
PERGAMON

International Journal of Intercultural Relations
24 (2000) 27–46

International Journal of
INTERCULTURAL
RELATIONS

www.elsevier.com/locate/ijintrel

The Attitudinal and Behavioral Openness Scale: scale development and construct validation

Paula M. Caligiuri[a,*], Rick R. Jacobs[b], James L. Farr[b]

[a]*Rutgers University, USA*
[b]*The Pennsylvania State University, USA*

Abstract

The focus of this study is the development and construct validation of the Attitudinal and Behavioral Openness Scale (ABOS). This scale measures the personality construct of openness with behavioral and attitudinal indicators. Exploratory and confirmatory factor analyses suggest multiple dimensions of the Attitudinal and Behavioral Openness Scale: Participation in Cultural Activities, Foreign Experiences, Openness Attitudes, and Comfort with Differences. Additional analyses establish a nomological network for this construct by demonstrating convergence between the ABOS and theoretically linked sociopolitical constructs, attitudinal and personality constructs, in particular a self-rated adjective measure of openness.

Keywords: Openness; Personality assessment; Expatriates; Diversity; Global assignments; Cultural sensitivity

Introduction

In recent years, many organizations have had to adjust their human resource

* Corresponding author. Rutgers University, School of Management and Labor Relations, Department of Human Resource Management, 200B Levin Building, Piscataway, NJ, 08854. Tel.: +1-732-445-5228; fax: +1-732-445-2830.
E-mail address: caligiur@rci.rutgers.edu (P.M. Caligiuri).

0147-1767/99/$ - see front matter
PII: S0147-1767(99)00021-8

management strategies in response to both domestic workforce diversity and global business expansion (Jamieson & O'Mara, 1991; Tung, 1993). Both of these environmental factors, domestic diversity and global competition, have given rise to the need for a new type of employee in organizations. The domestic organization of today needs people who are open and receptive to diversity and can embrace diversity as a source of competitive advantage for their organizations. With respect to organizations expanding their operations globally, they too have a rising need for employees who can work effectively in foreign environments, with foreign colleagues, clients, etc. Both intra-national and international diversity, therefore, have fostered the need for employees who possess the personalities which would enable them to acculturate in cross-cultural situations.

Personality characteristics: openness

Responding to this human resource need, many organizations are attempting to select individuals who seem to have personalities more receptive to diversity. In general, individuals' personality traits are enduring characteristics which predispose them to behave in certain ways, given particular situations (Buss, 1989; Costa & McCrae, 1992). For example, people who are extroverted would be more likely to hold jobs which require public speaking than those who are introverted. Likewise, those who are intellectual would be more likely to hold cognitively demanding jobs than those people with less intellect.

Several researchers have suggested a five-factor model of personality ('the Big-Five'; McCrae & Costa, 1987; Piedmont, McCrae & Costa, 1991; Trapnell & Wiggins, 1990) which encompasses all characteristics of personality. The five personality factors are (1) Extroversion, (2) Agreeableness, (3) Conscientiousness, (4) Emotional Stability, and (5) Openness.

This study will focus on measurement of the fifth factor, openness. We believe that it is this personality characteristic that can ultimately help facilitate the acceptance of cultural diversity. Individuals higher in openness will have less rigid views of right and wrong, what is appropriate and inappropriate, etc. (Black, 1990). Those who are less open 'view their ideas, norms, and behavior patterns as correct and others as incorrect ... and will make little effort to understand' people from other cultures and backgrounds (Black, 1990).

The Attitudinal and Behavioral Openness Scale (ABOS)

Past studies have demonstrated the relationship between openness (or correlates of openness) and variables, such as cross-cultural adjustment (e.g., Abe & Wiseman, 1983; Black, 1990; Hammer, Gudykunst & Wiseman, 1978). These studies, however, were conducted using one questionnaire of attitudinal-type measures to assess both the personality dimensions (e.g., openness) and the criterion (e.g., cross-cultural adjustment). The significant findings in these studies may have been, in part, due to common method variance (e.g., Black, 1990).

An alternative method for measuring individual characteristics is to consider the actual behaviors which individuals, who possess the personality characteristic in question (i.e., openness), demonstrate (Regan & Fazio, 1977). Weigel and Newman (1976) suggest that when attitude scales are used, they should be administered in conjunction with behavioral measures to determine the connection between actions and beliefs. Behaviors and attitudes, therefore, provide evidence for the existence of a given personality trait in those individuals who self-report having such personal attributes. With respect to this study, both behavioral indicators and attitudinal measures related to openness are assessed. For instance, behavioral evidence which may relate to openness (in a cultural context) may include, eating at foreign restaurants, having a diverse group of friends, and the like. Therefore, 'attitudinal and behavioral openness' is defined as flexibility of one's attitudes and behaviors which result in an individual's ability to function effectively in diverse cross-national and intra national settings. The attitudes and behaviors measured by the Attitudinal and Behavioral Openness Scale (ABOS) provide evidence for the level of the personality trait of openness which may be present in an individual.

Research on biodata suggests that individuals' past experiences may be used to predict future individual related outcome variables (Neiner & Owens, 1985; Owens & Shoenfeldt, 1979). In the case of biodata items related to openness, we would expect that individuals who possess openness would have the propensity to work well in cross-cultural situations, to collaborate well with colleagues who are diverse, to acculturate to foreign countries, etc. The (ABOS) was developed on the premise that there are certain behaviors individuals exhibit and attitudes individuals hold which would indicate the presence of the underlying personality characteristic of openness—and the presence of openness would relate to positive outcomes requiring sensitivity to cultural differences.

The development of the ABOS represents the overarching goal of this research. This paper is divided into two sections. The first section describes the scale development of the ABOS. The second section presents construct validity evidence to show how this newly developed measure relates to other measures relevant to this area of research.

Study one: scale development

Item generation

The initial items included in the ABOS were written from a variety of sources. Some items were based on interviews with successful expatriates after they had returned to their home country from their experiences abroad. Other items were based on the authors' personal observations of employees in work situations requiring openness. All items were measured with 5-point scales. Specific scale anchors varied across items and were based on the stem of the item. For example, the item, 'Other cultures fascinate me' has the anchors of 1 = Strongly Disagree to

5 = Strongly Agree and the item 'I eat at a variety of ethnic restaurants' has the anchors of 1 = Never to 5 = Frequently. An experimental set of 30 items were written with the expectation that some items would be dropped, based on the results of the item analysis. The 30 items were written to measure four theoretical dimensions of openness: attitudes, participation in cultural activities, past experiences, and comfort with differences.

Method

Samples

Sample 1 consisted of 98 male and 159 female undergraduates from a large, rural, midatlantic university. The average age of the sample was 19.7 years. They completed the ABOS and received extra credit in their psychology classes. They were given the ABOS in class and asked to complete all 30 questions. The questionnaire responses were anonymous. Sample 2 consisted of 116 (49 male and 52 female and 15 subjects who did not indicate their sex) upper level, undergraduate, management students from a large mid-western university. The subjects ranged in age from 22 to 49 years old (average age = 28.4). The sample included students of the following ethnic backgrounds: 78 white, 22 black, 4 Hispanic, 4 Asian (8 subjects did not indicate their race). The subjects received extra credit for anonymously completing the questionnaire in their class.

Psychometric analyses

After the 30 items were written, they were tested so that deviant items could be identified and dropped. An item was dropped from the scale for any one of several reasons. For instance, the item may have little or no variance in the sample of respondents. Also, an item may have a near zero, or negative item total correlation, suggesting that the item is not measuring the same construct as the other items on the scale (i.e., low internal consistency). These properties were examined for all of the items on the original scale. In addition to testing the item properties, the multidimensional nature of the scale was also analyzed.

Results

Item analyses

The data from the 257 respondents in Sample 1 were used for the analysis of the scale. First, the item descriptive statistics (mean, standard deviation, and variance) were examined. The single item distributions did not suggest that any items should be dropped (items would have been dropped if their means were extreme, or if their variances were near zero). Next, the item-total correlations were computed. Six items which had near zero or negative item-total correlations were dropped. Because of the possibility that items which did not correlate with the total score could correlate with the factor scores, these six items were re-entered for the factor analysis (presented in the Multidimensionality section). The

Table 1
Means, standard deviations and factor loadings for the ABOS

Factors		M	SD	Factor loading
Factor 1: Attitudes				
Item number				
24	A year long overseas assignment would be a fantastic opportunity for me and/or my family.	3.6	1.1	0.70
21	Traveling the world is a priority in my life.	3.4	1.2	0.64
19	I hope the company I work for, (or will work for), will send me on an overseas assignment.	3.4	1.2	0.58
25	Other cultures fascinate me.	4.1	1.0	0.51
1	I would host a foreign exchange student for one year.	3.5	0.9	0.43
20	Foreign language skills should be taught in (as early as) elementary school.	4.1	1.1	0.38
30	If you took a vacation to Europe, which would you prefer (anchors increase in cultural immersion)?	3.8	1.0	0.36
Factor 2: Past Experiences				
Item number				
12	I have spent time overseas...	2.0	1.4	0.94
13	I was overseas before the age of 18...	1.9	1.4	0.93
11	I am fluent in another language.	3.0	0.9	0.37
18	I have moved or been relocated substantial distances (e.g., state to state, overseas)...	1.9	1.2	0.30
10	I have studied a foreign language.	4.1	0.6	0.30
Factor 3: Comfort with Differences				
Item number				
15	My friends' ethnic backgrounds are...	2.4	1.1	0.78
16	My friends' religious affiliations are...	2.7	1.0	0.63
17	My friends' first languages are...	1.3	0.7	0.55
14	My friends' career goals, interests and educations are...	2.8	1.1	0.43
Factor 4: Participation in Cultural Activities				
Item number				
7	I visit art galleries and museums.	2.7	0.9	0.69
8	I attend the theater, concerts, ballet, etc.	3.0	1.1	0.62
3	I attend foreign films.	1.6	0.7	0.57
9	I travel within the United States.	3.3	1.0	0.51
2	I eat at a variety of ethnic restaurants.	2.6	0.9	0.50
6	I attend ethnic festivals.	2.0	0.9	0.48
4	I read magazines which address world events.	2.6	0.9	0.43
5	I watch the major networks' world news.	3.2	1.0	0.36

same six items failed to fit with any dimension or fit together as a dimension or set of dimensions and were subsequently dropped again.

Reliability

An alpha coefficient of internal consistency reliability was then computed for the remaining 24-item ABOS. The resulting alpha was 0.81. By most standards, an alpha above 0.70 is an indication that a scale is a reliable measure—and in this case, internally consistent.

Multidimensionality

The first test of the multidimensionality of the ABOS was an exploratory principal factor analysis on the 24 retained items. The data from Sample 1 were used in this analysis. The original solution using the widely accepted root ≥ 1 criterion yielded a seven-factor solution (Gorsuch, 1983). Several of these factors were considered trivial because they did not have a unique set of defining variables (Gorsuch, 1983). In order to improve interpretation four, five, and six-factor solutions were examined. The four-factor solution maximized simple structure and was the most interpretable as it had the greatest number of unique defining variables on each factor. This solution was retained. These four factors had eigenvalues of 4.90, 2.20, 1.87, and 1.75. The percentages of variance accounted for were 20.4, 9.2, 7.8, and 7.3, respectively. The factors were rotated using an oblimin (oblique) rotation.

The criterion was to interpret only those items which had factor loadings with absolute values greater than 0.30. This value was derived from the general approach whereby the minimum standard error is doubled and the minimum salient loading is significant at that level (Gorsuch, 1983). With 256 degrees of freedom and $P < 0.05$, the minimum value of the correlation coefficient is approximately 0.15, therefore the minimum salient loading is 0.30. Table 1 presents the items, means, standard deviations, and respective factor loadings for each of the four factors. Next, scores on each dimension were computed for the sample and a correlation matrix was calculated. The factor intercorrelations are presented in Table 2. An alpha coefficient was calculated for each of the factors to

Table 2
Factor intercorrelations of the Attitudinal and Behavioral Openness Scale

Factors:	1	2	3	4
1. Attitudes	(0.73)			
2. Past Experiences	0.21**	(0.71)		
3. Comfort with Distance	0.22**	0.20**	(0.68)	
4. Participation in Cultural Activities	0.42**	0.25**	0.30**	(0.75)

** $P < 0.01$, two-tailed.

estimate the internal consistency for each factor. The factor reliabilities appear in the diagonal of Table 2.

Confirmatory factor analysis for the ABOS

In order to insure that the four-factor solution is stable and invariant across groups, confirmatory factor analysis was applied to the data from Sample 2. Using the LISREL confirmatory factor analysis program (Jöreskog & Sörbom, 1989), the best fitting measurement model was obtained from the Sample 1 data, then that resulting model was tested on the Sample 2 data. Sample 1 and Sample 2 data were compared simultaneously to evaluate the stability of the four factor solution. Analyzing both groups allowed both factor structures to be compared and more restrictive hypotheses about the factor structures to be tested. From less to more restrictive hypotheses, the following were tested: (1) variance/covariance matrix equivalence; (2) equivalent factor patterns; (3) equivalent magnitudes of the factor loadings; (4) identical error variances across samples; and (5) invariance of inter-factor variances and covariances. In order to proceed to testing the next most restrictive hypothesis, the previous hypothesis must be supported (e.g., before testing (2), support for (1) must be obtained). The chi-square statistic was used to assess the goodness-of-fit index (GFI) of the factor structures.

The initial four-factor solution (based on 24 items of the ABOS) from the Sample 1 data produced a less than adequate fit. Based on the examination of the normalized residuals, it was discovered that two items were complex, that is, they both loaded on three of the four factors. These two items were deleted in two iterative steps, each producing a significant improvement in the model. The resulting measurement model (for the remaining 22 items) produced an adequate fit, $\chi^2_{(203)} = 442.96$, $P < 0.001$, GFI = 0.865.

The four factor solution was then tested to determine if the same factor pattern held for Sample 1 and Sample 2 data (i.e., four factors with the same items loading on the same factors). The first step was to test all four factors for similar factor patterns. The factor patterns did not fit the data well, $\chi^2_{(406)} = 848.63$, $P < 0.001$, GFI = 0.773. Likewise, the test of metric invariance for all four factors did not fit the data $\chi^2_{(424)} = 880.75$, $P < 0.001$, GFI = 0.760. Since the four-factor solution was found to vary from Sample 1 to Sample 2, the factor variances were examined for both samples. For each of the four factors the variances for Sample 2 (0.815, 0.766, 0.629, and 0.551) were greater then the variances for Sample 1 (0.444, 0.616, 0.499, and 0.307). Based on the demographic differences between Sample 1 and Sample 2 (e.g., differences in ages and location), it made sense that Factor 2 and Factor 4 varied more in Sample 2. Sample 2 was older and located in an urban area where the opportunities to be involved in many of the activities measured on the ABOS are greater. It is unclear why Factor 1 and Factor 3 should vary between Sample 1 and Sample 2 so the model was retested for only these two factors.

The next step was to test these two factors for similar factor patterns. These

factor patterns did fit the data well, $\chi^2_{(68)} = 135.82$, $P < 0.001$, GFI = 0.890. The test of metric invariance for the two factors also fit the data better, $\chi^2_{(76)} = 149.66$, $P < 0.001$, GFI = 0.880.

Interpretation of the dimensions

Based on the reliability and the multidimensionality results, the ABOS and its four dimensions were used with confidence in the next stage of this study. Although Factor 2 (Foreign Experiences) and Factor 4 (Participation in Cultural Activities) did not generalize to the second sample in the confirmatory factor analysis, they are still retained and used in subsequent analyses for a variety of reasons. Both Factor 2 and Factor 4 appear to be age dependent. It is logical that in a population which is above the traditional undergraduate age, both the opportunities to do more, and the financial resources to participate in cultural activities would be greater. Sample 2 was an older, non-traditional, working, sample. In addition, the subjects in Sample 2 attend a university located in a large city, whereas the subjects in Sample 1 came from a rural area. Again, it is logical that cultural and foreign opportunities are greater in larger metropolitan areas. Since these factors were written as behaviorally based items, and to some extent one's situational constraints will affect or restrict one's behaviors (e.g., lack of foreign restaurants in small towns), these factors will vary across heterogeneous demographic groups.

Considering the population to which this work could possibly be generalized (i.e., working individuals), Factors 2 and 4 must be considered important and should be further evaluated when additional subjects with similar backgrounds are surveyed. Given that many organizations are often located in or near major cities, and that employees are usually older than 19.7 years of age (the mean age of Sample 1) Factors 2 and 4 could potentially become more important and therefore should be retained at this early stage of instrument development.

The first dimension identified is Attitudes. This dimension is characterized by individuals' thoughts and feelings toward people of other cultures and diversity. People who score highly on this dimension will have positive attitudes toward diversity and foreign experiences (such as taking an overseas assignment or hosting a foreign exchange student). In addition, they place these experiences as a high priority in their lives, and in the lives of their families.

The second dimension is Past Experiences. This dimension measures the extent to which a person has sought out and participated in foreign and diverse experiences. Two of the behavioral items included in this dimension are whether or not one elected to study a foreign language and whether or not one has had foreign travel experience. It is hypothesized that those who have sought out these activities have a greater interest in having these experiences and may be more successful in situations requiring diversity.

The third dimension of the ABOS is Comfort with Differences. This dimension is an assessment of the diversity among the types of friends people choose. Very simply, people who choose to become close with only people who are very similar

Table 3
Sociopolitical constructs and the Attitudinal and Behavioral Openness Scale (n = 118)

Scales:	Hypothesized relationship with ABOS	Alpha	Attitudes (Factor 1)	Past experiences (Factor 2)	Comfort with Differences (Factor 3)	Cultural Activities (Factor 4)	ABOS total
Patriotism	Neutral	0.73	−0.03	0.04	0.01	0.08	0.04
Nationalism	Negative	0.70	−0.17	0.11	−0.04	0.03	−0.04
Internationalism	Positive	0.62	0.24*	0.17	0.21*	0.25**	0.32**
Smugness	Negative	0.67	−0.25**	−0.09	−0.15	−0.11	−0.23*
Consumer Ethnocentrism	Negative	0.96	−0.23*	−0.06	−0.09	−0.23*	−0.23*
Liberalism	Positive	0.58	0.06	0.19*	0.19*	0.09	0.18
Ethnocentrism	Negative	0.57	−0.02	0.14	−0.02	0.08	0.04
International Relations	Negative	0.59	−0.24*	−0.01	< ♯d −0.12	−0.07	−0.18

* $P < 0.05$, two-tailed.
** $P < 0.01$, two-tailed.

to themselves are possibly less comfortable with the differences of others. Those higher in openness would be people who are comfortable having relationships with people different from themselves. People who receive a low score on this dimension have friends and acquaintances with similar (if not identical) demographic profiles (e.g., the same race, religious affiliation, age, and socioeconomic status).

The last dimension of the ABOS is Participation in Activities. This dimension is a behavioral assessment of one's intellectual curiosity for diversity in his or her experiences. Someone high in the construct of openness would be more likely to embrace diverse experiences as positive opportunities. People who have high scores on this dimension would have participated in new and unfamiliar things. For example, they would eat at foreign restaurants and go to art galleries, concerts, and museums featuring the works of diverse artists, and so forth.

Study two: construct validation

'A construct represents a hypothesis ... that a variety of behaviors will correlate with one another in studies of individual differences and/or will be similarly affected by experimental treatments' (Nunnally, 1978. p. 96). This study identifies openness as a valid construct and provides evidence that the scale developed, the Attitudinal and Behavioral Openness Scale, can be used for its assessment. In order to better understand the construct measured by the ABOS, it is necessary to examine other constructs which are related to (convergent validity) and conceptually different (discriminant validity) from it. This study presents the discriminant and convergent validity evidence for the ABOS (and its four dimensions) by comparing it to 21 other theoretically selected constructs from three broad categories, (1) sociopolitical attitudes towards foreigners, foreign goods, etc., (2) individual characteristics linked to openness, and (3) personality characteristics (the Big Five). (The constructs included are defined below along with the instrument used to measure each, respectively.)

Sociopolitical constructs

The hypothesized relationships among the following sociopolitical constructs and the ABOS are summarized in the first column of Table 3.

Internationalism

Internationalism is an attitude measure of political and moral ideology toward other nations. This construct was measured by the 5-item Internationalism Scale (Kosterman & Feshbach, 1989).

Liberalism

Liberalism is the extent to which one espouses liberal political opinions. This

Table 4
Attitudinal and personality constructs and the Attitudinal and Behavioral Openness Scale (n = 482)

Scales:	Hypothesized relationship with ABOS	Alpha	Attitudes (Factor 1)	Past experiences (Factor 2)	Comfort with Differences (Factor 3)	Cultural Activities (Factor 4)	ABOS total
Tolerance of Ambiguity	Positive	0.62	0.21**	0.08	0.21**	0.15**	0.23**
Novelty	Positive	0.49	0.29**	0.23**	0.30**	0.31**	0.40**
Interpersonal Orientation	Positive	0.86	0.02	−0.04	−0.17**	0.01	−0.06
Self Monitoring	Positive	0.72	0.03	0.08	0.00	0.13**	0.09*
Need for Structure	Negative	0.85	0.21**	0.08	0.21**	0.18**	0.24**
Autonomy	Positive	0.65	−0.19**	−0.19**	−0.10*	−0.23**	−0.26**
Optimism	Positive	0.86	−0.20**	−0.04	0.04	−0.15**	−0.14**
Positive Affect	Positive	0.88	0.23	0.13**	0.05	0.30**	0.27**
Negative Affect	Negative	0.88	−0.06	0.04	0.01	−0.08	−0.04
Need for Cognition	Positive	0.87	0.28**	0.16**	0.15**	0.35**	0.34**
Extroversion[a]	Neutral		−0.08	0.00	−0.20**	−0.10*	−0.14**
Agreeableness[a]	Neutral		−0.10*	0.11*	0.00	0.05	0.01
Conscientiousness[a]	Neutral		0.02	0.15**	−0.02	0.05	0.07
Emotional Stability[a]	Neutral		−0.06	−0.04	−0.11*	−0.04	−0.09
Openness[a]	Positive		0.27**	0.19**	0.36**	0.27**	0.39**

[a] Factor scores were used to measure these variables, therefore the alpha coefficients could not be computed.
* $P < 0.05$, two-tailed.
** $P < 0.01$, two-tailed.

construct was measured by the 7-item Liberalism Scale (Adorno, Frenkel-Brunswik, Levinson & Sanford, 1950).

Ethnocentrism, national smugness, and nationalism

These three constructs represent one's belief in the 'superiority' of one's own country. Individual with these attitudes would believe that other countries are inferior to their own, and that people from their country can learn little from people of other cultures. These constructs were measured by the 5-item Ethnocentrism Scale (Adorno et al., 1950), the 6-item Nationalism Scale (Kosterman & Feshbach, 1989), and the 4-item Smugness Scale (Kosterman & Feshbach, 1989).

International relations

International Relations is defined as hostility toward other nations, and attitudes about the correctness of the use of military force in order to protect its interests. This construct was measured by the 8-item International Relations Scale (Helfant, 1952).

Consumer ethnocentrism

Consumer ethnocentrism is an individuals' attitudes toward purchasing foreign-made goods. Refusing to buy foreign made goods (i.e., high in consumer ethnocentrism) suggests that one does not recognize the global economy and the degree to which the United States benefits from participation. This construct was measured by the 17-item Consumer Ethnocentrism Scale (Shimp & Sharma, 1987).

Patriotism

Patriotism is a healthy love for one's country. (The hypothesis is that openness toward people of other cultures is not the opposite of patriotism on a continuum. Since both are separate characteristics, they should not be related to one another.) This construct was measured by the 7-item Patriotism Scale (Kosterman & Feshbach, 1989).

Attitudinal constructs

The attitudinal constructs included in this nomological network are listed below. The hypothesized relationships among the constructs are also found in Table 4.

Tolerance of ambiguity

Tolerance of ambiguity is the extent to which individuals are comfortable with novel or unpredictable situations. This construct was measured by the 7-item Tolerance of Ambiguity Scale (MacDonald, 1970; Rydell & Rosen, 1966) and the 4-item Novelty Scale (another measure of tolerance of ambiguity; Budner, 1962).

Personal need for structure

Individuals' personal need for structure is the extent to which they are likely to reduce complexity by forming simple cognitive structures about the world. The negative implication of a person who is high in personal need for structure is that they tend to stereotype and have prejudices (Neuberg & Newsom, 1993). This construct was measured by the 11-item Personal Need for Structure Scale (Thompson, Naccarato & Parker, 1989 cited in Neuberg & Newsom, 1993).

Interpersonal orientation

Black (1988) and Mendenhall and Oddou (1988) found that having strong relational skills (i.e., interpersonal and social skills) is positively related to cross-cultural adjustment. (Interpersonal orientation, or the extent to which individuals seek out and enjoy being with other people should be positively related to openness—in particular, as it is measured on the comfort with differences dimension.) This construct was measured by the 15-item Interpersonal Orientation Scale (Filsinger, 1981).

Self-monitoring

This construct is the extent to which individuals will adjust their behaviors to fit the situation that they are in (i.e., high self monitors) or maintain a steady demeanor regardless of the situation (i.e., low self-monitors). This construct was measured by the 18-item Self-Monitoring Scale (Gangestad & Snyder, 1985).

Autonomy

This construct is the extent to which one feels comfortable and enjoys doing things independently. This was included because employees assigned to work in foreign countries need to work in situations where they will be without their familiar supports (Mendenhall & Oddou, 1988). This construct was measured by the 10-item Autonomy Scale (Lifton, 1983).

Optimism

Given the many differences associated with situations of diversity, the likelihood of making mistakes (e.g., not understanding language, not being able to easily interpret behaviors) is great. A optimist would be someone who has a positive attitude and will not get discouraged easily (Harvey, 1985). This construct was measured by the 8-item Optimism Scale (Scheier & Carver, 1985).

Intellectual curiosity

Intellectually curious individuals desire to learn more about other people, other cultures, other ways of doing things in cross-cultural situations. This desire to 'know more' enables them to more readily learn a new culture and adjust to that culture (Tung, 1986). Because of its similarity to intellectual curiosity, the construct, need for cognition, which is an individual's tendency to engage in and enjoy effortful cognitive endeavors (Cacioppo & Petty, 1982) should also be

related to openness. This construct was measured by the 18-item Need for Cognition Scale (Cacioppo, Petty & Kao, 1984).

Positive and negative affect

Positive and negative affect are two orthogonal dimensions of an individual's mood state. Positive affect, having a high activity and energy level, may be related to international orientation, assuming that cross cultural situations require greater energy than situations within one's own cultural bounds. Negative affect focuses on aversive mood states, such as fear and nervousness. It would be more difficult for an individual to adjust to a cross cultural situation in a negative mood state, which suggests that this construct should be related negatively with cross cultural adjustment. Since positive and negative affect can be induced by a situation, it may be incorrect to assume that the inverse is true. That is, affect may not influence the participation in diverse activities. It may, however, be a result from the behaviors. (In this case, subjects were asked to describe how they are 'usually'.) These constructs were measured by the 20-item Positive and Negative Affect Scale (Watson, Clark & Tellegen, 1988).

Personality constructs

As noted previously, psychologists have identified five orthogonal factors ('the Big Five') which comprise the taxonomy of personality characteristics (Goldberg, 1992; McCrae & Costa, 1987). These five factors of personality are: (1) Extraversion; (2) Agreeableness; (3) Conscientiousness; (4) Emotional Stability; and (5) Openness. Factor 5, openness, should exhibit a positive correlation with the ABOS given that they are measuring the same underlying personality trait, the only difference being that the latter is assessing it in terms of observable attitudes and behaviors. The other four personality factors should not be related. The five personality dimensions will be measured by the 100-adjective factor marker instrument developed by Goldberg (1992).

Method

Samples

From the scale development study (Study 1, above) the sample consisting of 116 upper level, undergraduate, management students, were used to test the nomological network of sociopolitical constructs. To test the nomological network or attitudinal and personality constructs, an additional set of 482 subjects (177 male and 298 female, and 7 subjects who did not indicate their sex) from undergraduate psychology students at a large midatlantic university were sampled. The subjects ranged in age from 17 to 56 years old (mean age = 19.7). The sample included students of the following ethnic backgrounds: 427 white, 9 black, 9 Hispanic, 1 American Indian, and 27 Asian (9 subjects did not indicate their race). These subjects received extra credit in their psychology classes for completing the questionnaire.

Procedure

To test the first (socio-political) nomological network, subjects were given a packets including the socio-political measures and the Attitudinal and Behavioral Openness Scale. All of the items were based on 5-point Likert-type scales, except for the Consumer Ethnocentrism which had a 7-point rating scale. The subjects were given the questionnaires to complete during their scheduled class meeting time. They were instructed to respond to each question honestly and to return the completed questionnaires to the experimenter.

To test the second (attitudinal and personality) nomological network, subjects were given a packets including the attitudinal measures, personality adjectives, and the ABOS. All of the items were based on 5-point Likert-type scales, except for the Self-Monitoring Scale which was measured by true/false items. During their scheduled experiment session, subjects were instructed to respond to each question honestly and to return the completed questionnaires to the experimenter.

Results and interpretation

The alpha coefficients for all of the scales included in this study are found on Tables 3 and 4. Six measures were below the generally acceptable level of 0.70 (ABOS Factor 3, Internationalism Scale, International Relations Scale, Smugness Scale, Liberalism Scale and Ethnocentrism Scale). All subsequent correlational analyses based on these measures will be understated or lower than they actually are because they are attenuated by measurement error. As expected, the total ABOS alpha coefficient was higher than any of its four subscales (0.84). This suggests that the ABOS is comprised of subscales which within themselves are internally consistent, but can be collectively labeled as one construct.

The correlation matrices for the ABOS and the socio-political and attitudinal and personality constructs are reported in Tables 3 and 4, respectively. In the socio-political nomological network, neither patriotism nor nationalism were found to be related to any of the four ABOS dimensions or overall ABOS score. Nationalism and patriotism were correlated ($r = 0.36$, $P < 0.01$). As hypothesized, patriotism should not have been related, because one can have both a healthy love for his or her own country as well as an openness to other countries. Based on the correlation between nationalism and patriotism, these two are probably similar constructs or parts of a broader construct which is not related to openness. Surprisingly, ethnocentrism was not negatively related to openness. This may be explained in that ethnocentrism and nationalism were correlated ($r = 0.48$, $P < 0.01$) –possibly neither are pure measures of the constructs intended.

Internationalism correlated with the overall ABOS, and all of its factors independently except for Factor 2, Past Experiences. Although causal inference cannot be made, it was anticipated that more foreign experience would be related to higher internationalism. This may have been an incorrect assumption on our part, given that we assumed a quantitative difference in amount of foreign experience. We did not account for the qualitative differences in foreign

experience. For example, people may have several very bad experiences overseas or, on the contrary, one very positive experience. This may be an explanation for why no relationship was found between Foreign Experiences and Internationalism.

Consumer ethnocentrism, international relations, ethnocentrism, and smugness about one's own country were all significantly and negatively correlated with Factor 1 of the ABOS (Attitudes), and the latter two with the overall ABOS. This is explicable if we assume that international relations, consumer ethnocentrism, and smugness are measures of an 'us versus them' mentality. This may suggest that people with greater openness recognize the global marketplace and see the positive aspects of foreign trade. Similarly, people with higher openness may see greater unity among nations. They do not consider other countries and foreign competition as threatening to them or their own country. The significant negative correlation between the ABOS Factor 2, which is Participation in Cultural Activities, and consumer ethnocentrism makes intuitive sense as well. Those who are more culturally active look to other cultures (as well as their own) for recreational activities, likewise those who are low in consumer ethnocentrism look to other countries (as well as their own) for consumer goods.

Factors 2 and 3 (Past Experiences and Comfort with Differences) and liberalism correlated significantly. This association is interesting because it links actual experiences of foreign cultures and different people with liberal political attitudes. It might be the same underlying personal characteristic which aligns one with political liberalism, also predisposing one to be acceptant of other cultures and other people.

For the attitudinal and personality constructs, almost all of the individual characteristics which were hypothesized (on Tables 3 and 4) to be linked to openness had significant correlations with the ABOS. Tolerance of ambiguity and personal need for structure were related to all dimensions of behavioral openness except past experiences. This could indicate that people who are able to tolerate more ambiguity and less structure, are better able to adjust to culturally diverse situations once they are in them, but do not necessarily seek out foreign experiences more than others.

Interpersonal orientation was only related to Factor 3, comfort with differences. This factor is the only one with an interpersonal component, that is, one which requires relational skills. Likewise, self-monitoring was only slightly related to Factor 4, participation in cultural activities. This makes sense taking into account the different emphasis that low and high self-monitors place on the social situation. High self monitors may participate in cultural events (whether they intrinsically enjoy them or not) to fit in a given social environment. Low self monitors may participate in cultural activities, only if they truly enjoy them. Taken together, whether they enjoy cultural activities or not, high self monitors may participate more in cultural activities, making them higher in this dimension of behavioral openness.

As it is measured in this study, a low score on the autonomy scale indicates higher autonomy. All dimensions of the ABOS were related to autonomy. This may indicate that people who are less concerned with the norms of a social

situation, will be more likely to do what they please—including spending time with foreign people, participating in a variety of cultural events, etc. This assumes, of course, that the free thinking autonomous individuals participate in more diverse things than the societal norm. (Given that these data were collected on a sample of highly homogeneous undergraduates this result would make sense.)

As it is measured in this study, a low score on the optimism scale indicates higher optimism. Optimism is not related to either comfort with differences or past experiences, but is related to attitudes and participation in cultural activities. The nonsignificant correlations can be explained in that people who are more optimistic may be more optimistic and enjoy diverse situations more once they are in them, but do not necessarily seek out these experiences to any great extent. For experiences common to more people (that is, things that almost everyone in this sample can experience, such as eating at foreign restaurants and going to museums) more optimistic people may be willing to try new things more frequently because they believe that they will enjoy them. Positive affect was related to all facets of behavioral openness, except comfort with differences. Since positive affect is an assessment individual mood state, it may be true that it is related to the attitudes and behaviors of the individual, but unrelated to relational experiences involving others (i.e., as assessed by Factor 3). Negative affect was not related to any of the ABOS factors.

Intellectual curiosity (i.e., need for cognition) was found to be positively related to all factors of the ABOS. Unlike most of the other personal characteristics assessed by this study, this construct assesses those who would actively seek out international oriented activities. People who are higher in intellectual curiosity do things which allow them to learn more about other people, other cultures, other ways of doing things—precisely the behaviors that the ABOS was assessing.

With regard to the personality dimensions, principal axis factor analysis with a varimax rotation (i.e., orthogonal rotation) was conducted on the Big Five factor markers, as suggested by Goldberg (1992). As hypothesized, behavioral openness loaded on the Openness personality factor (i.e., 0.40), and had a near-zero loading on the other four factors. When factor scores retained and used for correlational analyses openness, as expected, had the highest positive correlation with the ABOS. Extraversion also correlated significantly, but to a lesser extent. This result provides the strongest convergent validity evidence between openness, measured by the ABOS, and self-reported adjective measure of openness.

Discussion

The focus of this study was the development and construct validation of the Attitudinal and Behavioral Openness Scale (ABOS). From the reliability and construct validity evidence presented, we believe that the ABOS is a useful measure of the personality construct, openness. Past studies have suggested that a relationship exists between openness and criteria variables, such as cross-cultural adjustment (e.g., Abe & Wiseman, 1983; Black, 1990; Hammer, Gudykunst &

Wiseman, 1978). We believe that the ABOS could be used in future studies predicting expatriate cross-cultural adjustment. Consonant with the benefits of the ABOS for global assignments, this measure could possibly be used to predict who would be most likely to benefit from (or be in the greatest need of) cross-cultural training.

In addition to global assignments, the ABOS could be used in other situations which require the prediction of a person who is 'open'. For example, the successful management of domestic workforce diversity (or intra-national diversity) has also given rise to the need to identify people who possess the characteristic 'openness'. As one possibility, the ABOS could be added to a diversity training program to promote self-awareness. The ABOS may also be used to identify who would be most successful in (or benefit the most from) a multicultural work team.

A current limitation of the ABOS is that it focused on mostly objective, behavioral indicators of openness, future studies should also include the both biographical variables and additional attitudinal variables which affect behaviors. The biographical variables could include marital status, socioeconomic status, education level, geographical region, among others. It is possible that the behaviors assessed by the ABOS are the products of both individuals' predisposing personality characteristics and their demographic backgrounds. For example, dimension 4, Participation in Cultural Activities, could be affected by both individuals' desire to experience new things, as well as their income and geographic location which enable participation in the activities. Since the aim of this research should be the identification of the true individual differences on a personality trait, further research is needed in this area.

Based on this preliminary research, we believe the ABOS warrants further study and development. Additional questions should be added to the original four dimensions to improve the subscale internal consistencies. Preliminary work on the scale has been conducted with student populations and further research should be conducted to test the scale with working samples. Criterion-related validity studies should also be conducted to relate openness with some external criteria, such as performance on a global assignment, performance in a diversity training program, performance on a multicultural work team, etc.

References

Abe, H., & Wiseman, R. L. (1983). A cross-cultural confirmation of the dimensions of intercultural effectiveness. *International Journal of Intercultural Relations*, *7*, 5–67.

Adorno, T., Frenkel-Brunswik, E., Levinson, D. J., & Sanford, R. N. (1950). *The authoritarian personality*. New York, NY: Harper and Row.

Black, J. S. (1988). Work role transitions: a study of American expatriate managers in Japan. *Journal of International Business Studies*, *18*, 277–294.

Black, J. S. (1990). The relationship of personal characteristics with adjustment of Japanese expatriate managers. *Management International Review*, *30*, 119–134.

Budner, S. (1962). Intolerance of ambiguity as a personality variable. *Journal of Personality*, *30*, 29–50.
Buss, A. H. (1989). Personality as traits. *American Psychologist*, *44*, 1378–1388.
Cacioppo, J. T., & Petty, R. E. (1982). The need for cognition. *Journal of Personality and Social Psychology*, *42*, 116–131.
Cacioppo, J. T., Petty, R. E., & Kao, C. F. (1984). The efficient assessment of need for cognition. *Journal of Personality Assessment*, *48*, 306–307.
Costa, P. T., & McCrae, R. R. (1992). Four ways five factors are basic. *Personality and Individual Differences*, *13*, 653–665.
Filsinger, E. E. (1981). A measure of interpersonal orientation: the liking people scale. *Journal of Personality Assessment*, *45*, 295–300.
Gangestad, S., & Snyder, M. (1985). 'To carve nature at its joints': on the existence of discrete classes in personality. *Psychological Review*, *92*, 317–349.
Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment*, *4*, 26–42.
Gorsuch, R. L. (1983). *Factor analysis* (2nd ed.). New Jersey: Lawrence Erlbaum Associates.
Hammer, M. R., Gudykunst, W. B., & Wiseman, R. L. (1978). Dimensions of intercultural effectiveness: an exploratory study. *International Journal of Intercultural Relations*, *2*, 382–393.
Harvey, M. G. (1985). The executive family: an overlooked variable in international assignments. *Columbia Journal of World Business*, Spring, 84–92.
Helfant, K. (1952). Parents' attitudes versus adolescent sociopolitical attitudes. *Psychological Monographs*, *66*, 1–23.
Jamieson, D., & O'Mara, J. (1991). *Managing workforce 2000*. San Francisco: Jossey-Bass.
Jöreskog, K. G., & Sörbom, D. (1989). *LISREL 7 users's reference guide*. Mooresville, IN: Scientific Software, Inc.
Kosterman, R., & Feshbach, S. (1989). Toward a measure of patriotic and nationalistic attitudes. *Political Psychology*, *10*, 257–274.
Lifton, P. D. (1983). Measures of autonomy. *Journal of Personality Assessment*, *47*, 514–523.
MacDonald Jr, A. (1970). Revised scale for ambiguity tolerance: reliability and validity. *Psychological Reports*, *26*, 791–798.
McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, *52*, 81–90.
Mendenhall, M., & Oddou, G. (1988). The overseas assignment: a practical look. *Business Horizons*, *31*, 78–84.
Neiner, A. G., & Owens, W. A. (1985). Using biodata to predict job choice among college graduates. *Journal of Applied Psychology*, *70*, 127–136.
Neuberg, S. L., & Newsom, J. T. (1993). Personal need for structure: individual differences in the desire for simple structure. *Journal of Personality and Social Psychology*, *65*, 113–131.
Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill Book Company, Inc.
Owens, W. A., & Shoenfeldt, L. F. (1979). Toward a classification of persons. *Journal of Applied Psychology*, *64*, 569–607.
Piedmont, R. L., McCrae, R. R., & Costa, P. T. (1991). Adjective check list scales and the five-factor model. *Journal of Personality and Social Psychology*, *60*, 630–637.
Regan, D., & Fazio, R. (1977). On the consistency between attitudes and behavior: look to the method of attitude formation. *Journal of Experimental Social Psychology*, *13*, 28–45.
Rydell, S., & Rosen, E. (1966). Measurement of some correlates of need-cognition. *Psychological Reports*, *19*, 139–165.
Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: assessment and implications of generalized outcome expectancies. *Health Psychology*, *4*, 219–247.
Shimp, T. A., & Sharma, S. (1987). Consumer ethnocentrism: construction and Validation of the CETSCALE. *Journal of Marketing Research*, *24*, 280–289.
Trapnell, P. D., & Wiggins, J. S. (1990). Extension of the interpersonal adjective scales to include the big five dimensions of personality. *Journal of Personality and Social Psychology*, *59*, 781–790.
Tung, R. L. (1986). Corporate executives and their families in China: the need for cross-cultural understanding in business. *Columbia Journal of World Business*, *21*, 21–25.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scale. *Journal of Personality and Social Psychology*, *54*, 1063–1070.

Weigel, R., & Newman, L. (1976). Increasing attitude–behavior correspondence by broadening the scope of the behavioral measure. *Journal of Personality and Social Psychology*, *33*, 793–802.