

Cultural Dimensions at the Individual Level of Analysis **The Cultural Orientations Framework**

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ABSTRACT This article describes a theoretically-grounded framework of cultural dimensions conceptualized and operationalized at the individual level of analysis, based on the work of anthropologists Kluckhohn and Strodtbeck. We present empirical data gathered from five countries – Canada, Mexico, the Netherlands, Taiwan, and the United States – to assess the validity of the framework. We then use the results to explore how the cultural orientations framework can add insight and new perspectives to critical questions in cross cultural management research.

KEY WORDS • comparative • culture • individual level • measurement • theory

Culture is a group-level phenomenon, but it influences individuals' perceptions, values and behavior, especially with respect to social interaction. In fact, much of the field of cross cultural management is itself based on this latter premise. In spite of its wide use of the concept of culture, the field has not yet

adopted a theory of culture conceptualized and operationalized at the individual level of analysis. Important research by Triandis (e.g. Triandis, 1988; Kim et al., 1994; Triandis et al., 1995) and Schwartz (e.g. Schwartz, 1992, 1994; Schwartz and Bilsky, 1990) has provided some of the major elements of an

individual-level approach by developing theories of individualism and collectivism in the case of the former, and personal values in the case of the latter. However, culture incorporates many dimensions beyond individualism and collectivism, and many aspects of an individual's characteristics beyond personal values. These other elements of culture may be related to psychological and social phenomena in important ways, but those relationships cannot be captured with current approaches.

This article presents an additional piece of the 'culture in individuals' puzzle: a framework for analyzing cultural dimensions of assumptions about interaction with others and with the environment. The framework is based on the anthropological work of Kluckhohn and Strodtbeck (1961). In this article we describe the framework, placing it in the context of cross cultural research, and conduct a preliminary assessment of its validity using questionnaire data designed to test it. We present comparative data from five countries, and identify patterns in the results within and between countries that provide new insights into current cross cultural issues in organizational research. We conclude by providing suggestions for future research.

The Cultural Orientations Framework

The cultural orientations framework was presented by Kluckhohn and Strodtbeck in their book *Variations in Value Orientations* (1961). The development of the theory, guided in part by Parsons and Shils' general theory of action (Parsons and Shils, 1951), took place over 10 years through rigorous content analysis of a generation's worth of field studies from around the world. Kluckhohn and Strodtbeck believed that anthropology's traditional emphasis on whole cultures painted a rather static and simplified picture, and that only by also studying variance within cultures could researchers understand cultur-

al change and complexity. They proposed the existence of a limited set of questions, called 'cultural orientations', which each society must answer to operate in an effective and cooperative way, and a limited set of possible answers for each question, called 'variations'. Orientations are among the most basic questions that people from all cultures ask themselves: How do I think about people? How do I see the world? How do I relate to other people? How do I use time? (Adler, 1997).

In this scheme, culture is defined as the pattern of variations within a society, or, more specifically, as the pattern of deep-level values and assumptions associated with societal effectiveness, shared by an interacting group of people. Kluckhohn and Strodtbeck and their research associates identified a set of six basic cultural orientations with two or three possible variations each. The six value orientations answer the following specific questions:

- 1 What is the nature of human beings: are they good, evil or neutral?
- 2 What is our relationship to nature: are we subjugated to nature, in harmony with nature, or do we have mastery over it?
- 3 What is our relationship to other human beings: is it lineal (ordered position within groups), collateral (primacy given to goals and welfare of groups), or individualistic (primacy given to the individual)?
- 4 What is our primary mode of activity: is our basic orientation one of being-in-becoming, doing or reflecting?
- 5 How do we view time: do we focus on the past, present, or future?
- 6 How do we think about space: is it public, private, or mixed?

The framework is shown in Table 1 (for more detail on management applications see also Adler, 1997; DiStefano and Maznevski, 2000; Lane et al., 2000).¹

Table 1 Cultural orientations and dimensions*

| | |
|------|---|
| I. | <i>Nature of humans</i> <i>Good/Evil:</i> The basic nature of people is essentially good (lower score) or evil (higher score). <i>Changeable/Unchangeable:</i> The basic nature of humans is changeable (higher score) from good to evil or vice versa, or not changeable (lower score). |
| II. | <i>Relationships among people</i> <i>Individual:</i> Our primary responsibility is to and for ourselves as individuals, and next for our immediate families. <i>Collective:</i> Our primary responsibility is to and for a larger extended group of people, such as an extended family or society. <i>Hierarchical:</i> Power and responsibility are naturally unequally distributed throughout society; those higher in the hierarchy have power over and responsibility for those lower. |
| III. | <i>Relation to broad environment</i> <i>Mastery:</i> We should control, direct and change the environment around us. <i>Subjugation:</i> We should not try to change the basic direction of the broader environment around us, and we should allow ourselves to be influenced by a larger natural or supernatural element. <i>Harmony:</i> We should strive to maintain a balance among the elements of the environment, including ourselves. |
| IV. | <i>Activity</i> <i>Doing:</i> People should continually engage in activity to accomplish tangible tasks. <i>Thinking:</i> People should consider all aspects of a situation carefully and rationally before taking action. <i>Being:</i> People should be spontaneous, and do everything in its own time. |
| V. | <i>Time</i> <i>Past:</i> Our decision criteria should be guided mostly by tradition. <i>Present:</i> Our decision criteria should be guided mostly by immediate needs and circumstances. <i>Future:</i> Our decision criteria should be guided by predicted long term future needs and circumstances. |
| VI. | <i>Space</i> <i>Public:</i> The space around someone belongs to everyone and may be used by everyone. <i>Private:</i> The space around someone belongs to that person and cannot be used by anyone else without permission. |

* Adapted from Kluckhohn and Strodtbeck (1961). See Lane et al. (2000) for a discussion on implications for international business in general, and Maznevski and Peterson (1997) for a discussion on implications for multicultural teams.

Kluckhohn and Strodtbeck conducted an initial test of the framework in five cultures in the Southwestern United States – a sample selected to differ in societal organization but to be relatively constant in physical setting and, to a great extent, institutional context.

The field test demonstrated that the proposed orientations and variations discriminated among cultures and explained important patterns of individual behavior and other outcomes within cultures. This combination of well-developed theory and rigorous initial

testing resulted in a strong conceptual framework.

Kluckhohn and Strodtbeck's (1961) framework and its roots influenced the selection of dimensions of some frameworks commonly used today, therefore, some overlaps are apparent. For example, elements of the *Relationships* orientation are echoed in Hofstede's individualism and power distance concepts (Hofstede, 1980), and Trompenaars' individualism–communitarianism, achievement–ascription, and equality–hierarchy dimensions (Trompenaars, 1993). The *Environment* orientation is related to Trompenaars' inner direction–outer direction dimension, and the *Activity* orientation encompasses his analysis–integration dimension and much of the meaning of the sequential time–synchronized time dimension (Trompenaars, 1993). Hall's dimensions of time and space (Hall, 1966, 1973) are captured in the Kluckhohn and Strodtbeck dimensions of the same name.

However, three key assumptions underlying Kluckhohn and Strodtbeck's approach distinguish it from the others and make the cultural orientations framework particularly well suited for research in cross cultural management. First, individuals are clearly identified as the 'holders' of the preferences for variations, and the cultural pattern is defined by patterns among individuals' preferences. Consistent with the framework, researchers can make hypotheses and test them at the individual level of analysis, aggregate measures to develop descriptions of cultures, and examine variance both within and between cultures. Second, all dimensions are presumed to be found in all societies, but each society is proposed to exhibit, at the aggregate level, a defining rank order of elements within each orientation. This assumption allows researchers to analyze the dynamics within cultures as well as identify major aggregate trends. Variations in patterns within cultures are assumed to be inevitable and even necessary for societies to function effectively as a

whole and to change and adapt over time. Third, the dimensions are proposed to be conceptually independent, even within orientations. For example, *Relationships–individual* is independent from *Activity–being*, but so also is *Relationships–individual* from *collective*, and *Activity–doing* from *being*. This aspect allows analysis of culture in more depth than is possible with a less complex, bipolar framework. It does not preclude individuals from agreeing with two variations within an orientation. In fact, such complexity may allow researchers a better understanding of cultural differences. For example by allowing individuals the ability to agree with two variations within an orientation, we may discover that those who agree with both variations act differently from those who agree with only one.

The cultural orientations framework complements research by Triandis and colleagues on individualism/collectivism and allocentrism/idiocentrism (e.g. Kim et al., 1994; Triandis, 1972, 1988; Triandis et al., 1995) and by Schwartz on values (Schwartz, 1992, 1994; Schwartz and Bilsky, 1990; Schwartz and Sagiv, 1995). Certainly the assumptions behind Triandis's work and dimensions themselves fit squarely into the cultural orientations framework, articulating in more detail two of the *Relationships* variations. The other cultural orientation dimensions, then, can be seen as adding to Triandis's approach.

The cultural orientations framework is also complementary to Schwartz's and Hofstede's values approach in two important respects. First, values are beliefs that relate to desirable end states or behaviors and as such transcend specific situations and guide selection or evaluation of behavior and events (Schwartz, 1992; Rokeach, 1973). Despite this definition of values, both Schwartz's and Hofstede's research incorporates how a focal individual would *like* the world to work with *assumptions* about how the world really *does* work. The cultural orientations framework similarly focuses on how individuals believe the world *should* work and an individual's

assumptions about how the world works. Such assumptions are naturally a reflection of the culture to which that individual belongs; as such the individual is reporting on his or her culture. It is important to note that these assumptions are typically not questioned, nor are they even normally discussed. For example, in a society dominated by the *Activity-doing*, most people would know that, 'of course', humans' basic nature is to achieve and keep busy, and perhaps if the ability to achieve and work towards goals were removed from people, they and their society would suffer from severe trauma and breakdown (see Marx's *Communist Manifesto* in Cowling, 1998).

Second, values generally focus on the value-holder him- or herself. Values are motivators of individual behavior. For example, someone who values 'helpful' is motivated to be helpful, derives satisfaction from being helpful, and fulfills a personal need when being helpful. Cultural orientations also comprise the individuals' assumptions about social organization and elements outside the individual. The orientations serve as perceptual filters that screen information and potential choices about behavior (Erez and Earley, 1993), and provide scripts for social interaction (Maznevski and Peterson, 1997).

The cultural orientations framework through an understanding of values will help us understand individual motivations, and will illuminate many elements of individual behavior alone and in social settings, within and across cultures (Schwartz, 1992, 1994; Schwartz and Bilsky, 1990; Schwartz and Sagiv, 1995). In addition, the cultural orientations will provide an understanding of social behavior patterns, organized systems and decision-making.

Given the above review of literature and our comparison between the cultural orientation and other approaches, we expect to find several important results when testing the cultural orientations framework with data from five countries. First, we expect the

variations within and across orientations to be conceptually independent. Second, we expect there to be variations within orientations within each country included in the study. Finally, we expect to find between-country differences on the variations within orientations. These differences should be in line with the research that has been conducted on cross cultural values differences (Hofstede, 1980; Ronen and Shenkar, 1985), but should also add richness to prior explanations. These results will provide validity to the cultural orientations framework.

Methodology

To gain some initial empirical evidence for evaluating the utility of the cultural orientations framework in cross cultural research, we measured the orientations and their variations in five countries selected to be similar and different on cultural characteristics according to previous research (e.g. Hofstede, 1980): Canada, Mexico, the Netherlands, Taiwan, and the United States. We then examined within-country characteristics and between-country comparisons to identify patterns, comparing them with previous research.

Instrument

We used the Cultural Perspectives Questionnaire, version 4 (CPQ4; Maznevski et al., 1997) to measure 11 variations of four cultural orientations (Relationships, Environment, Nature of Humans, Activity). The instrument consisted of 79 single-sentence statements and asked the respondent to record his or her strength of agreement with each, on a scale from '1' (strongly disagree) to '7' (strongly agree). Variations were measured with between five to eight items. Appendix 1 shows sample items and the number of items for each variation. To reduce response bias from proximity of similar items, items for each variation were randomly distributed throughout the questionnaire. The question-

Table 2 Sample demographics

| | Total | % Male | % Undergrad business students | % MBA students | % Working full time | Average age category ^a | Average years full time work ^b |
|---------------|-------|--------|-------------------------------------|-------------------|------------------------|---|---|
| Canada | 333 | 70.3 | 30.1 | 17.9 | 52.0 | 26–30 | 6.7 |
| Mexico | 182 | 79.7 | 0 | 0 | 100.0 | 26–30 | 9.1 |
| Netherlands | 164 | 73.2 | 100.0 | 0 | 0 | < 25 | N/A |
| Taiwan | 424 | 33.7 | 0 | 3.9 | 96.1 | 31–35 | 8.9 |
| United States | 498 | 52.0 | 36.2 | 28.7 | 35.1 | 26–30 | 10.3 |

^a Age was measured in 10 categories, where 1 was ‘25 or less’, 2 was ‘26–30’, 3 was ‘31–35’, etc., with 10 being ‘66 or over’.

^b Average years full time work for respondents who were MBA students or currently working full time.

naire also asked a wide variety of demographic questions, including country of birth, countries of residence (and how long), culture most closely identified with, gender, age, occupation, and amount of formal education.

All respondents were surveyed in their native language: the Canadian and US subjects completed an English-language version, the Mexican subjects a Spanish version, the Netherlands subjects a Dutch version, and the Taiwanese subjects a Chinese version. All translations were conducted using translation–back translation procedures, with checks from bilingual speakers for dialect appropriateness and subtle meanings of items (Brislin, 1980).

Sample and Questionnaire Administration

Respondents were either practicing businesspeople or business students at the senior undergraduate or graduate level with significant working experience. Further demographics are summarized in Table 2. We administered the questionnaires in controlled settings as part of other research projects or during business/management education sessions. To avoid making the assumption that culture and country are synonymous,

the questionnaire asks respondents several questions regarding their cultural identity. For each cultural response, respondents are also asked to rate how typical their views were for that culture. We combined these measures to select samples for this analysis, such that each country group in this study is composed only of individuals from that country sample who identify themselves with that country’s culture more closely than they do with any other culture.

Data Analysis and Results

We conducted three sets of analyses. First, to examine the properties of the framework we undertook factor analyses using principal components analysis and structural equation modeling, and correlation analyses. Next, we conducted paired t-tests between pairs of within-orientation variations, within countries. Finally, we conducted a Multivariate Analysis of Variance (MANOVA) and subsequent Univariate Analyses of Variance (ANOVAs) to test for differences among countries.

Only one demographic dimension – gender – affected scores systematically within samples. Gender did not affect patterns of correlations among items; that is, males and

females from each sample had the same pattern of correlations between items. Therefore we did not control for gender when conducting analyses regarding within-person relationships among the items. Gender was related, though, to differences in mean scores on some of the variations in some samples.² When comparing mean scores within and across countries we controlled for the gender effect by using subsamples with the same number of male and female respondents.

Factor Analysis and Internal Consistency of Measures

To examine the structure of the data and compare it to the model, we separately tested each orientation with its respective variations (e.g. all *Relationships* items together).³ We first conducted a principal components analysis in each individual country and in an aggregated sample with the same number of respondents from each country. We explored the factor structure within each orientation, and eliminated a total of 13 items (no more than two from any variation) that did not load clearly on the intended factor. To assess the theoretical framework, we conducted confirmatory factor analysis with the revised set of items for each orientation using LISREL8 (Jöreskog and Sörbom, 1993). We evaluated the model in the aggregated balanced sample, then within each country sample. The results of the LISREL analyses are presented in Table 3, with results for the full model in the first half of the table and results for the revised model (reduced set of items) in the second half of the table. Each analysis reports the χ^2 statistic for the full and null models, the root mean square residual, and goodness of fit and adjusted goodness of fit indices.

The standard for acceptable goodness of fit and adjusted goodness of fit indices for established research is .95 or higher, while .90 is acceptable for early or exploratory research (Hair et al., 1992). The models had better psychometric properties when tested

with the aggregated sample than within the individual countries. This is probably due to the increased overall variance and sample size when all countries are included, and the fact that items loaded with different strengths in the various country samples. The goodness of fit indices (GFI) for the aggregated data set ranged from .91 to .93. In our within-country analyses, the 20 GFI ranged from .84 to .94. We concluded that the results met or approximated the standards for early research although they did not reach the standards for established research. We proceeded to check for patterns in the data, recognizing that for some variations the amount of measurement error may attenuate the results.

To examine relationships among variations, we calculated correlations for the aggregated sample and each of the five country samples, using the revised set of items for each variation. The correlations are reported in Table 4, which highlights within-orientation correlations.

The relationships among variations differ widely among the five samples. Even where the direction and significance of correlations are the same, such as a positive correlation between *Activity–doing* and *thinking* and between *Environment–mastery* and *harmony* in all samples, the magnitude of the correlations varies greatly. This observation reinforces the importance of adopting a more multi-dimensional and individual-level approach to cross cultural analysis to obtain a more comprehensive picture of culture.

Analyses of Variance

Calculation of scores for means comparisons Previous research has demonstrated a significant country effect on respondents' tendency to use different parts of the scale (Leung and Bond, 1989; Mullen, 1995; Singh, 1995). The established procedure for removing bias associated with scale response is within-person standardization (Leung and Bond, 1989). We standardized the data with-

Table 3 LISREL analysis of variations by orientation

| | Full Model – All Items | | | | | | Revised Model – Reduced Set of Items | | | | | |
|---------------------------|------------------------|-------------------|-------------------|-------------------|-------------------|----------------|--------------------------------------|-------------------|-------------------|-------------------|-------------------|----------------|
| | All N = 825 | Canada N = 333 | Mexico N = 182 | Nether N = 164 | Taiwan N = 424 | USA N = 498 | All N = 825 | Canada N = 333 | Mexico N = 182 | Nether N = 164 | Taiwan N = 424 | USA N = 498 |
| <i>Relationships</i> | | | | | | | | | | | | |
| χ^2 Full | 711.91 | 460.98 | 338.96 | 281.86 | 639.80 | 487.21 | 649.47 | 421.23 | 283.15 | 273.06 | 755.27 | 771.98 |
| df | 206 | 206 | 206 | 206 | 206 | 206 | 186 | 186 | 186 | 186 | 186 | 186 |
| P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| χ^2 Null | 2018.21 | 1098.20 | 523.88 | 507.50 | 1427.96 | 1346.52 | 1919.50 | 1052.64 | 510.59 | 498.70 | 1525.29 | 1488.26 |
| df | 231 | 231 | 231 | 231 | 231 | 231 | 210 | 210 | 210 | 210 | 210 | 210 |
| Root Mean Sq Residual | 0.06 | 0.07 | 0.08 | 0.08 | 0.08 | 0.06 | 0.06 | 0.07 | 0.08 | 0.08 | 0.08 | 0.08 |
| Goodness of Fit Index | 0.92 | 0.89 | 0.85 | 0.87 | 0.87 | 0.92 | 0.92 | 0.89 | 0.87 | 0.87 | 0.86 | 0.87 |
| Adj Goodness of Fit Index | 0.90 | 0.86 | 0.82 | 0.84 | 0.85 | 0.90 | 0.90 | 0.87 | 0.84 | 0.84 | 0.83 | 0.84 |
| <i>Environment</i> | | | | | | | | | | | | |
| χ^2 Full | 847.42 | 392.71 | 264.04 | 357.60 | 522.72 | 523.21 | 719.58 | 350.85 | 190.73 | 336.62 | 712.06 | 793.89 |
| df | 186 | 186 | 186 | 186 | 186 | 186 | 167 | 167 | 167 | 167 | 167 | 167 |
| P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| χ^2 Null | 2736.47 | 954.16 | 608.67 | 714.37 | 1514.47 | 1419.76 | 2598.11 | 907.55 | 513.09 | 693.37 | 1453.14 | 1743.61 |
| Df | 210 | 210 | 210 | 210 | 210 | 210 | 190 | 136 | 136 | 136 | 136 | 136 |
| Root Mean Sq Residual | 0.08 | 0.07 | 0.07 | 0.09 | 0.07 | 0.07 | 0.08 | 0.07 | 0.07 | 0.09 | 0.08 | 0.08 |
| Goodness of Fit Index | 0.90 | 0.90 | 0.88 | 0.84 | 0.90 | 0.90 | 0.91 | 0.90 | 0.91 | 0.84 | 0.86 | 0.86 |
| Adj Goodness of Fit Index | 0.88 | 0.87 | 0.85 | 0.80 | 0.87 | 0.88 | 0.89 | 0.88 | 0.88 | 0.79 | 0.82 | 0.82 |
| <i>Activity</i> | | | | | | | | | | | | |
| χ^2 Full | 1185.31 | 931.18 | 482.74 | 538.78 | 763.14 | 887.92 | 629.16 | 436.36 | 224.40 | 220.65 | 643.79 | 614.01 |
| df | 272 | 272 | 272 | 272 | 272 | 272 | 149 | 149 | 149 | 149 | 149 | 149 |
| P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| χ^2 Null | 4583.59 | 1881.42 | 764.78 | 1004.44 | 2061.71 | 2317.85 | 3890.04 | 1290.89 | 733.07 | 655.68 | 1828.88 | 1894.59 |
| df | 300 | 300 | 300 | 300 | 300 | 300 | 171 | 171 | 171 | 171 | 171 | 171 |
| Root Mean Sq Residual | 0.06 | 0.09 | 0.08 | 0.09 | 0.07 | 0.07 | .06 | 0.08 | 0.07 | 0.08 | 0.07 | 0.08 |
| Goodness of Fit Index | 0.90 | 0.83 | 0.83 | 0.81 | 0.87 | 0.87 | .93 | 0.87 | 0.89 | 0.88 | 0.86 | 0.88 |
| Adj Goodness of Fit Index | 0.88 | 0.79 | 0.80 | 0.77 | 0.84 | 0.85 | .90 | 0.83 | 0.86 | 0.84 | 0.82 | 0.85 |
| <i>Human Nature</i> | | | | | | | | | | | | |
| χ^2 Full | 351.29 | 143.70 | 74.34 | 111.23 | 192.00 | 194.98 | 316.36 | 110.00 | 74.38 | 88.31 | 195.34 | 187.93 |
| Df | 43 | 43 | 43 | 43 | 43 | 43 | 34 | 34 | 34 | 34 | 34 | 34 |
| P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| χ^2 Null | 1423.83 | 773.10 | 198.24 | 453.32 | 531.31 | 77.30 | 1376.73 | 714.13 | 216.45 | 420.00 | 605.74 | 962.32 |
| df | 55 | 55 | 55 | 55 | 55 | 55 | 45 | 45 | 45 | 45 | 45 | 45 |
| Root Mean Sq Residual | 0.08 | 0.08 | 0.08 | 0.09 | 0.08 | 0.07 | 0.08 | 0.07 | 0.09 | 0.09 | 0.09 | 0.07 |
| Goodness of Fit Index | 0.93 | 0.93 | 0.93 | 0.90 | 0.93 | 0.93 | 0.93 | 0.94 | 0.93 | 0.91 | 0.92 | 0.93 |
| Adj Goodness of Fit Index | 0.89 | 0.89 | 0.89 | 0.84 | 0.89 | 0.90 | 0.89 | 0.90 | 0.88 | 0.85 | 0.87 | 0.89 |

Table 4 Correlations among Variations ^{a,b,c}

| | Indiv | Coll | Hier | Har | Mast | Subj | G/E | Chge | Do | Be | Thk | | |
|---------------|-------------|--------|-------|-------|-------|--------|--------|-------|-------|-------|-------|-------|-------|
| Relationships | Individual | -.11 | .36** | .10 | .40** | .05 | .34** | .03 | .21** | .33** | .26** | | |
| | | | .19** | .20** | .28** | .27** | .20** | .34** | .17** | .26** | .35** | .26** | |
| | | | -.08 | .18** | -.01 | .21** | .15** | .39** | .04 | .24** | .17** | .22** | |
| | Collective | .03 | | .10 | .45** | .17* | .03 | -.13 | -.14 | .20** | .14 | .09 | |
| | | -.16** | | .35** | .51** | .43** | .10* | .12* | .27** | .50** | .21** | .48** | |
| | | -.01 | | .04 | .35** | .21** | .03 | -.09* | .14** | .25** | .06 | .21** | |
| | Hierarchy | .23** | .22** | | .08 | .36** | .16* | .34** | -.03 | .37** | .19* | .31** | |
| | | .28** | -.01 | | .22** | .25** | .24** | .19** | .24** | .34** | .25** | .35** | |
| | | .12 | .25** | | -.09* | .16** | .23** | .36** | .01 | .23** | .10* | .26** | |
| Environment | Harmony | .11** | .42** | .07* | | .27** | -.07 | -.06 | .02 | .11 | .16* | .05 | |
| | | .03 | .29** | -.12* | | .49** | -.04 | .12* | .30** | .54** | .15** | .54** | |
| | | .00 | .23** | .01 | | .32** | .07 | -.07 | .18** | .21** | .14** | .30** | |
| | Mastery | .23** | .24** | .10** | .40** | | -.21** | .14 | .10 | .34** | .16* | .36** | |
| | | .28** | .13** | .19** | .14* | | -.02 | .14** | .32** | .52** | .25** | .49** | |
| | | .09 | .18* | .11 | .47** | | -.12** | .11* | .20** | .39** | .00 | .42** | |
| | Subjugation | .16** | .20** | .45** | .09* | -.11** | | .23** | -.19* | .01 | .28** | .04 | |
| | | .17** | .10 | .28** | .08 | -.17** | | .23** | .09 | -.08 | .38** | -.07 | |
| | | .14 | .20** | .43** | -.12 | .01 | | .32** | .01 | .04 | .27** | .12** | |
| Human Nature | Good/Evil | .34** | .13** | .52** | .13** | .11** | .50** | | .09 | .38** | .16* | .17* | |
| | | .38** | -.03 | .55** | -.05 | .13** | .36** | | .17** | .17** | .26** | .11* | |
| | | .14 | .12 | .44** | .08 | .06 | .56 | | .06 | .18** | .11* | .25** | |
| | Changeable | .09* | .18** | .21** | .24** | .20** | .21** | .26** | | .04 | .02 | -.02 | |
| | | -.10 | .10 | .15** | -.02 | -.03 | .21** | .12* | | .33** | .14** | .35** | |
| | | .09 | .13 | .12 | .21** | .15* | .10 | .27** | | .10* | .01 | .14** | |
| | Activity | Doing | .27** | .35** | .29** | .37** | .45** | .17** | .33** | .25** | | -.07 | .35** |
| | | | .33** | .22** | .34** | .18** | .37** | .05 | .25** | .04 | | .07 | .63** |
| | | | .02 | .33** | .11 | .28** | .25** | .15* | .17* | .18* | | -.10* | .51** |
| Being | | .23** | .15** | .24** | .12** | .10** | .27** | .28** | .12** | .00 | | .06 | |
| | | .21** | .10 | .15** | .12* | .05 | .21** | .27** | .11* | .02 | | .08 | |
| | | .13 | .18* | .28** | .07 | .19* | .36** | .40** | .18* | .05 | | -.05 | |
| Thinking | | .22** | .34** | .33** | .43** | .43** | .24** | .36** | .32** | .62** | .05 | | |
| | | .22** | .17** | .29** | .27** | .24** | .13* | .31** | .06 | .40** | .07 | | |
| | | -.03 | .25** | .09 | .47** | .39** | -.01 | .13 | .19** | .41** | -.04 | | |

^a Correlations in the bottom left triangle are in the following order: aggregated sample ($N = 825$, 165 from each country); Canada ($N = 333$); Mexico ($N = 182$). Correlations in the top right triangle are in the following order: Netherlands ($N = 165$); Taiwan ($N = 428$); United States ($N = 498$).

^b Statistical significance: * $p < .05$; ** $p < .01$

^c Correlations within solid-lined boxes are within-Cultural Orientation correlations.

Table 5 Tests of within-country differences

| | Canada N = 190 | | Mexico N = 70 | | Netherlands N = 86 | | Taiwan N = 286 | | USA N = 472 | |
|----------------------|---------------------------|--|---------------------------|--|---------------------------|--|---------------------------|--|---------------------------|--|
| | Mean ^a (SD) | Within Orient ^a n ^b | Mean ^a (SD) | Within Orient ^a n ^b | Mean ^a (SD) | Within Orient ^a n ^b | Mean ^a (SD) | Within Orient ^a n ^b | Mean ^a (SD) | Within Orient ^a n ^b |
| <i>Relationships</i> | | | | | | | | | | |
| Individualism | .277 (.366) | I=C I>H | .109 (.372) | I<C I>H | .123 (.295) | I<C I>H | .059 (.304) | I<C I>H | .279 (.364) | I=C I>H |
| Collective | .326 (.384) | C=I C>H | .306 (.285) | C>I,H | .280 (.341) | C>I,H | .339 (.293) | C>I,H C>H | .297 (.380) | C=I C>H |
| Hierarchical | -.520 (.327) | H<I,C | -.309 (.332) | H<I,C | -.296 (.290) | H<I,C | -.345 (.285) | H<I,C | -.486 (.351) | H<I,C |
| <i>Environment</i> | | | | | | | | | | |
| Harmony | .554 (.221) | H=M H>S | .512 (.211) | H=M H>S | .567 (.271) | H>M,S | .591 (.237) | H>M,S | .515 (.246) | H<M H>S |
| Mastery | .550 (.290) | M=H M>S | .492 (.234) | M=H M>S | .326 (.326) | M<H M>S | .310 (.275) | M<H M>S | .560 (.274) | M>H,S M>H |
| Subjugation | -.908 (.238) | S<H,M | -.886 (.270) | S<H,M | -.753 (.356) | S<H,M | -.767 (.289) | S<M,H | -.878 (.239) | H<M H>S |
| <i>Activity</i> | | | | | | | | | | |
| Doing | .181 (.320) | D>B,T | .275 (.239) | D>B D<T | .117 (.394) | D>B D=T | .324 (.251) | D>B D<T | .183 (.322) | D>B D=T |
| Being | -.370 (.471) | B<D,T | -.651 (.416) | B<D,T | -.369 (.432) | B<D,T | -.611 (.460) | B<D,T | -.442 (.514) | B<D,T |
| Thinking | .083 (.426) | T<D T>B | .495 (.253) | T>D,B | .095 (.353) | T=D T>B | .474 (.261) | T>D,B | .156 (.351) | T=D T>B |

^a Each country sample has an equal number of male and female respondents. Data are standardized within person, within orientation (see text for details), and are therefore standard scores with mean = 0 and standard deviation = 1 within each orientation.

^b Significance tested using paired t-tests of pairs of variations within each orientation. Differences noted are significant at $p < .05$. Initials denote variations within the same orientation.

in person and within orientation, such that each individual's scores for the items of the two or three scales within each orientation have a mean of 0 and a standard deviation of 1.⁴

Comparisons of means To test the preferred rankings of variations within orientations within each culture, we conducted paired t-tests for each pair of variations within each of the *Relationships*, *Environment*, and *Activity* orientations. Within all orientations of all samples, patterns of preferences were statistically significant. These results are shown in Table 5 and will be discussed in the next section.

To test for between-country differences, we first conducted a MANOVA, which resulted in an approximate *F* of 19.31 (Pillais), $p < .0001$. Univariate *F* tests showed significant differences between countries for all variations except for *Relationships-collective*. We continued with post hoc comparisons using Dunnett's T, which is appropriate when variances are unequal (Levene statistics showed that the variances were unequal for all variations except *Environment-harmony* and *Human Nature-good/evil*). Results for between-country comparisons are shown in Table 6 and will be discussed below.

Discussion

Our results lead us to two major conclusions. First it appears that the items developed to represent the cultural orientations framework demonstrate reasonable, although not ideal, internal consistency measures. Second, the within-country comparisons and the between-country comparisons appear to shed light on cross cultural research in several aspects. Specifically, in this discussion we highlight three important aspects: the comparison of our results with patterns in previous research; an examination of the patterns observed in light of the convergence/divergence debate; and an exploration of possible

cultural transition and regional variation as reflected in the data.

Comparison with Established Findings

Well-established broad findings have been published on only a few elements addressed by this framework and sample. Here we will address country clusters, individualism-collectivism, hierarchy (power distance), and characteristics of Chinese culture.

Country clusters Ronen and Shenkar (1985) identified eight clusters of country cultures, based on a meta-analysis of previous attitudinal and perceptual research. Although the Netherlands was not included in their analysis, the other four countries we sampled were included, with Canada and the United States being in the Anglo cluster, Mexico in the Latin American one, and Taiwan in the Far Eastern one. In their Smallest Space Analysis, Latin American and Far Eastern cultures were located next to each other, implying relatively close cultural proximity when compared with Anglo or Germanic cultures. Our Canadian and American samples differed on only one of the 11 dimensions, and their within-country patterns were highly similar. The Mexican and Taiwanese samples differed on three of the 11 variations, and their relative preferences for *Relationships* and *Activity* were similar, but were not similar for the *Environment*. On the other hand, the two Anglo countries differed from at least one of Mexico or Taiwan on nine variations. This correspondence with Ronen and Shenkar's (1985) meta-analysis provides some preliminary support for the validity of the cultural orientations framework.

Individualism-collectivism patterns

Consistent with previous research (e.g. Hofstede, 1980; O'Grady and Lane, 1996), our data show that the average or typical respondents of the United States and Canadian

Table 6 Tests of between-country differences

| | Canada N = 190 | | Mexico N = 70 | | Netherlands N = 86 | | Taiwan N = 286 | | USA N = 472 | |
|----------------------|---------------------------|-------------------------------|---------------------------|-------------------------------|---------------------------|-------------------------------|---------------------------|-------------------------------|---------------------------|-------------------------------|
| | Mean ^a (SD) | Country Diffs ^b | Mean ^a (SD) | Country Diffs ^b | Mean ^a (SD) | Country Diffs ^b | Mean ^a (SD) | Country Diffs ^b | Mean ^a (SD) | Country Diffs ^b |
| <i>Relationships</i> | | | | | | | | | | |
| Individualism | .277 (.366) | C>M,N,T | .109 (.372) | M<C,U | .123 (.295) | N<C,U | .059 (.304) | T<C,U | .279 (.364) | U>M,N,T |
| Collective | .326 (.384) | | .306 (.285) | | .280 (.341) | | .339 (.293) | | .297 (.380) | |
| Hierarchical | -.520 (.327) | C<M,N,T | -.309 (.332) | M>C,U | -.296 (.290) | N>C,U | -.345 (.285) | T>C,U | -.486 (.351) | U<M,N,T |
| <i>Environment</i> | | | | | | | | | | |
| Harmony | .554 (.221) | | .512 (.211) | | .567 (.271) | | .591 (.237) | T>U | .515 (.246) | U<T |
| Mastery | .550 (.290) | C>N,T | .492 (.234) | M>N,T | .326 (.326) | N<C,M,U | .310 (.275) | T<C,M,U | .560 (.274) | U>N,T |
| Subjugation | -.908 (.238) | C<N,T | -.886 (.270) | M<T | -.753 (.356) | N>C,U | -.767 (.289) | T>C,M,U | -.878 (.239) | U<N,T |
| <i>Human Nature</i> | | | | | | | | | | |
| Changeable | 1.626 (.735) | C<N,T,U | 1.794 (.486) | | 2.048 (.730) | N>C | 1.873 (.769) | T>C | 1.823 (.607) | U>C |
| Good/Evil | -.252 (.275) | C<T | -.215 (.275) | M<T | -.241 (.280) | N<T | -.040 (.267) | T>C,M,N,U | -.246 (.268) | U<T |
| <i>Activity</i> | | | | | | | | | | |
| Doing | .181 (.320) | C<M,T | .275 (.239) | M>C,N,U | .117 (.394) | N<M,T | .324 (.251) | T>C,N,U | .183 (.322) | U<M,T |
| Being | -.370 (.471) | C>M,T | -.651 (.416) | M<C,N,U | -.369 (.432) | N>M,T | -.611 (.460) | T<C,N,U | -.442 (.514) | U>M,T |
| Thinking | .083 (.426) | C<M,T | .495 (.253) | M>C,N,U | .095 (.353) | N<M,T | .474 (.261) | T>C,N,U | .156 (.351) | U<M,T |

^a Each country sample has an equal number of male and female respondents. Data are standardized within person, within orientation (see text for details), and are therefore standard scores with mean = 0 and standard deviation = 1 within each orientation.

^b Significance tested using Dunnett's T for post hoc comparisons when variances are unequal. Differences noted are significant at $p < .05$. Initials denote countries.

samples are among the most individualistic in the study, while the average respondents from Mexico and Taiwan are among the least individualistic. However, we can gain much more information by separating individualism from collectivism, rather than conceptualizing them as two ends of a bipolar construct (see also Triandis et al., 1995). For example, the respondents from Mexico and Taiwan preferred collectivism *over* individualism, while in the other countries the two variations were equally preferred by the respondents. Respondents from the five countries did not differ from each other statistically on their levels of collectivism, which may be due to measurement error and/or high variance among individuals. But it also opens us to the realization that individuals from countries such as Canada, the Netherlands, and the United States may not be 'pro-individualism/anti-collectivism' to the same extent that individuals from other countries, such as Mexico and Taiwan, are simply 'non-individualist'. We note in this regard that the domestic management practice and research literature in the United States is replete with studies on teams (Cohen and Bailey, 1997), while in the international arena the country is assumed to be the least team-oriented in the world. It may be that the preference for collectivism is not as low in the United States as international research has previously supposed.

Hierarchy This dimension is similar in definition to Hofstede's dimension of power distance. Consistent with his results (1980), Canadian and American respondents in this study preferred hierarchy less than Mexican and Taiwanese ones did. However, while Hofstede found Netherlands to be low on power distance, compared with our other samples the Dutch respondents were the highest. It may be that this group of Dutch business students represents a specific subculture within the Netherlands. As with the individualism/collectivism dimensions, this

demonstrates a potential strength of the cultural orientations perspective. Since the framework conceptualizes cultural variation at an individual (as well as group) level of analysis, it allows researchers to propose and measure finer grained pictures, including smaller subcultures within larger cultures. Further research on this subculture would be suggested from our results.

East Asian cultures East Asian cultures have often been characterized as very different from those in the West (e.g. Chinese Culture Connection, 1987), with a strong influence from the religions and philosophies of Confucianism, Taoism and Buddhism (Chew and Putti, 1995; Redding, 1993). In terms of the cultural orientations framework, these foundations predict dominant preferences for *hierarchy* and *collectivism* for *Relationships*, *harmony* with a secondary emphasis on *mastery* concerning the *Environment*, and a *thinking* mode of *Activity* for these cultures (Bond and Hwang, 1986; Hwang, 1985; Oh, 1991; Yau, 1988). Not completely as predicted, the Taiwan sample showed a first preference for *collectivism* in terms of *Relationships*, with *hierarchy* as the lowest preference; however, their preference for *hierarchy* was higher than that of respondents from Canada and the United States, suggesting a relative acceptance. The Taiwanese sample did show a definite and strong preference of *harmony* over *mastery* over *subjugation*, and for *thinking* over other types of *Activity* modes. This pattern of results fits the descriptions of East Asian philosophy and religion very well.

The fact that these results are, for the most part, consistent with past findings using alternative frameworks or other ways to understand culture lends support to the validity of the cultural orientations framework. The latter framework, though, enables us to examine many more dimensions and to compare results within and between cultures to gain more insight into the complexities of the phenomenon.

Cultural Patterns: Industrialization or Crossvergence?

The rankings of elements within cultures demonstrated a very striking pattern. For each of the three orientations for which variations are ranked (*Relationships*, *Environment*, and *Activity*), the same orientation was by far the lowest for the average respondent in all country samples (*hierarchy*, *subjugation*, and *being*, respectively). This pattern was not evident among Kluckhohn and Strodtbeck's (1961) US samples, nor did they suggest it would be found across other cultures. This similarity implies a possible convergence among the individuals in these cultures, and we suggest the convergence is associated with a global industrialization culture. The business environment is changing more and more rapidly, with competitors entering, leaving, and changing industries. Research on organizational structure shows that strongly hierarchical organizations find it difficult to adapt to change (e.g. Burns and Stalker, 1961). Perhaps a culture that prefers *hierarchy* to any other form of organizing is not able to adapt to changes well enough to compete in business among industrialized economies. Furthermore, a culture that prefers *subjugation* may not be able to lead in any of these industry changes, and thus may not be as strongly industrialized. Global business requires coordination of logistical and meeting schedules among many people in different locations. A culture that prefers *being* to other modes of *Activity* may not be able to interact reliably with the rest of the global economy on a daily basis, and may not be able to support a growing industrial economy.

Although on average respondents in all countries ranked *hierarchy*, *subjugation* and *being* as lowest, there were still significant differences among respondents in different countries with respect to the strength of these variations. For example, although the Mexicans,

Dutch, and Taiwanese respondents in our samples ranked *hierarchy* lower than both *individualism* and *collectivism*, all three preferred *hierarchy* more than either the Canadians or Americans did. This pattern would predict that even though these groups may agree on some common priorities, organizations and individuals from the different cultures may still encounter culture-based conflicts when trying to work together.

Moreover, for these three orientations, different combinations of ordering of the other two variations within the orientation were found in the samples. For example, with respect to *Activity*, the average respondent from Canada preferred *doing* to *thinking*; the average respondents from Mexico and Taiwan preferred *thinking* to *doing*; and the average Dutch and American respondents ranked the two equally. This complex but consistent pattern of results offers a new perspective to the convergence/divergence debate. We suggest that this 'global industrialization pattern' is an area of convergence for cultures of industrialized countries; specifically, cultures converge on the dimensions of low *hierarchy*, low *subjugation*, and low *being*. This agreement of priorities facilitates the conduct of global coordination. Divergence still occurs on other dimensions, and the disagreement on these priorities can lead to both conflicts on how organizations should be managed, and opportunities for synergy and innovation. Complex combinations of convergence and divergence, labeled 'crossvergence' by Ralston and his colleagues (Ralston et al., 1993, 1997), certainly offer a fruitful avenue for further investigation into cultural similarities and differences and their implications.

Mexico: Cultural Transition or Regional Variation?

In light of this pattern of industrialization, a very interesting picture arises with the results concerning Mexico. Previous research and characterizations of Mexican culture have

generally portrayed *hierarchical* and *collective Relationships* (Condon, 1985; Davis, 1969; deForest, 1994; Hofstede, 1980; Kras, 1989; Rodríguez Estrada and Ramírez-Buendía, 1992; Zurcher et al., 1965), a *subjugation* orientation to the *Environment* (Kluckhohn and Strodtbeck, 1961; Kras, 1989; Rodríguez Estrada and Ramírez-Buendía, 1992), and *being* and possibly *thinking* modes of *Activity* (Adler, 1997; Hall and Hall, 1990; Kluckhohn and Strodtbeck, 1961; Kras, 1989). The Mexican sample in this study preferred *hierarchy* least and *collectivism* most; *mastery* over the *Environment* equally to *harmony*, with both over *subjugation*; and *thinking* over *doing*, with *being* as the least preferred mode of *Activity*. Some of these results are consistent with the previous research. For example, although *hierarchy* is the least preferred *Relationship*, the Mexican sample showed a stronger preference for *hierarchy* than did respondents from Canada and the United States. A Canadian or American interacting in Mexico may find the Mexicans comparatively favorable towards *hierarchy*. But given the composite results, it would hardly be right to characterize this Mexican sample as *hierarchy* oriented.

A possible explanation for these results lies in appreciating cultural change and regionalism. Most of the prior research on the Mexican culture is either decades old, or is based on general knowledge drawn from the culture of southern Mexico. Mexico has become more industrialized in the past two decades, the effect of which has been noted in cultural shifts in studies conducted in Mexico (Alduncin Abatia, 1993; Kras, 1989). For example, Mexicans appear to have a more proactive approach towards life (Alduncin Abatia, 1993; Schwartz, 1994) which may be reflected in the high scores on a *doing* orientation as well as a *mastery* orientation. Furthermore, the northern regions have led this trend for quite some time (Rodríguez Estrada and Ramírez-Buendía, 1992). Researchers have attributed the more competitive culture with a stronger work

ethic to both the extreme weather as well as the US influence. The data for this study were collected from business employees in the northern region, and perhaps they reflect the industrialized culture to which Mexico is changing.

Summary Data related to these three issues were selected to illustrate the potential utility to cross cultural research of incorporating a framework of cultural orientations that is theoretically grounded, comprehensive, and allows conceptualization and measurement at the individual level of analysis. Osland and Bird (2000) describe the importance of paying attention to and processing cultural paradoxes; that is, incidents or patterns that are counter-predicted by an understanding of the overall cultural dimensions. The issues above show how the cultural orientations framework helps us develop research that accepts these cultural paradoxes and analyzes them within the scope of the overall culture. There are many other issues that could be addressed using these data; however, these demonstrate a broad spectrum of applications of the framework.

It is important to at least mention some of the possibilities the cultural orientations framework provides in terms of research on individual behavior. First and foremost, it provides individual-level ideas and scales of individualism, collectivism, hierarchy, mastery, subjugation, hierarchy and so forth. DiStefano and Maznevski (2000) and Lane et al. (2000) provide examples of how the orientations are related to work behavior. Some research has already used these scales successfully in measuring cultural beliefs at the individual level and using such measurement to predict organizational attitudes. For example, Kirkman and Shapiro (2001) studied the relationship between collectivism and resistance to teams. In a study presented in Brockner et al. (2001), the researchers used the hierarchy measure as a way to measure power distance at the individual level and

better understand the relationship between participation and organizational commitment cross culturally. The variations within the orientations lend themselves to testing many relationships only theorized about at present (Adler, 1997). For example, we can now test the effect that a mastery versus a harmony or subjugation orientation has on business planning and decision-making. Similarly, we can test the effect a manager's belief on the nature of humans has on management style. Yet another possible study could look at the effect of an individual's activity orientation on their preference for certain rewards. Such research could go a long way in beginning to test motivation theories cross culturally. The possible research questions are infinite, with scales that measure cultural values at the individual level.

Limitations and Suggestions for Future Research

The contribution of this research is limited by several factors. First, although the Kluckhohn and Strodtbeck framework incorporates six orientations with a combined total of 16 variations, only four of the orientations (11 of the variations) were measured here. The orientations of *Time* and *Space*, which we did not measure, play a large role in cultural norms and values, as demonstrated by Hall's work (Hall, 1966, 1973), so they clearly deserve future research attention. Moreover, other basic dimensions not identified in Kluckhohn and Strodtbeck's research may be found. Further research on cultural differences could provide more tests of the cultural orientations framework itself, and elaborate on its dimensions.

Second, the measures demonstrated adequate psychometric properties for early stages of research, especially given the breadth and depth of the constructs being studied, but they are clearly not ideal. The large amount of measurement error con-

tributes to a decrease in the power of statistical comparisons, and our results may have provided sharper distinctions if we had had better measures. Research is needed to develop these measures further. In addition, issues such as cross cultural equivalence of measures must be addressed with greater sophistication in the field of international management. For example, while Mullen (1995) and Singh (1995) assert that a construct is only equivalent in two samples if the same items load on to the same factor significantly, Cheung and Rensvold (1997) propose that different items will inevitably load on to the same factor in different cultures, and that measures should not be assumed to be incomparable due to non-equivalence. The progress currently being made in methodology will contribute greatly to the development of better measures of cultural dimensions.

Third, to obtain more valid measures the items were contextualized by business situations and the samples here were limited to people involved in business. The dimensions theoretically should apply more generally to the broader population, but culture is impossible to articulate without a context. The importance of appropriate context, including matching the measures with the sample and context to be studied, provides another possible explanation of the counter-intuitive results from the Netherlands. The sample of undergraduate students, who on average had not worked at all in a full-time capacity, may *actually* be representative of Netherlands culture. However, the *instrument* might not have provided statements that related to a cultural context in which they had experienced Dutch cultural patterns, and thus it may not have provided a valid measure of cultural orientations for them. Measures of the framework's dimensions should be adapted for different contexts so the cultural orientations of other sub-populations can be measured and compared.

Finally, further research should incorpo-

rate other variables of interest to cross cultural researchers, such as perceptions, beliefs, values, and behaviors. The fact that the cultural orientations and their variations can be conceptualized and measured at the individual level of analysis should provide more comprehensive and conclusive studies of cross cultural phenomena. As this study has demonstrated, the framework provides interesting new interpretations and raises new questions regarding issues relevant to cross cultural research.

Notes

The authors gratefully acknowledge funding from the McIntire Foundation and Ivey Business School.

- 1 Note that, in Table 1 and throughout the rest of this article, we have revised Kluckhohn and Strodtbeck's original labels for the variations in the Relationships and Activity orientations to make them more consistent with typical cross cultural management usage. More specifically, we have renamed their *lineal* as *hierarchical*, *collateral* as *collective*, *being-in-becoming* as *being*, and *reflecting* as *thinking*.
- 2 MANOVA of gender's main effect resulted in $F = 3.75, p = .000$; in Canada, the Netherlands, and the US males scored lower than females on *Environment-harmony*; in Canada males scored higher than females on *Environment-mastery*, in the Netherlands males scored lower than females on *Human Nature-changeable*; in the United States males scored higher than females on *Activity-thinking*.
- 3 We conducted principal components and structural equation modeling analyses with all 11 variations simultaneously, but the results were not interpretable.
- 4 Within-person standardization is usually calculated with respect to the whole instrument (Leung and Bond, 1989). However, if these data are standardized with respect to the instrument as a whole, the scores for one orientation affect the scores for another, reducing the validity of cross-country comparisons at the orientation level. For example, the strength of an individual's responses to Environment statements will

affect the eventual standard scores of his or her Relationship statements, making the Relationship scores difficult to compare on their own with the Relationship scores from others. We therefore standardized the data within person and within orientation.

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Appendix 1 CPQ4 Sample Items

| Scale | No. of items | Sample items |
|----------------------|--------------|--|
| <i>Relationships</i> | | |
| Individualism | 7 | People tend to think of themselves first, before they think of others. Society works best when each person serves his or her own interests. |
| Collectivism | 8 | Good team members subordinate their own goals and thoughts to those of the team. Society works best when people willingly make sacrifices for the good of everyone. |
| Hierarchical | 7 | A hierarchy of authority is the best form of organization. People at lower levels in organizations should carry out the requests of people at higher levels without question. |
| <i>Environment</i> | | |
| Subjugation | 7 | People should not try to change the paths their lives are destined to take. It's best to leave problem situations alone to see if they work out on their own. |
| Mastery | 7 | With enough knowledge and resources, any poor-performing business can be turned around. Good performance comes from taking control of one's business. |
| Harmony | 7 | All living things are equal and deserve the same care and consideration. It is our responsibility to conserve the balance of elements in our environment. |

continues

Appendix 1 CPQ4 Sample Items (cont.)

| Scale | No. of items | Sample items |
|---------------------|--------------|---|
| <i>Activity</i> | | |
| Doing | 10 | It's human nature to place more importance on work than on other activities. Accomplishing a great deal of work is more rewarding than spending time in leisure. |
| Being | 7 | People should take time to enjoy all aspects of life, even if it means not getting work done. You shouldn't worry about working when you don't feel like it. |
| Thinking | 8 | Even if it takes more time, business decisions should always be made based on analysis, not intuition. The outcomes of a business decision can be predicted accurately by a logical analysis of that decision. |
| <i>Human Nature</i> | | |
| Good/Evil | 6 | If supervisors don't always check when workers come and go, workers will probably lie about how many hours they work. You should be suspicious of everybody. |
| Changeable | 5 | Anyone's basic nature can change. If someone is essentially a good person now, she or he will probably always be good. (Reverse Scored) |

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摘要

