences was calculated for each of the three types of conflicts, both alone and in combination with the other types. Because a large majority of the respondents (85%) experienced at least two types of conflict, the independent effects of each type of conflict were not examined. Thus, for the path analyses, a single intercultural conflict construct was created by summing responses to the 27 conflict items.

TABLE 3
**Correlation Matrix for Constructs in Intercultural
Conflict as a Stressor Model**

	Conflict	Work Satisfaction	Psychological Well-Being	Health Conditions	Sociocultural Distress	Cultural Distance	Work Stress
Conflict	1.0						
Work Satisfaction	−.35	1.0					
Psychological Well-Being	−.28	.42	1.0				
Health Conditions	.22	−.12	−.36	1.0			
Sociocultural Distress	.47	−.28	−.52	.28	1.0		
Cultural Distance	−.02	.08	.04	−.03	−.07	1.0	
Work Stress	.27	−.10	−.30	.30	.32	.12	1.0

Adaptation. An indicator of work-related adaptation was created by summing across Work Satisfaction, Graduate Student Satisfaction, and Advisor Satisfaction scales. An indicator of psychological adaptation was created by standardizing the Psychological Well-Being and Life Satisfaction scale scores and combining these standardized scores. A single sociocultural distress construct, created by summing scores from all sociocultural distress items, was used in the path analyses. Finally, scores on the 10 health condition items were summed and used as an indicator of health-related adaptation. The matrix of correlations among constructs in the model is given in Table 3.

PATH ANALYSES

Path analysis via the LISREL VIII program (Joreskog & Sorbom, 1993) was used to test the model for the 151 respondents who had complete data (see Figure 2). Path analysis was chosen for model testing, as the sample size was deemed too small for structural equation modeling. Fit indices for this model included a χ^2 to degrees of freedom ratio of 7.08, a root mean square residual of .14, a goodness of fit index (GFI) of .87, and an adjusted goodness of fit index (AGFI) of .66, indicating a poor fit of the model (see Table 4). Examination of the standardized residuals suggested that some of the paths among the constructs in the model were mis-specified. Specifically, there were large residuals between psychological adaptation and the other three aspects of adaptation (see Table 5).

The model was revised based on the pattern of standardized residuals. First, paths were inserted from both job satisfaction and sociocultural distress to psychological well-being, with the reasoning that psychological distress may be mediated by the participants' work satisfaction and the distress they experienced from sociocultural hassles. Second, a path was inserted from psychological well-being to health conditions, a relation consistent with research in health psychology (e.g., Fuller, Edwards, Sermsri, & Vorakitphokatorn, 1993). The revised model and estimated path coefficients are given in Figure 3. The revisions resulted in a standardized root mean residual of .10, a root mean square error of approximation of .11, a GFI of .94, an AGFI of .87, and relatively low standardized residuals (see Table 4), indicating a reasonably good fit (Kelloway, 1998; Steiger, 1990).

As Figure 3 indicates, the path coefficients for the revised intercultural conflict as a stressor model generally support the hypotheses. Intercultural conflicts had significant effects on both negative work attitudes and sociocultural distress. In addition, the conflicts had significant negative effects on psychological well-being, as mediated by work attitudes
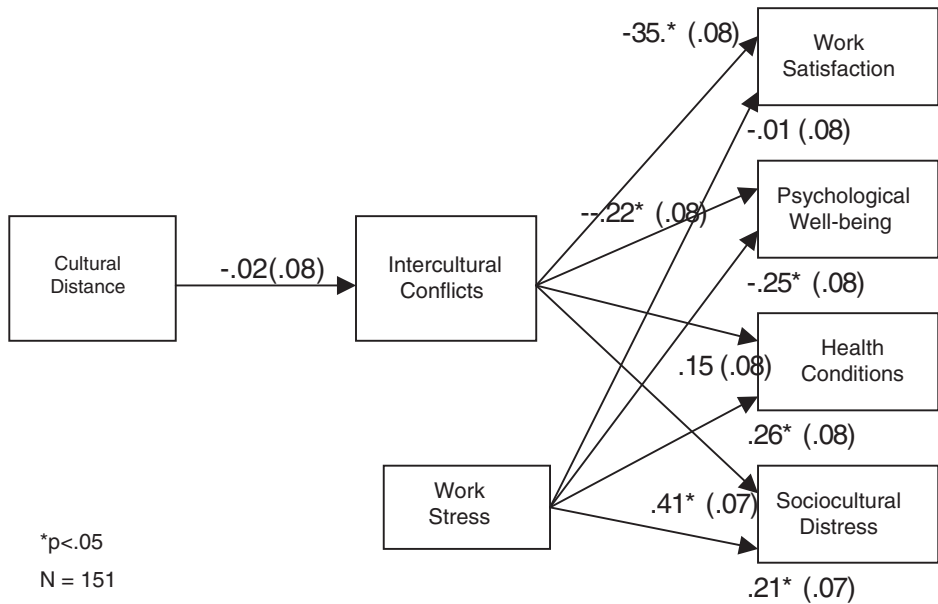
Figure 2:   Path Coefficients and Their Standard Errors for the Original Intercultural Conflict Model
NOTE: Standard errors are in parentheses.

TABLE 4
Goodness-of-Fit Indices for Intercultural Conflict Models

	Model χ^2	df	χ^2/df	RMSR	GFI	AGFI
Original model	77.89	11	7.08	.14	.87	.66
Revised model	31.77	12	2.65	.10	.94	.87

NOTE: RMSR = root mean square residual; GFI = goodness of fit index; AGFI = adjusted goodness of fit index.

and sociocultural distress, and a significant effect on health conditions, as mediated by psychological well-being. However, contrary to expectations, there was no relation between I–C-based cultural distance and intercultural conflicts.

DISCUSSION

With the increased popularity of study abroad and the realization of the important role international students play, the topic of international student success and well-being has become a major focus in the adaptation literature. An important finding from this literature is that close interpersonal relationships with host nationals can be key to good adaptation and a successful sojourn (e.g., Hammer, 1987; Tsang, 2001; Zimmerman, 1995). Unfortunately, however, relatively little research has addressed the problems with these potential

TABLE 5
Standardized Residuals for the Original Intercultural
Conflict as a Stressor Model

	Conflict	Work Satisfaction	Psychological Well-Being	Health Conditions	Sociocultural Distress	Cultural Distance	Work Stress
Conflict	0.00						
Work Satisfaction	−3.30	3.30					
Psychological Well-Being	−3.30	4.77[a]	3.30				
Health Conditions	3.30	−0.85	−3.70[a]	3.30			
Sociocultural Distress	3.30	−1.98	−5.61[a]	2.49	3.30		
Cultural Distance	0.00	1.00	0.93	−0.80	−1.21	—	
Work stress	3.30	−3.30	−3.30	3.30	3.30	0.00	—

a. These standardized residuals appear to be nonrandom.
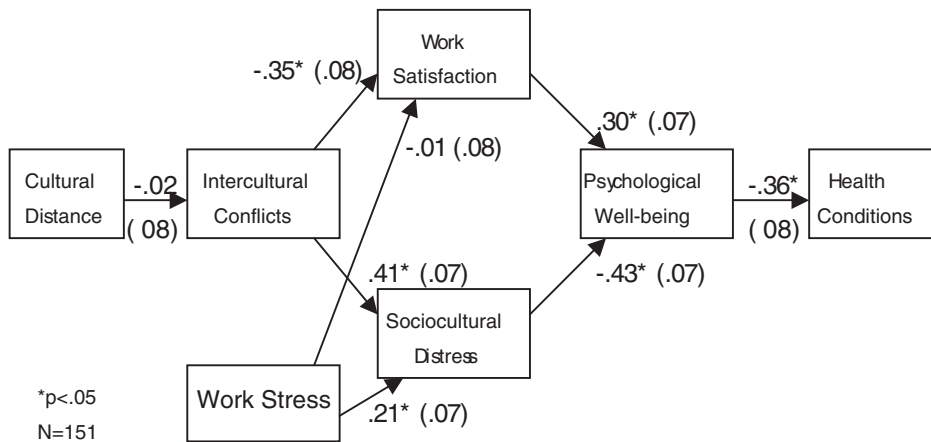

Figure 3: **Path Coefficients and Their Standard Errors (in Parentheses) for the Revised Intercultural Conflict Model**

relationships—specifically, the interpersonal conflicts that might arise. The current study examines this type of conflict. Results suggest that intercultural conflicts can be stressful for students, contributing to the overall stressfulness inherent in the intercultural adaptation process (e.g., Barna, 1983; Walton, 1990). Furthermore, like other stressors, the consequences of the conflicts can be quite dramatic.

As expected, results indicated that the international students' conflicts are directly related to decreased work satisfaction. This relation is consistent with a large body of research indicating that a variety of organizational stressors have a negative impact on work satisfaction and other work-related outcome variables (Kahn & Byosiere, 1992). The results also indicate a strong relation between students' conflicts and the distress experienced from nonwork "hassles," such as living away from family and friends and adjusting to the weather and pace of life in a new culture. Although this relation apparently had not been previously examined, it is intuitively reasonable. It suggests that the stress experienced by international

students in their work at the university can spill over to and intensify potentially distressing situations in other areas of their lives. It should be noted, however, that given the design of the study, it is not possible to rule out other types of causal relations between these or other variables. It is possible, for example, that daily hassles actually lead to interpersonal conflict or that there is a reciprocal relation between the two constructs. Indeed, research on organizational stressors suggests that this type of reciprocal relationship is not uncommon (e.g., Penney & Spector, 2005). Results also suggest that the effects of intercultural conflicts on work satisfaction and sociocultural distress lead to a degradation in psychological well-being in terms of specific symptoms of psychological distress and in terms of more global life satisfaction. The impact on psychological well-being in turn mediates the intercultural conflict's effects on health conditions.

Intercultural conflict appears to contribute to this poor adaptation over and above the baseline effects of work stress. As Figure 3 illustrates, there are significant direct effects of work stress on sociocultural distress and indirect effects of work stress on psychological distress and health conditions. The relation of work stress to the endogenous variables is noteworthy in that work stress is apparently unrelated to job satisfaction for the current sample. This is particularly interesting because general job stress has been shown to contribute to lowered job satisfaction for a variety of other samples. Thus, the present sample seems to be somewhat unique—although work stress has negative consequences for most aspects of their adaptation, including sociocultural distress, psychological well-being, and health conditions, it does not appear to have any consequences in terms of satisfaction with their work, fellow students, and advisors. A reasonable conclusion is that these graduate students expect their work at the university to be fast paced and hectic. However, because the work content and load of graduate school is often largely determined by the students themselves, they attribute the stress that accompanies the demanding workload to themselves rather than to their work, other graduate students, or their advisors, which is likely the case in other organizational settings. Furthermore, many of the students had similar fast-paced and competitive school and work experiences in their home countries. Thus, they may have used these experiences to learn to manage the general stress associated with work so that it would not interfere with their work-related attitudes. In essence, they may have learned to manage their emotions in such a way as to avoid negative consequences. Recent research suggests that this ability to regulate one's emotions is predictive of intercultural adaptation (Matsumoto et al., 2001).

In addition to indicating that work stress and satisfaction were unrelated for these students, the absence of a relation between work stress and work satisfaction is noteworthy in that it makes the criticism of a single subject response bias less plausible. If the significant relations found among the constructs in the model were because of respondents being more negative and pessimistic in general, we would expect the effects of work stress on work satisfaction to parallel the effects of intercultural conflict on work satisfaction and the effects of work stress on sociocultural distress. In sum, results of the path analyses suggest that interpersonal conflict experienced by international students can be costly in terms of their work satisfaction, distress resulting from nonwork sociocultural hassles, psychological well-being, and health conditions. Furthermore, the effects of these conflicts are independent of the effects of general work stress.

In contrast to the strong relation between intercultural conflict and adaptation, data from the current study did not provide support for the predicted relation between I–C-based cultural distance and intercultural conflicts. Although this relation apparently had not been directly examined in previous research, a great deal of theoretical, empirical, and anecdotal evidence suggests that the more different people are in terms of cultural backgrounds, the

more likely their interactions will result in damaging misunderstandings and other problems (e.g., Babiker et al., 1980). In view of this body of work suggesting that such a relation exists, no firm conclusions regarding the relation should be made based on results of the current study.

If there is a relation between I–C-based cultural distance and intercultural conflict, why was it not evident in these results? Although several explanations are possible, perhaps the most plausible is related to the measurement of cultural distance. Many scholars have recognized the difficulty in appropriately quantifying cultural distance, in large part because of the construct's multidimensionality and complexity (Babiker et al., 1980). In the current study, cultural distance was conceptualized in terms of individualism and collectivism and assessed with standard attitudinal and value-based measures. It is possible that the choice of measuring cultural distance in this way precluded the detection of its relation to intercultural conflict. To this point, both the widespread use of individualism and collectivism and the use of value- and attitude-based measures of the constructs have drawn recent criticism.

Some critics point to research suggesting that although rating scales and other survey-based measures are fine for assessing declarative knowledge, they are not valid indicators of mental processes (Fiske, 2002; Kitayama, 2002). This problem is magnified and further complicated when the measures are used to distinguish different cultural groups. For one thing, the "social facts" that define a given culture are so widely shared by individuals within the culture that they typically lie outside of conscious awareness (Kitayama, 2002) and are therefore unlikely to be accessed within the context of research participation. Even if they are able to retrieve the appropriate information, respondents from different cultures may well have very different understandings of abstract concepts highlighted in the questions. Finally, when value- and attitude-based questions require social comparisons, respondents from different cultures may not use the same types of referents (Kitayama, 2002).

It is also possible that the cultural distance construct might have been more appropriately operationalized in terms of other cultural syndromes, such as power distance (Hofstede, 1991) or communication contextuality (Hall, 1979). Although the individualism and collectivism constructs have been shown to be related to conflict (Holt & DeVore, 2005; Ting-Toomey, 1997), it is possible that they do not represent the most relevant cultural dimensions for the type of conflict measured in the current study. Similarly, it is possible that the students' culture did not serve as a primary source of their identity. According to research on social identity theory, individuals have many different social identities, any of which might play a prominent role in a given social context (e.g., Jackson, 1981). As noted by others (Ashforth & Mael, 1989; Nkomo & Cox, 1996), there are many potential sources of group identity in organizational contexts, and it may be that the students identify more strongly with other social groups, such as those of their gender, those in their major area of study, or members of their work group. To the extent that other social groups are central to the individuals' identities, we would expect the characteristics of those groups, rather than culture-related factors, to determine in-group or out-group categorization and thus to influence relevant interpersonal and intergroup relations (Ashforth & Mael, 1989). For example, many international graduate students spend a great deal of time studying in highly competitive, prestigious universities in their home countries before coming to the United States. It is possible that this common "university culture" was salient enough to override the national culture in their identity, enabling students to engage in successful, nonconflictual interactions. This would suggest that something akin to organizational culture may be a more important predictor of interpersonal problems than is I–C-based cultural distance.

In addition to these methodological issues, factors related to the sojourners' experiences, knowledge, and general preparedness for living and working abroad may have contributed to

the lack of a relation between I–C-based cultural distance and conflict. Realizing the difficulties inherent in adjusting to a foreign culture, the hosting university offered a 1-week orientation to all international students, including participants in the current study. The orientation covered issues related to day-to-day functioning in an unfamiliar environment and information designed to help students navigate their way through the Midwestern U.S. culture. Research in intercultural adjustment suggests that along with knowledge of the host culture (Matsumoto et al., 2001), behavioral styles go a long way in predicting successful adjustment and that related skills can be learned (e.g., Hammer, 1987; Matsumoto et al., 2001). Given this, it is possible that the relatively intensive orientation armed the graduate students—including those from relatively distant cultures—with skills necessary for successfully interacting within the context of this American university. This would obviously obscure a relation between I–C-based cultural distance and interpersonal conflict and suggest that skills and information-based training would be an important step in preventing conflict.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

The results of the current study are both promising and interesting; nonetheless, the study is not without limitations. Perhaps most important among methodological considerations is the issue of cross-sectional data. Although the paths in the model seem to suggest the presence of causal relations, it is recognized that cross-sectional, correlational data do not allow for causal inferences and are therefore limited in their scope and implications (e.g., Newcomb, 1990). However, it could be argued that the decision to use cross-sectional, rather than longitudinal, data in the current study is justifiable for two reasons. First, there is no clear consensus as to the timing and course of intercultural adaptation, which presents a problem in determining the appropriate length of time lags in a cross-panel design. In fact, it is possible that adaptation occurs at different speeds for different people or that different aspects of adaptation occur at different rates (Ady, 1995; Ward et al., 1998). Either of these arguments would have obvious implications for both the time-lag decision and the results related to the model and would suggest that longitudinal data may result in biased parameter estimates that are as bad or worse than those based on cross-sectional data (e.g., Gollob & Reichardt, 1987). Finally, cross-sectional data are arguably appropriate given the very early stage of research in this area, as they allow a relatively inexpensive and efficient test of the model that is useful before undertaking the much more time-consuming and costly longitudinal research (Markel & Frone, 1998). Thus, although longitudinal research obviously represents an important pursuit for the future, it is also recognized that cross-sectional research can play an important role, particularly given the early stage of this research.

Beyond this methodological consideration, one might argue that the current study too narrowly focuses on a specific type of conflict. Clearly, conflict between individuals and groups from different cultures can occur for a variety of reasons. For example, a large body of work on intergroup conflict indicates that many conflicts between nations, political parties, and other groups are rooted in real intergroup differences in such things as resources, power, and values. Research suggests that although the basis of the conflict is real, tangible group differences, these differences often lead to related subjective processes, including cognitive and perceptual biases, that cause the conflict to persist. An important area for future research is an examination of the separate and joint effects of stress caused by group-based conflict and culture-related, perception-based conflict. This research could address some interesting questions. For example, given the research indicating that intergroup conflict often escalates (e.g., Rubin, Pruitt, & Kim, 1994), one would expect the stress a sojourner experiences as a

result of the conflict to also increase over time. On the other hand, given research showing that sojourners' sociocultural adjustment problems tend to lessen over the course of their stay (Ward et al., 1998), one might expect culture-related, perception-based conflict to similarly decrease over time. Research to explore this and other issues related to intergroup conflict is clearly warranted.

Further research is also needed to study the relation between cultural distance and intercultural conflict, to identify other possible antecedents of intercultural conflict, and to examine the role of coping strategies and other relevant variables in the relation between conflict and adaptation. Finally, future research would profit from a larger sample, which would allow for the use of structural equation modeling.

APPENDIX
Intercultural Conflict Scale

The following questions ask about your experiences at this university. Using the scale below, indicate whether you have experienced each type of incident in relation to your work (as a graduate student, research/teaching assistant, etc.)

Never	*Once or twice*	*Sometimes*	*Often*	*Most of the time*
1	2	3	4	5

In your work at this university, has there ever been a time when. . .

1. You were not given the opportunity (e.g., teaching or research position) because of your English speaking ability?
2. Someone wanted to discuss a topic that you thought was too personal?
3. You felt that you weren't able to communicate in English what you wanted to someone you were working with?
4. You felt uncomfortable because you did not understand a joke or the underlying meaning of what was said?
5. Someone was too blunt (e.g., said exactly what he/she wanted to, even if it was critical)?
6. You felt uncomfortable when someone touched you?
7. A student or professor was impatient because you were speaking slowly or because he or she couldn't understand you?
8. Someone tried to stand or sit too close to you?
9. You held back a comment to a professor because it is generally not appropriate to criticize a professor in the U.S.?
10. Despite your efforts, you couldn't get to know someone you worked with on more than a superficial level?
11. You weren't given an opportunity or were treated unfairly because of your ethnicity?
12. You thought that someone you worked with was too formal when interacting with you?
13. You thought someone didn't want to hear your ideas because of your English speaking ability?
14. Your advisor or another professor tried to give you too much guidance (e.g., he/she tried to tell you what to do)?
15. You were uncomfortable or annoyed when someone asked you how you were when he/she really didn't want to know?
16. Someone took advantage of you because you were an international student and so he/she thought you would work hard?
17. You didn't discuss something with people you work with because it is not an appropriate topic in American culture?
18. You thought your work was too closely monitored because you were a foreign student or because of your ethnicity?
19. One of your students questioned or challenged your authority in some way?
20. Others thought you weren't working hard enough because your attitude toward work was different from the American attitude?
21. You thought that someone you worked with was too casual or informal when interacting with you?
22. You felt uncomfortable when asked to say something in class, because in your country students usually don't speak in class?

NOTE

1. The classification of values as individualistic or collectivistic was based on both theoretical rationale and empirical evidence. According to Schwartz's theory of the universality of values (Schwartz, 1992, 1994; Schwartz & Bilsky, 1987), values can be discriminated into types based on the underlying motivational goals they express and the interests served by the attainment of the values. Specifically, values serve the interests of the individual, of the collective, or of both the individual and the collective. As Schwartz and Bilsky (1987) and others have noted, the basis of this distinction (i.e., the importance of the individual vs. the collective) has an obvious parallel to the cultural dimension of individualism and collectivism, which has been shown to be "a major dimension of value differentiation" (p. 879). Indeed, research suggests that focus and prioritization of value types in individualistic and collectivistic cultures follow patterns predicted by Schwartz's (1994) theory.

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