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## THE MEASUREMENT OF SOCIOCULTURAL ADAPTATION

COLLEEN WARD\* and ANTONY KENNEDY

*National University of Singapore, Singapore*

**ABSTRACT.** *This paper examines the construct of sociocultural adaptation and describes the development and refinement of its measurement. Psychometric analyses of the Sociocultural Adaptation Scale (SCAS) are presented based on the compilation of data across a large number of sojourner samples from an emerging program of research. The measurement and patterns of sociocultural adaptation are examined across: (1) 16 cross-sectional samples, (2) 4 longitudinal samples, and (3) 1 paired comparison between sojourning and sedentary samples. Selected cross-sample comparisons are reported, and the relationship between sociocultural and psychological adjustment across samples is discussed. © 1999 Elsevier Science Ltd. All rights reserved*

**KEY WORDS.** *sociocultural, adaptation, adjustment, sojourner, cross-cultural transition.*

### INTRODUCTION

Despite four decades of theory and research on “culture shock,” there is still limited consensus as to what actually constitutes sojourner adjustment. The construct has been described, interpreted and measured in varying ways and from numerous perspectives. Adjustive outcomes, for example, have been operationalized and examined in terms of: health-related variables, such as physical symptomatology and medical consultations (Babiker, Cox, & Miller, 1980); perceptual variables, such as cultural awareness (Gannon & Poon, 1997) and perceptual maturity (Yoshikawa, 1988); relational variables, such as feelings of acceptance

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\*Corresponding author. Department of Social Work and Psychology, National University of Singapore, Kent Ridge, Singapore 117570.; E-mail: swkcaw@nus.edu.sg

(Brislin, 1981) and quality of relationships with host nationals (Deshpande & Viswesvaran, 1992); intrapersonal or self-concept variables, such as personal development (Gmelch, 1997) and identity conflict (Leong & Ward, in press); variables linked to task-specific accomplishments, such as job performance (Parker & McEvoy, 1993) and academic achievement (Tanaka, Takai, Kohyama, & Fujihara, 1994); psycho-emotional variables, such as life satisfaction (Yoshida, Sauer, Tidwell, Skager, & Sorenson, 1997) and mood states (Stone Feinstein & Ward, 1990); and behavioral variables, particularly the acquisition of culturally appropriate skills (Furnham & Bochner, 1986), including communication effectiveness (Witte, 1993). Unfortunately, most investigations have been undertaken in piecemeal fashion, making integration and synthesis of research findings difficult, if not impossible.

A smaller number of investigators have embarked upon more systematic programs of research on cross-cultural transition and adaptation, identifying adjustment domains and, in some cases, constructing predictive models of adjustive outcomes. This research has included data driven, factor analytic, studies by Hammer, Gudykunst and Wiseman (1978), which identified relational, communication and stress management components of intercultural effectiveness, and work by Black, Mendenhall and Oddou (1991), which inspired research on general, job and interaction adjustment. It has also included more theory driven contributions by Berry (1997) on acculturative stress and Ward (1996) and associates (Searle & Ward, 1990; Ward & Kennedy, 1996a) on psychological and sociocultural adjustment.

## PSYCHOLOGICAL AND SOCIOCULTURAL ADAPTATION

In an attempt to bring conceptual integration to a fractionated area of research, Ward and colleagues have proposed that cross-cultural adaptation may be meaningfully divided into two domains: psychological (emotional/affective) and sociocultural (behavioral). The former refers to psychological well being or satisfaction; the latter is related to the ability to "fit in," to acquire culturally appropriate skills and to negotiate interactive aspects of the host environment. Accordingly, Ward (1996) has argued that psychological adjustment can best be understood in terms of a stress and coping framework while sociocultural adaptation is best explained within a social skills or culture learning paradigm.

This has been borne out by empirical research which has demonstrated that the two adjustive outcomes, though inter-related, are conceptually and empirically distinct. Psychological adjustment, defined in terms of psychological and emotional well-being, is broadly affected by

personality, life changes, coping styles and social support. As examples, psychological adjustment has been associated with personal flexibility, internal locus of control, relationship satisfaction, approach-oriented coping styles, and use of humor, while psychological difficulties in sojourners have been linked to a higher incidence of life changes, loneliness, stress, and avoidant coping styles (Berno & Ward, 1998; Searle & Ward, 1990; Stone Feinstein & Ward, 1990; Ward & Kennedy, 1998a; Ward & Rana-Deuba, 1999). Sociocultural adaptation, by contrast, defined in terms of behavioral competence, is more strongly influenced by factors underpinning culture learning and social skills acquisition. These include length of residence in the new culture, cultural knowledge, amount of interaction and identification with host nationals, cultural distance, language fluency and acculturation strategies (Searle & Ward, 1990; Ward & Kennedy, 1993a, 1994; Ward & Searle, 1991).

Research has also revealed that the two adjustive outcomes display different patterns of fluctuation over time. The sociocultural adaptation of sojourners predictably follows a learning curve with rapid improvement demonstrated over the first few months of cross-cultural transition and then a gradual “leveling off” of newly acquired culture-specific skills. Psychological adjustment is more variable over time although studies have confirmed that the greatest difficulties are experienced at the earliest stages of cross-cultural transition (Ward & Kennedy, 1996a, 1996b).

Ultimately, the soundness of developing theory and research on psychological and sociocultural adjustment of sojourners rests on the measurement of the adjustive outcomes. In this regard, Ward and colleagues have relied upon standard psychological assessment techniques for the measurement of psychological adjustment. The Zung Self-rating Depression Scale (Zung, 1965) has been most frequently used because of its widely documented cross-cultural reliability and validity although some studies have additionally incorporated the Profile of Mood States (McNair, Lorr, & Droppleman, 1971), given its inclusion of classic “culture shock” symptoms—tension, depression, anger, fatigue, and confusion. The measurement of sociocultural adaptation, by contrast, has been undertaken with an author-devised scale. It is this measurement that is discussed in this paper.

The Sociocultural Adaptation Scale (SCAS) was first used by Searle and Ward (1990) in their study of cross-cultural transition and adaptation of Malaysian and Singaporean students in New Zealand. This paper describes the scale development and documents the usefulness and versatility of the measurement. The psychometric properties of the SCAS are reported along with the analysis of data from 16 cross-sectional samples, 4 longitudinal samples, and 1 pair of comparative sojourning and sedentary groups. The paper also reports exploratory

research on expanding the SCAS to include cognitive as well as behavioral domains.

## METHOD

### *Materials*

The development of Sociocultural Adaptation Scale (SCAS) was inspired by Furnham and Bochner's (1982) 40-item Social Situations Questionnaire (SSQ), based, in turn, on an earlier social skills scale by Trower, Bryant and Argyle (1978) and on interviews with foreign language students in Britain. The first version of the SCAS (Searle & Ward, 1990) contained 16 items. A portion of these items such as "dealing with people staring at you" and "dealing with people of higher status" were taken directly from Furnham and Bochner's instrument; however, the item content of the SCAS was not confined to social situations. Areas of adaptation such as food and climate were also included in the questionnaire.

Like Furnham and Bochner's SSQ, the SCAS requires respondents to indicate the amount of difficulty experienced in a number of areas by using a five-point scale (*no difficulty/slight difficulty/moderate difficulty/great difficulty/extreme difficulty*). Unlike the SSQ instructions and definitions, however, difficulty is not explicitly framed in affective terms relating to anxiety, discomfort, and embarrassment.

The SCAS is a flexible instrument and can be easily modified according to the characteristics of the sojourning sample. Table 1 lists items that have been used with the various samples. Most versions contain 20–23 items (See Table 2). Some items are specific to sojourner's destinations, e.g., "eating at food stalls," and others are specific to the experiences of student sojourners, e.g., "expressing ideas in class;" however, most items can be used across a diverse range of sojourning groups.

The instrument was originally developed as an assessment of intercultural competence with emphasis on behavioral domains. The most recent version of the SCAS (with 29 items) has explored the addition of more cognitive domains (e.g., items 35–41).

### *Samples and Procedures*

*Cross-sectional Samples.* The bulk of our research with the Sociocultural Adaptation Scale has been undertaken with sojourning samples connected in some way to either New Zealand or Singapore. Sixteen cross-sectional samples are described in Table 2. Sample size

**TABLE 1****Items from the Sociocultural Adaptation Scale<sup>a</sup>**


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1.	Making friends
2.	Using the transport system
3.	Making yourself understood
4.	Getting used to the pace of life
5.	Going shopping
6.	Going to social events/gatherings/functions
7.	Worshipping in your usual way
8.	Talking about yourself with others
9.	Understanding jokes and humor
10.	Dealing with someone who is unpleasant/cross/aggressive
11.	Getting used to the local food/finding food you enjoy
12.	Following rules and regulations
13.	Dealing with people in authority
14.	Dealing with the bureaucracy
15.	Making yourself understood
16.	Adapting to local accommodation
17.	Communicating with people of a different ethnic group
18.	Relating to members of the opposite sex
19.	Dealing with unsatisfactory service
20.	Finding your way around
21.	Dealing with the climate
22.	Dealing with people staring at you
23.	Going to coffee shops/ food stalls/restaurants/fast food outlets
24.	Understanding the local accent/language
25.	Living away from family members overseas/independently from your parents
26.	Adapting to local etiquette
27.	Getting used to the population density
28.	Relating to older people
29.	Dealing with people of higher status
30.	Understanding what is required of you at university
31.	Coping with academic work
32.	Dealing with foreign staff at the university
33.	Expressing your ideas in class
34.	Living with your host family
35.	Accepting/understanding the local political system
36.	Understanding the locals' world view
37.	Taking a local perspective on the culture
38.	Understanding the local value system
39.	Seeing things from the locals' point of view
40.	Understanding cultural differences
41.	Being able to see two sides of an intercultural issue

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<sup>a</sup>The first ten items are common to all cross-sectional studies and are used in the comparative analyses.

**TABLE 2**  
**Cross-sectional Samples**

	Sample	N	Mean stay (months)	Range (months)	Source
1.	Multinational students in New Zealand	155	21.8 (19.0)	3-96	Ward and Searle (1991)
2.	New Zealanders in Singapore	84	25.2 (27.6)	1-132	Ward and Kennedy (1992)
3.	New Zealand AFS students abroad	178	2.5 (2.75)	0.5-18	Ward and Kennedy (1993a)
4.	Singaporean and Malaysian students in New Zealand	145	33.4 (18.6)	2-96	Ward and Kennedy (1993b)
5.	Malaysian students in Singapore	156	32.6 (31.1)	0.2-113	Ward and Kennedy (1993b)
6.	Britons in Hong Kong	124	90.4 (85.2)	1-360	Ward and Kennedy (1993c)
7.	New Zealand civil servants abroad	98	18.0 (11.8)	1-47	Ward and Kennedy (1994)
8.	Americans in Singapore	139	30.7 (34.5)	2-228	Ward and Chang (1997)
9.	Singaporean students abroad	108	5.9 (0.7)	5-8.4	Kennedy (1998)
10.	Multinational students in New Zealand	104	22.8 (16.2)	2-60	Berno and Ward (1998)
11.	Singaporeans in United States	100	100.3 (92.1)	3-420	Ward and Inserto (1998)
12.	Hong Kong and PRC Chinese in Singapore	147	35.5 (31.3)	1-180	Ward and Chang (1998)
13.	Britons in Singapore	113	53.5 (89.2)	2-522	Ward and Kennedy (1998b)
14.	Filipina domestics in Singapore	191	33.0 (22.9)	1-114	Ward, Chang and Lopez-Nerney (1999)
15.	Multinational aid workers in Nepal	104	29.7 (24.2)	1-106	Ward and Rana-Deuba (1999)
16.	Japanese students in New Zealand <sup>a</sup>	90	6.0	-	Ward et al. (1999)

<sup>a</sup> All respondents were sampled at the same time.

ranges from 84 to 191 sojourners ( $Mdn = 119$ ). Mean length of stay varied from 2.5 months to 100.3 months ( $Mdn = 30.2$ ).

Student samples are identified as such, e.g., Singaporean and Malaysian students in New Zealand and New Zealand AFS students abroad. Adult samples (e.g., Americans in Singapore and Britons in Hong Kong) generally include a cross-section of employed adults and in many cases their accompanying spouses or partners. Most of the adult samples are educationally and occupationally varied; however, in some instances, such as New Zealand civil servants on overseas postings or Filipina domestic helpers in Singapore, the samples are composed primarily or exclusively of people engaged in the same type of employment. A number of multicultural samples are also included, such as overseas student samples in New Zealand, and in some instances samples are composed of members of a single cultural/national group who have relocated to a variety of overseas destinations (e.g., Singaporean students abroad). All samples, with the exception of Filipina domestic helpers in Singapore, include both males and females. The data pertaining to length of residence in host country, psychological and sociocultural adaptation have been extracted from larger data sets which examined the prediction of psychological and sociocultural adjustment in sojourners.

*Longitudinal Samples.* Four longitudinal samples are included in this research. The first is composed of 14 (8 males and 6 females) Malaysian and Singaporean secondary and tertiary students ( $M$  age = 19.1 years) in New Zealand (Ward & Kennedy, 1996a). These students completed a 20 item version of the SCAS within one month of arrival in New Zealand, and again 6 and 12 months later.

The second sample included 14 participants in New Zealand's Volunteer Service Abroad (VSA) program (Ward & Kennedy, 1996b). The VSA program (akin to the American Peace Corps) provides volunteer workers for various projects in developing countries. Ten men and four women ( $M$  age = 37.9 years) completed a 23 item version of the SCAS at three points in time: in New Zealand before departure to their overseas assignments, within two months of arrival at their destinations ( $M = 9.7$  weeks), and approximately one year into their field assignments ( $M = 52.1$  weeks).

The third sample (a subset of cross-sectional sample # 16 consisted of 35 (17 men and 18 women) Japanese students ( $M$  age = 18.6 years) in New Zealand (Ward, Okura, Kennedy, & Kojima, 1999). These students attended an international college specializing in courses for Japanese students who wish to advance to tertiary education in English-speaking countries. The students completed a 20 item version of the SCAS on 4 occasions: the first within 24 *h* of arriving in New Zealand,

**TABLE 3**  
**Descriptive Statistics for the Sociocultural Adaptation Scale in 16 Cross-sectional Samples ( $P < 0.05$ ,  $P < 0.01$ ,  $P < 0.001$ )**

Sample	No. of items N	Alpha	Mean item score	Range	Mean score 10 item scale	Range	SCAS (full scale) correlation with ZSDS
1. Multinational students in New Zealand	20	0.84	1.1 (0.5)	0.1-3.4	10.2 (5.5)	0-32	0.26 <sup>***</sup>
2. New Zealanders in Singapore	21	0.76	0.7 (0.3)	0.05-1.6	6.2 (3.1)	1-14.1	0.25*
3. New Zealand AFS students abroad	20	0.85	1.1 (0.5)	0-3.0	10.6 (5.5)	0-30	0.62 <sup>***</sup>
4. Singaporean and Malaysian students in New Zealand	20	0.86	1.0 (0.5)	0-2.3	9.6 (5.2)	0-23	0.41 <sup>***</sup>
5. Malaysian students in Singapore	20	0.84	0.9 (0.4)	0-2.3	7.4 (4.7)	0-24	0.54 <sup>***</sup>
6. Britons in Hong Kong	21	0.75	0.9 (0.4)	0.1-2.5	8.4 (3.9)	0-25	0.23 <sup>**</sup>
7. New Zealand civil servants abroad	22	0.88	0.8 (0.5)	0-2.0	7.7 (5.8)	0-21	0.36 <sup>***</sup>
8. Americans in Singapore	23	0.86	1.0 (0.5)	0.04-2.5	9.8 (5.5)	0-28	0.45 <sup>***</sup>
9. Singaporean students abroad	29	0.89	0.7 (0.4)	0-1.9	6.8 (4.3)	0-18	0.31 <sup>***</sup>
10. Multinational students in New Zealand	23	0.91	0.9 (0.6)	0.04-3.3	9.6 (5.8)	0-28	0.62 <sup>***</sup>
11. Singaporeans in United States	23	0.91	0.2 (0.3)	0-1.3	2.3 (3.5)	0-17	0.53 <sup>***</sup>
12. Hong Kong and PRC Chinese in Singapore	22	0.85	0.7 (0.4)	0-2.4	6.8 (4.8)	0-25	0.20*
13. Britons in Singapore	21	0.86	1.0 (0.5)	0.1-3.2	10.4 (5.5)	0-31	0.50 <sup>***</sup>
14. Filipina domestics in Singapore	23	0.85	1.3 (0.5)	0.4-3.2	11.4 (5.9)	0-27	0.27 <sup>***</sup>
15. Multinational aid workers in Nepal	23	0.81	1.0 (0.4)	0.1-2.4	9.7 (4.6)	2-26	0.27 <sup>***</sup>
16. Japanese students in New Zealand	20	0.88	1.1 (0.6)	0-3.5	11.9 (7.0)	0-37	0.33 <sup>***</sup>

the second 4 months after arrival, the third 6 months after arrival and the final questionnaire 12 months after the initial arrival and an intervening school break.

The final longitudinal sample (see cross-sectional sample # 9) included 108 (47 male and 61 female) Singaporean students ( $M$  age = 20.0 years) studying in Australia, New Zealand, People's Republic of China, the United States and the United Kingdom (Kennedy, 1998). These students completed a 29 item version of the SCAS three times: 1 month prior to departure ( $M = 25$  days), 1 month after arrival ( $M = 4.5$  weeks) and 6 months after arrival ( $M = 25.2$  weeks) at their overseas destinations.

*Home-based Sample.* A total of 142 New Zealand secondary students (49 females, 92 males, 1 unspecified) at home ( $M$  age = 17.5 years) provided a comparison group for 178 New Zealand AFS students abroad (cross-sectional sample # 3). In this instance 16 common items from the SCAS served as the basis of the comparison of New Zealand students at home and abroad (Ward & Kennedy, 1993a).

## RESULTS

### *Cross-sectional Comparisons*

Table 3 reports evidence of scalar reliability. The scale alphas range from 0.75 to 0.91 ( $M = 0.85$ ). Across a diverse selection of sojourning samples the scale has retained good internal consistency. Table 3 also includes evidence of construct validity as indicated by the consistently significant correlations (range = 0.20–0.62,  $M = 0.38$ ) between sociocultural and psychological adjustment as measured by the Zung Self-rating Depression Scale (Zung, 1965).

Mean sociocultural adaptation scores based on the common 10 core items in the 16 cross-sectional samples are also presented in Table 3. In addition, the mean item score is presented for all samples. Selected comparisons by analysis of covariance (controlling for length of residence) are reported below. In all cases comparisons are made based on the maximum number of common SCAS items.

The results reveal predictable differences across sojourning samples and suggest that sociocultural adaptation problems decrease as a function of ethnic and cultural similarity. For example, Chinese sojourners in Singapore experienced less sociocultural difficulties ( $M = 8.9$ ) than non-Chinese (British, American and New Zealand) sojourners ( $M = 11.8$ );  $F(1, 475) = 22.0$ ,  $P < 0.0001$  (12 item SCAS). In addition, Malaysian and Singaporean students in New Zealand ( $M = 17.5$ ) reported more sociocultural adaptation problems than Malaysian stu-

dents in Singapore ( $M = 14.8$ );  $F(1, 289) = 8.5$ ,  $P < 0.01$  (17 item SCAS, Ward & Kennedy, 1993b).

Data also suggest that fewer adaptation problems are encountered by those with good resources and by those who make transitions to more "comfortable" environments. New Zealand civil servants abroad ( $M = 12.8$ ) reported fewer sociocultural adaptation problems than a younger group of New Zealand AFS students abroad ( $M = 17.1$ );  $F(1, 258) = 4.6$ ,  $P < 0.04$  (16 item SCAS). Multinationals, i.e., British, New Zealand, American, Hong Kong and PRC Chinese, in Singapore ( $M = 10.9$ ) experienced less sociocultural adaptation problems than multinationals in Nepal ( $M = 13.1$ );  $F(1, 579) = 9.3$ ,  $P < 0.002$  (12 item SCAS).

While considerable variation exists in sociocultural adjustment across samples, some sojourning groups appear particularly adaptable. Singaporeans in the United States ( $M = 4.0$ ), for example, encountered fewer sociocultural difficulties than Americans in Singapore ( $M = 23.4$ );  $F(1, 236) = 149.0$ ,  $P < 0.0001$  (23 item SCAS). Similarly, Singaporean students abroad experienced less sociocultural adaptation problems ( $M = 10.6$ ) than New Zealand students overseas ( $M = 16.4$ );  $F(1, 268) = 22.3$ ,  $P < 0.0001$  (15 item SCAS).

Despite these variations, similarities also emerged in the cross-sample comparisons. As might be expected, there was no significant difference in the sociocultural adaptation of British expatriates in Hong Kong ( $M = 19.5$ ) and Singapore ( $M = 21.3$ );  $F < 1$  (21 item SCAS). Nor was a significant difference found between the 1991 ( $M = 18.6$ ) and 1998 ( $M = 17.7$ ) multinational samples of foreign students in New Zealand;  $F < 1$  (17 item SCAS).

### *Longitudinal Analyses*

Longitudinal data confirmed that sociocultural adaptation problems are greatest during the early stages of transition and that they decrease significantly over time.

For the Malaysian and Singaporean students in New Zealand a one way analysis of variance indicated that social difficulty was greatest during the first month ( $M = 26.4$ ), that it dropped sharply during the first 6 months ( $M = 17.3$ ) and that it continued in a slightly downward direction 12 months later ( $M = 16.8$ );  $F(2, 26) = 12.8$ ,  $P < 0.0001$  (20 item SCAS; Ward & Kennedy, 1996a).

For VSA volunteers sociocultural difficulties significantly decreased between two ( $M = 27$ ) and 12 ( $M = 24.5$ ) months;  $t(13) = 1.81$ ,  $P < 0.05$ , one tailed (23 item SCAS). Interestingly, the volunteers expected sociocultural adaptation to be more problematic as the mean predeparture expectations score on the SCAS was 32.9 (Ward & Kennedy, 1996b).

For Japanese students in New Zealand a one way analysis of variance indicated that there were also significant changes in sociocultural adaptation over time;  $F(3,34) = 5.89$ ,  $P < 0.001$  (20 item SCAS). Post hoc tests revealed that the greatest amount of social difficulty was experienced at entry ( $M = 28.4$ ), but that there were no significant differences across the 4 ( $M = 22.7$ ), 6 ( $M = 20.7$ ) and 12 month ( $M = 22.6$ ) time periods (Ward et al., 1999).

For Singaporean students the predeparture SCAS scores were significantly lower ( $M = 16.7$ ) than the initial post-arrival SCAS scores ( $M = 24.2$ );  $t(107) = 5.58$ ,  $P < 0.001$  (29 item SCAS). Analysis also indicated that social difficulty significantly decreased between 1 ( $M = 24.2$ ) and 6 months ( $M = 21.3$ ) overseas;  $t(107) = 3.86$ ,  $P < 0.001$  (Kennedy, 1998).

#### *Sojourner And Sedentary Comparisons*

Comparative analyses indicated, as expected, that the home-based sample experienced less sociocultural difficulty than the sojourning sample. AFS students abroad ( $M = 16.3$ ) experienced more sociocultural adaptation problems than secondary students who remained at home ( $M = 13.1$ );  $F(1, 317) = 11.6$ ,  $P < 0.001$  (16 item SCAS; Ward & Kennedy, 1993a).

### DIMENSIONS OF SOCIOCULTURAL ADAPTATION

The addition of cognitive items to the traditionally behavior-based SCAS was explored in one of the most recent studies. The structure of the 29 item version of the instrument used in Kennedy's (1998) study of Singaporean students abroad (cross-sectional sample #9) was examined by factor analysis. First, MSA (measure of sampling adequacy) values were obtained in order to determine the appropriateness of statistical treatment for the scale items. The 0.70 criterion (indicating a high degree of intercorrelation) recommended by Hair, Anderson, Tatham and Black (1995) was applied to the data, resulting in the deletion of nine items from the original scale. These tended to be diverse asocial items pertaining to things such as transport, climate, accommodation, and shopping. Next, the data were subjected to a forced two factor solution using oblique rotation as we anticipated the emergence of a cognitive and a behavioral dimension. Analysis indicated that Factor I (eigenvalue = 6.4) which accounted for 32.1% of the variance and Factor II (eigenvalue = 1.7) which accounted for 8.7% of the variance were moderately highly related (0.45). The results of the factor analysis are reported in Table 4.

TABLE 4

**Factor Analysis of the SCAS Based on a Sample of 108 Singaporean Students Abroad<sup>a</sup>**

	Factor I	Factor II
Understanding the local value system	0.81	-0.01
Understanding the locals' world view	0.74	0.01
Seeing things from the locals' point of view	0.70	0.04
Understanding cultural differences	0.69	0.01
Taking a local perspective on the culture	0.66	0.10
Making friends	0.60	-0.16
Being able to see two sides of an intercultural issue	0.57	0.08
Family relationships	0.55	0.08
Making yourself understood	0.53	-0.10
Communicating with people of a different ethnic group	0.52	0.21
Relating to members of the opposite sex	0.49	-0.03
Understanding the local political system	0.46	0.15
Finding your way around	0.40	0.11
Dealing with people in authority	0.04	0.74
Dealing with people staring at you	-0.14	0.74
Dealing with someone who is unpleasant	0.01	0.71
Dealing with unsatisfactory service	0.02	0.67
Dealing with bureaucracy	0.10	0.66
The pace of life	0.19	0.45
Finding food you enjoy	0.23	0.27

<sup>a</sup> Due to the oblique rotation the results of the pattern matrix are reported. The original 29 items in this version of the SCAS may be found in Table 1. The items are: 1–22 and 35–41.

Results suggest that the first factor relates to cognition (e.g., understanding local perspectives, values and world views) and communication (intercultural communication, making friends, making oneself understood). We have labeled this factor Cultural Empathy and Relatedness. The second factor, by contrast, concerns the management of impersonal interactions (e.g., bureaucracy, authority) and/or awkward situations (e.g., unsatisfactory services, unpleasant people). We have labeled this factor Impersonal Endeavors and Perils.

## DISCUSSION

An evolving program of cross-sectional and longitudinal research has convincingly demonstrated that the Sociocultural Adaptation Scale is a reliable and valid measurement of cultural competence or behavioral adaptability in cross-cultural sojourners. The psychometric properties of the instrument have proven robust across a wide range of culturally diverse sojourning groups, including both student and adult samples.

Internal consistency measures have ranged from 0.75 to 0.91 ( $M = 0.85$ ), and the scale's construct validity has been supported by findings consistent with contemporary theory and research on social skills acquisition: (1) sociocultural adaptation problems are greatest upon entering a new culture and decrease in a predictable fashion over time; (2) sociocultural difficulties are greater for sojourning, compared to sedentary, groups; and (3) there is a significant relationship between the psychological and sociocultural components of sojourner adjustment.

In addition to the psychometric analyses, selected cross-sample comparisons have been presented to illustrate basic principles or specific aspects of sociocultural adaptation. For example, cultural and/or ethnic similarity is associated with better sociocultural adjustment. Malaysian students in Singapore experienced less sociocultural adaptation problems than Malaysian and Singaporean students in New Zealand. Similarly, Chinese sojourners in Singapore adapted more readily than did Anglo-European residents. These findings are consistent with the broader literature on the relationship between cultural distance and psychological and sociocultural adaptation (Babiker et al., 1980; Furnham & Bochner, 1982).

There is also some evidence that sociocultural adaptation may be easier in more modern or developed countries. In this case our findings have shown that multinational aid workers in Nepal experienced more sociocultural adaptation problems than multinational residents in Singapore. This is in line with Torbiorn's (1982) work which suggested that expatriates are generally more content in industrialized, economically developed societies. These findings, however, may just as persuasively be interpreted in terms of cultural similarity, modernization and cultural homogeneity (Yang, 1988) as in our research the sojourners in both Singapore and Nepal originated primarily from developed countries.

Cross-sectional comparisons also suggest that some national or cultural groups may be more adaptable than others (see also Cochrane & Stopes-Roe, 1977). Singaporeans, for example, seem particularly adept at making cross-cultural transitions. Singaporean adults in the United States experienced far less sociocultural difficulties than Americans in Singapore. In addition, international students from Singapore appeared to encounter fewer difficulties overseas than international students from New Zealand. Why might this be the case? Singapore itself is a multicultural and cosmopolitan society with broad exposure to Eastern and Western media, values, language and culture. The country is composed predominantly of Chinese, but also has significant Malay, Indian and Eurasian communities. Singapore's geographical position and historical traditions, including former ties with Great Britain, have fostered intercultural awareness and cross-cultural familiarity. In short, Singaporeans

are well equipped with cultural knowledge and intercultural skills to assist them with cross-cultural transitions to both Eastern and Western destinations. Certainly on an anecdotal basis Singaporeans appear more familiar with American culture and customs than vice versa. Indeed, we still receive correspondence from North America addressed to Singapore, China!

There is also reason to suggest that those who relocate with an array of social and financial resources find cross-cultural transitions less difficult. This is evidenced in the comparisons between New Zealand civil servants on overseas postings and New Zealand students abroad. Not only do the former have the benefits of age and education, they also have greater financial assets and social status compared to the latter. The differences in cross-cultural adjustment, which show that the adult sample experiences less difficulties, is consistent with findings that education and income are significantly related to sociocultural adaptation (Ataca, 1996). It is interesting to note that the sample of Filipina domestics in Singapore, the sojourning group with the fewest financial assets and the lowest social status, had a particularly high mean difficulty score on the Sociocultural Adaptation Scale.

While the SCAS has provided strong evidence of differences in sociocultural adaptation over time and across cultures, it has also demonstrated meaningful cross-sample consistencies. For example, there were no significant differences in the sociocultural difficulties experienced by British expatriates in Hong Kong and in Singapore. In both instances sojourners from the United Kingdom made cross-cultural transitions to urban, primarily Chinese societies. Research also confirmed that the sociocultural adaptation problems encountered by groups of international students in New Zealand did not significantly differ between the 1991 and 1998 samples.

More recent research has explored the addition of a cognitive dimension to the behavior-based SCAS. This represents an attempt to expand work by Ward and colleagues on psychological (affective) and sociocultural (behavioral) adaptation to include the ABCs of cross-cultural adjustment. Although it was anticipated that the extended version of the SCAS might split into cognitive and behavioral subscales, factor analysis indicated that the cognitive items, such as understanding local values or world view, combined with interpersonal relationship items, such as making friends and relating to members of the opposite sex, to produce the first factor. The second factor, in contrast, was composed of items relating to impersonal tasks and activities such as dealing with bureaucracy or unpleasantness. Accordingly, the first factor was named Cultural Empathy and Relatedness while the second factor was labeled Impersonal Endeavors and Perils. Although these findings are considered preliminary, we believe that this line of research merits further

development. Cultural Empathy may provide us with a suitable measure of cross-cultural adaptation to complement the affective and behavioral domains. Indeed, Kelley and Meyers (1995, p. 16) have identified perceptual acuity, "the extent to which a person pays attention to and accurately perceives various aspects of the environment," including the tendency to accept and value other cultures, as a major component of cross-cultural adaptability.

How does the SCAS compare to other measures of sojourner adaptation? First, the instrument has arisen from a culture learning approach to sojourner adjustment; consequently, it emphasizes the acquisition of culture-specific skills, behavioral dimensions of adaptation to change, and the significance of intercultural interactions. This differs fundamentally from alternative approaches that feature processual aspects of sojourner adjustment and from those that rely on indices of general satisfaction or psychopathology as outcome measures (Ady, 1995). Secondly, the SCAS is based upon self-reported ratings of difficulties experienced in the accomplishment of everyday activities in a new cultural context. While a number of other inventories have included similar behavioral referents for assessment (e.g., language difficulties, making friends, communicating effectively, adapting to new food and living conditions), accompanying instructions and rating scales have differed. Spradley and Phillips (1972), for example, examined "amount of readjustment required" in 33 areas by asking sojourners to specify the length of time needed to accommodate cross-cultural differences. Diggs and Murphy (1991), in contrast, requested sojourners to rate the importance of various problems experienced during their residence overseas while Stening and Hammer (1992) asked sojourners to provide self-evaluations of abilities in a variety of areas.

While both conceptual elements and methodological factors differentiate the SCAS from other measurements of sojourner adaptation, the instrument's cross-cultural usage represents one of its most distinctive features. The SCAS is one of a very small number of assessment tools that has been specifically devised for and systematically employed in a cross-cultural program of research on sojourner adaptation (see also Ataca, 1996; Aycan & Berry, 1994). Along with Black and Stephens' (1989) measurement of expatriate adjustment and the Hammer et al. (1978) assessment of intercultural effectiveness, the SCAS has begun to exert an integrative influence on a diversified field.

In conclusion the SCAS has been presented as a reliable, valid and extremely versatile instrument for the measurement of intercultural competence or behavioral adaptability. The instrument can assist with the development of theory and research on social skills acquisition across cultures, intercultural effectiveness and culture learning. It may provide a valuable tool for research on sojourner adaptation particu-

larly for investigators interested in the distinction between psychological and sociocultural dimensions of cross-cultural adjustment. The SCAS may also prove useful to practitioners for training programs and evaluations. In the end it is hoped that the SCAS may play a useful role in synthesizing theory, practice and research on sojourner adaptation.

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