

# **An International Study of the Psychometric Properties of the Hofstede Values Survey Module 1994: A Comparison of Individual and Country/Province Level Results**

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Le Module d'Enquête sur les Valeurs d'Hofstede a été à la base de nombreuses recherches inter-culturelles et multi-nationales sur le lieu de travail alors que peu d'informations sur ses qualités psychométriques étaient disponibles. Cette étude fournit des statistiques cohérentes (coefficient alpha) à partir d'échantillons représentant 23 nations ou régions. Dans les versions anglaises et dans les traductions, la cohérence interne est plutôt médiocre n'arrivant pas à

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atteindre le coefficient de 0.60, en cotant large. Même quand les données étaient regroupées en agrégats par échantillon, les coefficients alpha étaient médiocres sauf en ce qui concerne l'orientation vers le long terme. Au niveau du participant, les orientations vers le long terme et l'individualisme avaient une cohérence interne marginale tandis que des sous échelles sur la distance hiérarchique, la masculinité et le contrôle de l'incertitude en présentaient de plus fortes.

Hofstede's Values Survey Module has been the basis for much cross-cultural and cross-national research in the workplace, but little information about its psychometric properties has been available. This study provides internal consistency (coefficient alpha) statistics from samples representing 23 nations/provinces. Across both English and translated versions, internal consistencies tended to be poor, and in the majority of cases failed to achieve even a liberal criterion of 0.60. Even when data were aggregated by sample coefficient alphas were poor for all but long-term orientation. At the participant level, long-term orientation and individualism had marginal internal consistencies, whereas power distance, masculinity, and uncertainty avoidance subscales had inadequate internal consistencies. A replication of Hofstede's ecological factor analysis failed to support the five subscales. It is suggested that the construct validity of these scales is suspect, and that they should be used with caution.

## INTRODUCTION

Work-related culture values comprise one of the most popular topics in cross-cultural and cross-national work in industrial and organisational psychology. The four value framework presented by Hofstede (1984a) and later expanded to five values (Hofstede, 1994) has been quite influential not only among researchers but in the applied realm as well. For example, these dimensions have inspired the content of training programmes for expatriate managers (Schell & Marmer-Solomon, 1997). To assess these values, Hofstede developed the Values Survey Module (VSM), which has undergone modification between the original 1982 four dimension version and the 1994 five value version (Hofstede, 1994). Many researchers have relied on country means provided by Hofstede to make cross-country comparisons, whereas others have obtained values data from study respondents to generate values profiles. However, little information is available concerning psychometric properties; for example, Hofstede's (1994) manual on the scale contains no information on the reliability (internal consistency) and construct validity of the five value dimensions. Having used the VSM in a cross-national study, we will present our findings comparing countries/provinces on these dimensions as well as showing internal consistency reliability for the scales.

The most recent version of the VSM assesses five dimensions: power distance (tolerance for unequal power distribution in a society), individualism (members of a society are expected to look out for themselves and immediate family), masculinity (clearly defined gender roles with a focus on assertiveness and material success), uncertainty avoidance (extent to which

people in a society feel threatened by ambiguous or unstructured situations), and long-term orientation (the tendency to look toward future rewards, which concerns perseverance and thrift). Hofstede (1994) stated that the VSM is intended to compare countries, and that dimensions should not be scored for individuals, as the relations among items can be quite variable. However, it seems that at the very least, the construct validity of these dimensions is based on the bedrock of their internal consistencies. If items fail to consistently relate to one another, the constructs underlying them are suspect. Certainly, the VSM has yielded interesting results. However, this is not to say that the construct validity of the scale should be taken for granted. In this paper we will discuss the mean differences we found among samples from 23 countries/provinces as well as internal consistencies at both the individual participant and aggregate country/province-mean levels.

## METHOD

### Sampling of Nations

The data used here are part of the Collaborative International Study of Managerial Stress (CISMS), established in 1996 to conduct cross-national research. CISMS was founded as a cooperative research project among an international group of job stress researchers who collected data with a common instrument. Initially, people representing 30 nations/provinces agreed to become involved in the study. For the current analyses data from 23 nations/provinces were available.

### Participants

Participants in this study were 6,737 employees, mostly in administrative/managerial positions, from 23 nations/provinces. It should be noted that 213 additional participants were deleted because of missing data. The nation/province names, demographics (age, gender, job tenure, and marital status), and sample sizes can be seen in Table 1. Sample sizes varied considerably from 60 for France to 1,870 for Japan. The majority of participants were married males between 35 and 45 years of age with 8 to 16 years of tenure with their current employers. Several of the samples were almost entirely male, but others were more balanced. In most cases individuals were working for companies owned and run within their country/province, as opposed to working for Western multinationals.

### Measures

In all 23 samples the same questionnaire was administered and included VSM 94 along with some additional scales. The VSM 94 assesses five culture

TABLE 1  
Demographic Characteristics of Samples

<i>Country/Province</i>	<i>Sample size</i>	<i>Percent male</i>	<i>Percent married</i>	<i>Mean age</i>	<i>Mean job tenure</i>
Belgium	184	70	79	34.7	7.6
Brazil	117	64	64	36.5	11.9
Bulgaria	177	62	77	40.6	13.5
Canada	95	73	82	43.1	10.2
China (PR)	245	66	94	39.3	16.0
Estonia	163	57	72	38.7	6.4
France	60	65	87	43.7	14.9
Germany	85	99	96	51.5	25.6
Hong Kong	275	57	51	34.6	7.1
India	156	98	98	54.2	30.5
Israel	95	67	88	47.0	10.4
Japan	1870	86	100	37.8	16.7
New Zealand	533	73	84	46.2	9.4
Poland	261	60	86	44.8	15.1
Romania	455	58	77	37.5	14.2
Slovenia	489	92	93	40.5	12.8
South Africa	135	70	74	36.2	8.1
Spain	185	84	82	38.1	10.4
Sweden	211	79	90	47.0	15.2
Taiwan	340	56	74	37.9	10.2
UK	221	53	83	43.7	15.5
Ukraine	265	41	70	38.4	9.2
USA	120	55	73	43.9	9.5

values: individualism, long-term orientation, masculinity, power distance, and uncertainty avoidance. There are four items per subscale and three slightly different item formats. All items used five-point scales. The first 12 asked for ratings of importance from *of utmost importance* to *of very little or no importance*. The next two items asked for ratings of frequency, but used different response choices. The final six items asked for agreement, from *strongly agree* to *strongly disagree*. For item analysis, we used the participant unweighted ratings for each item, but for comparing means we used Hofstede's (1994) scoring procedure with all four items per scale.

## Procedure

The organisers of CISMS put together the questionnaire containing the three instruments and additional questions (e.g. age and gender). This was the English version which was used in seven samples. Copies were distributed to researchers in each nation/province for translation and data

collection. In 16 cases, the questionnaire was translated into the appropriate language, and then independently back-translated to assure language equivalence. Where translation equivalence was not maintained, portions were retranslated, and then retested until the meanings of both versions were as close as possible. In all 23 nations/provinces the VSM 94 (and other scales) were used without modification, other than translation.

## RESULTS

Internal consistency reliabilities were assessed with coefficient alpha, as computed with the item analysis option of Proc Corr in SAS. Table 2 shows for each subscale the alphas per country/province, as well as means and standard deviations of the alphas across samples. We did these analyses separately for each country/province to avoid statistical distortions produced by mixing levels of aggregation (Bryk & Raudenbush, 1992; Muthén, 1994). As can be seen, the internal consistencies for most combinations are unacceptably low. Of the 115 alphas in the table, only 13 achieved the 0.70 minimum that is generally considered acceptable (Nunnally, 1978). Even using the less stringent criterion of 0.60 for a research scale from Nunnally's earlier edition, only 22 alphas reached a minimally acceptable level. Furthermore, three subscales (power distance, masculinity, and uncertainty avoidance) had no alphas above 0.60. As can be seen, long-term orientation was the most internally consistent, with 15 alphas exceeding 0.60, and 8 exceeding 0.70. Individualism was next with 7 and 5 alphas exceeding these criteria, respectively. This low internal consistency was apparent with both English language and translated versions of the VSM 94.

Because this scale is often used at the group/country level, we repeated the analysis using country/province mean as the sampling unit rather than individual person. Thus we had 23 observations for each item. When we first analysed all items per scale, the internal consistencies were acceptable only for long-term orientation ( $\alpha = 0.74$ ). Internal consistencies for the other scales ranged from  $-0.46$  to  $0.57$ . An inspection of the item intercorrelations showed that some items were negatively correlated with one another. These were reverse scored based entirely on empirical observation of the data, improving the reliabilities of two scales. Each scale's alpha was: power distance,  $0.64$ ; individualism,  $0.57$ ; masculinity,  $0.29$ ; and uncertainty avoidance,  $0.49$ . An inspection of item-remainder coefficients suggested that items could be deleted to improve internal consistencies for three scales. Removing one item raised power distance to  $0.78$ , removing two items raised individualism to  $0.78$ , and removing one raised uncertainty avoidance to  $0.67$ .

Despite low reliabilities for most scales at both the individual and country/province level, we conducted ANOVAs to compare country/province means across samples, using Hofstede's recommended scoring procedure (at the

TABLE 2  
Internal Consistency Reliabilities (Coefficient Alpha) for Five Hofstede VSM 94 Values  
Scales by Country/Province

<i>Country/Province</i>	<i>Power distance</i>	<i>Individualism</i>	<i>Masculinity</i>	<i>Uncertainty avoidance</i>	<i>Long-term orientation</i>
Belgium	.23	.26	.03	-.00	.40
Brazil	.42	.71	.42	-.10	.54
Bulgaria	.38	.76	.39	.21	.77
Canada	.28	.61	-.33	.19	.67
China (PR)	.12	.48	.27	.18	.66
Estonia	.34	.48	.01	.12	.74
France	.34	.59	.07	-.30	.58
Germany	-.18	.18	.09	-.06	.43
Hong Kong	.30	.61	.28	.17	.73
India	.05	.75	.39	.03	.83
Israel	.12	.55	.41	.06	.66
Japan	.24	.61	.27	.14	.64
New Zealand	.07	.45	.02	.04	.61
Poland	.15	.48	.19	.16	.64
Romania	.18	.29	.32	.23	.57
Slovenia	.15	.49	.07	.21	.62
South Africa	.23	.71	.06	-.14	.70
Spain	.18	.30	.30	.03	.45
Sweden	.17	.49	.32	-.26	.46
Taiwan	.47	.52	.29	.18	.71
UK	.06	.41	.07	-.06	.58
Ukraine	.10	.53	.05	-.03	.74
USA	.27	.70	.46	.20	.77
Mean	.20	.52	.19	.05	.63
SD	.14	.16	.19	.15	.12

SD = Standard deviation

level of individual subjects) with all items. It should be kept in mind that in light of the poor internal consistencies, one must interpret these differences cautiously. Table 3 shows the means in rank order, and indicates which are significantly different from one another. All five scales yielded significant differences among our samples, not surprising with the large sample. The ANOVA results were: Power distance  $F(22, 6697) = 8.89, P < 0.0001, R^2 = 0.03$ ; Individualism  $F(22, 6880) = 40.04, P < 0.0001, R^2 = 0.11$ ; Masculinity  $F(22, 6805) = 13.96, P < 0.0001, R^2 = 0.04$ ; Uncertainty avoidance  $F(22, 6837) = 25.96, P < 0.0001, R^2 = 0.08$ ; Long-term orientation  $F(22, 6836) = 28.15, P < 0.0001, R^2 = 0.08$ . We used the weighting scheme provided in the VSM 94 technical manual to compute the scores per subject to enter into the ANOVA. Differences in sample sizes were due to missing data for some items.

TABLE 3  
Means for Five Hofstede VSM 94 Values Scales by Country/Province

<i>Power distance</i>		<i>Individualism</i>		<i>Masculinity</i>		<i>Uncertainty avoidance</i>		<i>Long-term orientation</i>	
<i>Country/Province</i>	<i>Mean</i>	<i>Country/Province</i>	<i>Mean</i>	<i>Country/Province</i>	<i>Mean</i>	<i>Country/Province</i>	<i>Mean</i>	<i>Country/Province</i>	<i>Mean</i>
Ukraine	44.8 <sup>a</sup>	New Zealand	107.6 <sup>a</sup>	South Africa	61.5 <sup>a</sup>	Ukraine	79.7 <sup>a</sup>	Hong Kong	61.5 <sup>a</sup>
Belgium	38.7 <sup>ab</sup>	France	105.5 <sup>ab</sup>	Israel	49.1 <sup>ab</sup>	Spain	73.8 <sup>ab</sup>	Japan	59.8 <sup>a</sup>
India	38.7 <sup>ab</sup>	Sweden	104.1 <sup>ab</sup>	Taiwan	48.9 <sup>ab</sup>	France	73.8 <sup>ab</sup>	Brazil	57.5 <sup>a</sup>
Bulgaria	36.3 <sup>a-c</sup>	UK	99.8 <sup>a-c</sup>	Estonia	48.4 <sup>a-c</sup>	Belgium	64.6 <sup>bc</sup>	Romania	54.7 <sup>a</sup>
Poland	33.6 <sup>b-d</sup>	South Africa	99.7 <sup>a-c</sup>	Japan	47.1 <sup>a-c</sup>	Bulgaria	63.5 <sup>b-d</sup>	China (PR)	52.2 <sup>ab</sup>
USA	28.5 <sup>b-e</sup>	Spain	96.8 <sup>a-c</sup>	Bulgaria	37.6 <sup>b-d</sup>	Japan	61.1 <sup>b-e</sup>	New Zealand	51.7 <sup>a-c</sup>
South Africa	28.1 <sup>b-e</sup>	USA	95.1 <sup>b-d</sup>	Canada	36.9 <sup>b-d</sup>	Brazil	60.7 <sup>b-f</sup>	Ukraine	43.6 <sup>b-d</sup>
France	27.4 <sup>b-e</sup>	Canada	91.8 <sup>cd</sup>	Germany	36.5 <sup>b-d</sup>	Hong Kong	60.1 <sup>b-f</sup>	Canada	42.6 <sup>b-e</sup>
Romania	26.3 <sup>c-e</sup>	Germany	91.0 <sup>cd</sup>	Poland	28.2 <sup>b-e</sup>	Slovenia	57.2 <sup>c-f</sup>	USA	42.5 <sup>b-e</sup>
Brazil	25.7 <sup>c-f</sup>	Israel	85.0 <sup>de</sup>	USA	27.4 <sup>c-e</sup>	Poland	55.9 <sup>c-f</sup>	South Africa	42.1 <sup>b-e</sup>
Hong Kong	25.1 <sup>c-f</sup>	Belgium	84.2 <sup>de</sup>	Hong Kong	23.0 <sup>d-f</sup>	Estonia	53.4 <sup>c-f</sup>	Germany	41.8 <sup>c-e</sup>
Spain	24.9 <sup>c-f</sup>	Slovenia	78.8 <sup>ef</sup>	Romania	22.9 <sup>d-f</sup>	China (PR)	50.5 <sup>c-g</sup>	Belgium	40.2 <sup>de</sup>
Israel	24.9 <sup>c-f</sup>	Brazil	74.1 <sup>e-g</sup>	Slovenia	21.4 <sup>d-f</sup>	Romania	50.3 <sup>c-g</sup>	Slovenia	38.9 <sup>de</sup>
China (PR)	24.4 <sup>d-f</sup>	Japan	72.5 <sup>f-h</sup>	India	20.3 <sup>d-f</sup>	Canada	48.3 <sup>e-g</sup>	Sweden	37.6 <sup>de</sup>
Estonia	23.4 <sup>d-f</sup>	Hong Kong	72.0 <sup>f-h</sup>	France	20.2 <sup>d-f</sup>	UK	45.6 <sup>e-g</sup>	Estonia	36.7 <sup>de</sup>
Slovenia	19.9 <sup>e-g</sup>	India	69.1 <sup>f-h</sup>	New Zealand	14.8 <sup>e-g</sup>	USA	45.4 <sup>fg</sup>	India	35.9 <sup>ef</sup>
UK	19.3 <sup>e-g</sup>	Bulgaria	63.9 <sup>g-i</sup>	Spain	14.0 <sup>e-g</sup>	Israel	37.1 <sup>gh</sup>	Poland	32.8 <sup>e-g</sup>
Japan	19.1 <sup>e-g</sup>	Estonia	62.0 <sup>hi</sup>	China (PR)	13.5 <sup>e-g</sup>	New Zealand	25.4 <sup>hi</sup>	Bulgaria	32.5 <sup>e-g</sup>
New Zealand	18.0 <sup>e-g</sup>	Taiwan	60.9 <sup>hi</sup>	Brazil	12.7 <sup>e-g</sup>	South Africa	23.4 <sup>hi</sup>	Spain	26.5 <sup>f-h</sup>
Canada	16.9 <sup>e-g</sup>	Poland	54.7 <sup>ij</sup>	Ukraine	3.4 <sup>f-h</sup>	Taiwan	21.3 <sup>ij</sup>	Taiwan	26.1 <sup>f-h</sup>
Germany	14.1 <sup>fg</sup>	Ukraine	53.8 <sup>ij</sup>	Sweden	-1.4 <sup>gh</sup>	India	15.0 <sup>ij</sup>	UK	25.5 <sup>gh</sup>
Taiwan	14.0 <sup>fg</sup>	China (PR)	52.8 <sup>ij</sup>	UK	-4.0 <sup>gh</sup>	Germany	14.5 <sup>ij</sup>	France	19.7 <sup>h</sup>
Sweden	9.4 <sup>g</sup>	Romania	46.7 <sup>j</sup>	Belgium	-10.7 <sup>h</sup>	Sweden	7.6 <sup>j</sup>	Israel	17.9 <sup>h</sup>

Countries sharing the same superscript letter were not significantly different according to Duncan subsequent tests.

Sixteen of our countries/provinces were also part of Hofstede's pioneering work (Hofstede, 1984b), so we were able to compare both sets of results on four of the dimensions: power distance, individualism, masculinity, and uncertainty avoidance. Table 4 shows the rank order for the original Hofstede means per country/region taken from Figures 1 and 2 of Hofstede (1984b). At the bottom we included the correlations among the ranks for each subscale, which ranged from 0.71 for individualism to 0.24 for masculinity. It should be kept in mind that close ranks represent scores that tend to be similar in most cases. The table shows that in most cases the ranks are fairly similar, but in several there were rather large differences. For example, on power distance the USA goes from rank 10 in Hofstede to rank 3. With individualism several countries showed big changes, for example Spain moved from rank 11, which was in the middle of the range to 6 in our data, making it one of the most individualistic countries. Masculinity showed some rather large differences, e.g. the UK went from rank 3 to 15, and Taiwan went from 13 to 3. Uncertainty avoidance also showed some large changes, e.g. Hong Kong went from being tied for rank 1 to rank 11, and the UK went from 1 to 9.

## DISCUSSION

Our results clearly show that the VSM 94 has unacceptably low internal consistencies for all five subscales across most of our country/province samples at the participant level. Even at the country/province level internal consistency was poor for all but long-term orientation, unless we reverse-scored three items and deleted five others based on our empirical data. However, considering that the sample size was only 23, it is very likely that these alphas will not be stable. To test this we divided each sample in half putting every other case in each group. We found considerable variability in alphas, e.g. individualism was 0.67 with one half of the data and 0.41 with the other, but this did not change our conclusions appreciably. Long-term orientation was still the only scale with good internal consistency. The same items needed reversing in both subsamples. When items were deleted, it produced one scale with only two items and two with three items. It hardly seems that such short scales would adequately capture the values intended.

At the participant level, only the subscales for individualism and long-term orientation demonstrated acceptable internal consistencies in any of our samples. Individualism was above the 0.70 criterion for five samples and long-term orientation for eight samples. Although not reported here, a careful inspection of the inter-item correlations showed that in many instances there was little or no correlation among items from the same subscale within a sample. Furthermore, we attempted to factor analyse the scale using the US and UK samples. A five factor solution failed to come



TABLE 4  
Comparison of Hofstede (1984b) Country/Region Mean Rank Order with Current Results for the 16 Common Countries/Provinces

<i>Power distance</i>		<i>Individualism</i>		<i>Masculinity</i>		<i>Uncertainty avoidance</i>	
<i>Hofstede rank</i>	<i>Current rank</i>	<i>Hofstede rank</i>	<i>Current rank</i>	<i>Hofstede rank</i>	<i>Current rank</i>	<i>Hofstede rank</i>	<i>Current rank</i>
1. India	2	1. USA	7	1. Japan	4	1. Sweden	1
2. Brazil	6	2. UK	4	2. Germany	6	1. Hong Kong	11
3. Hong Kong	7	3. Canada	8	3. UK	15	1. UK	9
4. France	5	4. New Zealand	1	4. South Africa	1	4. India	3
5. Belgium	1	5. Belgium	11	5. USA	7	5. USA	8
6. Taiwan	15	6. Sweden	3	6. New Zealand	11	6. Canada	10
7. Spain	8	6. France	2	7. Hong Kong	8	6. New Zealand	6
8. Japan	11	8. Germany	9	8. India	9	6. South Africa	5
9. South Africa	4	9. South Africa	5	9. Belgium	16	9. Germany	2
10. USA	3	10. Israel	10	10. Canada	5	10. Taiwan	4
11. Canada	13	11. Spain	6	11. Brazil	13	11. Brazil	12
12. Germany	14	12. India	15	12. Israel	2	12. Israel	7
13. UK	10	13. Japan	13	13. Taiwan	3	13. France	15
14. Sweden	16	14. Brazil	12	14. France	10	13. Spain	16
15. New Zealand	12	15. Hong Kong	14	15. Spain	12	15. Belgium	14
16. Israel	9	16. Taiwan	16	16. Sweden	14	15. Japan	13
Correlation between Hofstede and current ranks	.57*		.71*		.24		.59*

\*  $P < 0.05$

even close to representing these five dimensions in either sample. Whereas the four items of the long-term orientation loaded on the same factor, items from the other four were scattered among the five factors. The eigenvalue scree plot suggested three factors, but they were uninterpretable and did not contain the same variables across the two samples. In addition the factor structure seemed to be heavily influenced by the format of the items. In the US sample the first factor comprised the first 12 items which shared a common response format.

We also attempted to replicate Hofstede's ecological factor analysis, by computing means per item for each sample, and using these means as "subjects". We used SAS Proc Factor, using a common factor model, with multiple correlations squared as communality estimates, and varimax orthogonal rotation of five factors. The five factors all had eigenvalues greater than 1, and combined they accounted for 84 per cent of the common variance. The items from each subscale were all scattered across two or more of the five factors. Power distance was spread across three factors, individualism across two, masculinity across four, uncertainty avoidance across two, and long-term orientation across three. Factor one contained items from power distance, individualism, masculinity, and long-term orientation; factor two contained individualism, masculinity and uncertainty avoidance; factor three contained power distance, masculinity, and long-term orientation; factor four contained only two long-term orientation items; and factor five contained power distance, masculinity, and uncertainty avoidance. Thus even at the aggregate level, the structure failed to correspond to the subscales.

We explored two possible reasons for the poor internal consistency of the VSM 94: translation problems and restriction of range. It is indeed possible that poor translation would degrade the reliability of a scale, as items are given different meanings from the original. Two pieces of evidence argue against this possibility. First, an inspection of Table 1 shows that among the English-speaking samples (deleting Sweden which took the English version), half had good internal consistencies (India, South Africa, and the USA) but half did not (Canada, New Zealand, and the UK) for individualism and long-term orientation. So it is not that the scales did well in English, but were degraded by translation. Furthermore, two of the five acceptable internal consistencies for individualism and five of eight for long-term orientation came from translated versions of the scale. Furthermore, the internal consistencies of other scales used in this study not reported here did not show a reliability problem with most translations.

We also explored the possibility that restriction of range was a problem. If these scales are assumed to assess country-level differences, one might expect to find little variability within samples that might reflect relatively homogeneous values among people of the same culture. We inspected the item

means and standard deviations within samples to see if skewness (basement or ceiling effects) and restriction of response range occurred. We compared cases where the internal consistencies were good with those that were poor, and did not find that the latter had more skew or smaller standard deviations. As an example, we compared India's long-term orientation results that yielded our best alpha across all samples/subscales with Belgium's uncertainty avoidance that yielded an alpha of zero. The mean across all items for India had more skew (deviation from the possible middle of the scale at 3.0) at 2.1 than Belgium which was exactly at 3.0. Furthermore, India's mean standard deviation across all four items was smaller than Belgium's, with three of the items being smaller than each of Belgium's. Looking across samples/scales, we saw no evidence that restriction of range was the explanation for the poor reliabilities. We saw no evidence that within countries, responses were homogeneous, but rather within countries there was a wide range of response, suggesting that although there are mean differences among countries, within countries people express a wide range of values. This phenomenon can also be seen in our ANOVA results. Only for individualism did country/province account for more than 10 per cent of the total variance, and for power distance it only accounted for 3 per cent. The remaining variance was attributable to individual differences in values across people within their countries/provinces.

It seems possible that the assessment of values cross-nationally may be more difficult than the assessment of other types of variables. These values are likely broad and multidimensional, making it difficult to capture them with a single short scale. Ho and Chiu (1994) reported alphas among 10 different values that varied from 0.39 to 0.93 in a sample of Chinese from Hong Kong. It is also possible that part of the problem is that value scales may not be as exportable from culture to culture as other types of scales. Ho and Chiu found better internal consistencies for scales they developed in Hong Kong than those they imported from the West. As they noted, the nature of Chinese individualism is complex, so perhaps scales will be needed that take into account the culture-specific and multidimensional nature of values. However, it should be noted that the Project GLOBE researchers reported good internal consistency for their scales of these same values, suggesting that it is possible to do so with careful scale development efforts (House, Hanges, Ruiz-Quintanilla, Dorfman, Javidan, Dickson, & Gupta, 1999).

Our results also showed that there were significant differences on all five scales among our countries/provinces. However, our results do not exactly match those of Hofstede (1984b), especially for masculinity, power distance, and uncertainty avoidance. This outcome is somewhat different from Hoppe (1998) who compared samples from 18 countries with those from Hofstede (1984a). Using data collected in the middle 1980s, he also computed rank-

order correlations, and found stronger correlations, ranging from 0.72 to 0.90. It should be noted that his samples were limited to Western Europe and the USA. He also used the original version of the VSM rather than the VSM 94. There are at least three possible reasons for the lack of agreement in results between us and Hofstede. First, Hofstede's data are almost 20 years older than ours, and it is likely that values have drifted in some countries over a generation. This might also account in part for the stronger agreement of Hoppe (1998) whose data were collected only a few years after Hofstede's. Second, Hofstede's data all came from a single US multinational (Hofstede, 1984a, 1984b) whereas our data were primarily from local organisations. His samples offer an advantage of controlling for organisational differences that ours do not, but ours are likely to be more representative of values within the various countries/provinces. Individuals who work for an American multinational are likely to have been carefully chosen for their ability to adapt to American policies/procedures, and undoubtedly work in an environment that is somewhat different from that in locally owned companies. Thus in some countries some values might be different among those working for American versus local organisations. Finally, as noted by Hofstede (1984a), there are job level and occupation differences on the VSM. Our samples were primarily managerial, making their values somewhat different from those of nonmanagerial counterparts. Thus one should not assume our means will accurately represent the values of the broader populations of our countries/provinces, although they do represent comparisons among people who hold similar positions. It should also be noted that there are gender differences on the masculinity scale, so gender composition of samples will affect results, thus possibly leading to some of our differences on this particular scale.

The VSM 94 has been used in many studies, but the lack of internal consistency raises concerns about the interpretation of this research. Clearly there are differences on these scales among countries even with our own data, and the scales have produced interesting results. Furthermore, there was considerable consistency despite some large differences, between Hofstede's (1984b) results and ours. However, doubts about the construct validity of the scales preclude the unambiguous interpretation of those differences. Certainly it is possible that some of the items assess Hofstede's intended five culture values, and perhaps it is this component of these scales that accounts for results found. It is also conceivable that these values are multidimensional, and the various items tap different aspects. On the other hand perhaps it is a different construct or combination of constructs. These culture values have become important variables in the study of cross-cultural and cross-national work behaviour, and other scales have been developed to address them, as well as other general and work values (e.g. Kim, Triandis, Kagitcibasi, Choi, & Yoon, 1994; Ros, Schwartz, & Surkiss,

1999). In light of questions concerning the VSM 94, it would be best to use it with caution, except perhaps for the long-term orientation scale. Where possible, it might be better to use other existing scales that have better psychometric properties. For example, a number of scales have been developed to assess individualism and its opposite, collectivism, which has been expanded into a multidimensional construct (see Kim et al., 1994). Perhaps the VSM 94 can be improved, or new scales developed to assess these dimensions. For example, the Project GLOBE scales would seem a good alternative (House et al., 1999). Unfortunately, because reliability is a necessary condition for validity, we don't have sufficient confidence in the construct validity of the VSM 94, based on the low internal consistencies found in the present study at both the individual participant and the country/province-mean level.

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