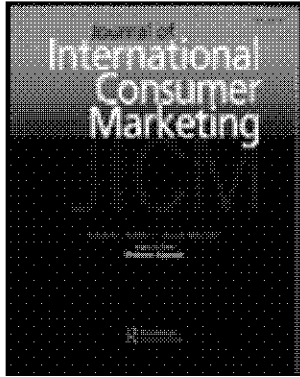


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Publisher: Routledge

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Journal of International Consumer Marketing

Publication details, including instructions for authors and subscription information:
<http://www.tandfonline.com/loi/wicm20>

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Available online: 24 Jun 2011

To cite this article: Boonghee Yoo, Naveen Donthu & Tomasz Lenartowicz (2011): Measuring Hofstede's Five Dimensions of Cultural Values at the Individual Level: Development and Validation of CVSCALE, *Journal of International Consumer Marketing*, 23:3-4, 193-210

To link to this article: <http://dx.doi.org/10.1080/08961530.2011.578059>

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Measuring Hofstede's Five Dimensions of Cultural Values at the Individual Level: Development and Validation of CVSCALE

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ABSTRACT. Hofstede's (1980 and 2001) renowned five-dimensional measure of cultural values is the overwhelmingly dominant metric of culture. His measure has been used as a contextual variable, but it is often required to directly measure cultural values for individual consumers or managers. The purpose of this research is to respond to the call for developing a psychometrically sound measure of Hofstede's culture at the individual level. Past research in this area has developed a scale for only one of Hofstede's dimensions, a highly work-oriented scale, or a scale with poor reliability. By overcoming every major weakness of past studies, this research offers CVSCALE, a 26-item five-dimensional scale of individual cultural values that assesses Hofstede's cultural dimensions at the individual level. The scale shows adequate reliability, validity, and across-sample and across-national generalizability.

KEYWORDS. Geert Hofstede, culture, cultural values, scale development, individual level, masculinity/femininity, uncertainty avoidance, collectivism/individualism, long-term orientation, power distance

INTRODUCTION

Imagine that a company, which is very successful in North America, decides to introduce a new product in India. Ann Hopkins (MBA Stanford), a resident of California since birth, is assigned the task of preparing a strategy to enter India. Through research, Ann, a brand manager of the company, finds that Indians are culturally

different from her customers in North America so she decides to adapt her strategy accordingly. She learns that India is characterized as a collectivistic and masculine culture (Hofstede 2001). Based on this information she prepares a strategy for Indians. She knows that word of mouth is very important in such collectivist cultures and that mass media advertising is not very effective. The approach used by Ann Hopkins in this

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hypothetical situation is real. Many corporate executives face this situation everyday as they enter emerging markets or target international consumers they are not very familiar with. However, any expert on India will tell us that this approach is not likely to succeed as many Indians would characterize themselves as very individualistic and not masculine-oriented.

Blindly looking at national culture and using that to target individual consumers may not work. Corporate managers such as Ann Hopkins should realize that equating the stereotypical culture of a country directly with all citizens of the country would be misleading. While culture is defined at the national level (e.g., collectivism), whether an individual shows such a cultural orientation consistent with the national culture needs to be measured (e.g., Does this person show a collectivistic orientation?). This concern is more true when a country consists of a heterogeneous population with different cultural backgrounds. The concept of national culture has been very useful for the study of nations and societies. However, in managerial situations, the reflection of culture at the individual level is more important and relevant (see Kamakura and Novak 1992; Kamakura and Mazzon 1991). Accordingly, a strong need has been raised to measure culture at the individual level. Business efforts would be most effective when such a measure is developed and applied to individuals (Farley and Lehmann 1994).

THE DEMAND TO MEASURE HOFSTEDE'S METRIC OF CULTURE AT THE INDIVIDUAL LEVEL

Hofstede's (1980, 2001) five-dimensional measure of culture has been the overwhelmingly dominant metric of culture. According to him, *power distance* is "the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally." *Uncertainty avoidance* is "the extent to which the members of a culture feel threatened by uncertain or unknown situations." *Individualism* "pertains to societies in which the ties between

individuals are loose: everyone is expected to look after himself or herself and his or her immediate family." *Masculinity* represents "the dominant male sex role pattern in the vast majority of both traditional and modern societies." *Long-term orientation* refers to long-term versus short-term orientation toward the future.

Hofstede's metric has been popular for several reasons. First, its cultural dimensions fully cover and extend major conceptualizations of culture developed through decades. Through a thorough review of culture literature, Clark (1990) insisted that there are many similarities among the different typologies of culture, and their dimensions are well captured in Hofstede's typology. Soares, Farhangmehr, and Shoham (2007) also confirmed the relevance of the Hofstede cultural dimensions to international business and consumer behavior through a comprehensive review of related literature. Second, Hofstede's dimensions were empirically developed. While many other cultural constructs remained in the conceptualization stage, Hofstede (1980) identified the cultural dimensions using a survey of about 100,000 IBM employees in 66 countries, excluding then-Communist and Third World countries. Third, social sciences and cross-cultural studies have heavily replicated Hofstede's typology and found it to be the most important theory of culture types (Chandy and Williams 1994; S ndergaard 1994). According to the *Social Science Citation Index*, a total of 2,700 refereed journal articles have cited Hofstede's work (Hofstede 2001). Using Hofstede's metric, researchers have found meaningful relationships between national culture and important demographic, geographic, economic, and political indicators of a society (Kale and Barnes 1992). This famous metric has been widely accepted and applied at both country and individual levels in cross-cultural studies. Examples of using it particularly at the individual level include exploring consumer perception on antismoking Web sites (Paek, Yu, and Bae 2009), ethical norms (Paul, Roy, and Mukhopadhyay 2006), market segmentation (Kale 1995), negotiation behavior (Volkema 2004), personality and transformational leadership (Shao and Webber 2006), consumer moral ideologies (Swaidan, Rawwas,

and Vitell 2008), package design (Limon, Kahle, and Orth 2009), and consumer ethnocentrism (Cleveland, Laroche, and Papadopoulos 2009), to name a few.

However, unlike in typical consumer research where a metric is administered to an individual to accurately measure his or her differences from others, Hofstede's metric has been used in such a way that individuals are equally assigned Hofstede's national culture indices by their national identity. For instance, Aaker and Lee (2001) treated all Chinese as collectivists and all Americans as individualists. Dawar and Parker (1994) grouped participants in their study based on national identity and assigned Hofstede's national indices to them to examine the effect of culture on consumer behaviors. This tradition is very acceptable when the unit of analysis is a country (or culture is used as a contextual variable), but it is not appropriate when a study examines the effect of an individual's cultural orientation. By measuring individual cultural orientations and not equating them to the national culture, researchers can avoid the ecological fallacy that occurs when ecological or country-level relationships are interpreted as if they are applied to individuals. Using Hofstede's measures as a contextual variable has been a tradition. It has its own benefit and would continue as a mainstream use of the scale. But if someone needs to assess Hofstede's cultural dimensions at the individual level, s/he would wish to have an alternative (e.g., like Ann Hopkins in the vignette of this study). It is often necessary to measure culture at an individual level (e.g., for countries with heterogeneous population, or for individual-level cultural market segmentation). Consequently, there has been a strong demand to develop a psychometrically sound measure of Hofstede's culture at the individual level. This research represents a step in that direction.

In this article we develop a scale to assess Hofstede's cultural dimensions at the individual level (hereafter referred to as CVSCALE—Individual Cultural Values Scale). There exists an enormous diversity of culture among members of any nation. Given today's heterogeneity and mobility of the members of a nation and worldwide communication channels,

assigning the country-level culture score to every member of the society becomes less meaningful. Our scale will benefit business researchers and practitioners who deal with individual consumers across cultures. Our scale will make it possible to link individual attitudes and behaviors to individual-level cultural orientations because the data about cultural values, attitudes, and behaviors come from the same primary sources (individuals' survey responses), without using Hofstede's metric (secondary source) and linking it to individual attitudes and behavior (primary data).

Methodological Troubles with the Hofstede Metric at the Individual Level

Researchers have tried to use Hofstede's metric to measure individual cultural orientations, but they found quite a few methodological difficulties with the metric. Specifically, the biggest problem was a psychometrically disappointing result (see Robinson 1983; Søndergaard 1994; Triandis 1982). In fact, when he analyzed his own data at the individual level, Hofstede (1980) himself found a weak correlation matrix among cultural dimensions, whereas it was the opposite at the country level. Similarly, Hoppe (1990) also found in his 17-country replication work of Hofstede's metric that Hofstede's metric was stable at the country level but not at all at the individual level. Spector, Cooper, and Sparks (2001) also thoroughly evaluated the psychometric properties of Hofstede's latest metric, the Values Survey Module 94 or VSM 94 (Hofstede 1994). They administered the scale to about 7,000 employees from 23 nations covering Africa, Asia, Europe, and the Americas to evaluate reliability and construct validity of the five cultural dimensions. They found unacceptably low reliability at the individual level. Of the 115 combinations (5 dimensions \times 23 nations), only 13 achieved the .70 reliability alpha that is recommended as minimally satisfactory reliability (Nunnally and Bernstein 1994). Three dimensions (power distance, masculinity, and uncertainty avoidance) had no alphas above .60. So Hofstede's metric did not hold at the individual level. Bearden, Money, and Nevins (2005), after rigorously testing the Hofstede

metric with the four-nation sample, found a disappointing factor structure and reliability. They concluded, "The unidimensional measures of national culture do not perform as well as multidimensional measures and that additional work in this area is needed to accurately capture psychological, individual-level cultural traits" (202). Blodgett, Bakir, and Rose (2008) also examined the reliability and validity of Hofstede's cultural framework at the individual consumer level. However, the reliability of each dimension was low, and the factor analyses did not produce a coherent structure. They raised a need to develop a reliable and valid measure that captures the richness of Hofstede's cultural dimensions at the individual level. They predicted the usefulness of such a measure in segmenting the global market as well as understanding more precisely why individuals from different regions respond differently to various business strategies.

Past Efforts to Develop a Scale to Measure the Hofstede Metric at the Individual Level

It should be noted that there have been continuous efforts to develop a scale to measure Hofstede's cultural values at the individual level. Two observations can be made about these past efforts. First, a scale was typically developed to address one cultural dimension at a time. Examples are individualism and collectivism by Triandis (1995) and long-term orientation by Bearden, Money, and Nevins (2006). It might be argued that Hofstede's metric can be replaced by those scales developed independently. But this approach does not warrant conceptual conformity to the definition of each cultural dimension originally meant by Hofstede or methodological uniformity among the scales that were developed by different authors for different purposes and constraints. In addition, when independently developed scales are used together to study the effect of all Hofstede's dimensions of culture simultaneously, unidimensionality of each scale might be lost through heavy cross-loadings and lack of discriminant validity among the independent scales. Even worse, by focusing on one cultural dimension, researchers identify multisubdimensions, which typically end up

with too many items. For instance, the INDCOL (Hui 1984; Triandis 1995) is a 32-item, eight-subscale instrument that measures individualism and collectivism alone. The LTO is an eight-item, two-subscale measure of long-term orientation (Bearden et al. 2006). Such scales serve conceptual depth but not measurement parsimony.

Second, little effort has been made to develop a scale that simultaneously embraces all five dimensions shown in Hofstede's metric and applies to a broader context beyond management. For example, Dorfman and Howell (1988), who developed a 22-item scale to measure Hofstede's (1980) four cultural dimensions, overlooked long-term orientation. Although the scale showed satisfactory reliability and validity, it was worker-oriented, limiting the use of it to human resources and corporate leadership. Conceptually, Hofstede's cultural dimensions are general values that influence all behavioral domains. However, as the measure items are phrased in a work context, those who are not employed might have a hard time relating them to their daily life experiences. For example, full-time homemakers, students, independent consultants, self-employed entrepreneurs, unemployed people, and retirees need a scale that additionally embraces a nonwork context. Similarly, Erdem, Swait, and Valenzuela (2006) developed a 13-item scale of Hofstede's culture dimensions, but the scale, although reliable, measured only three dimensions (collectivism, uncertainty avoidance, and power distance). Another exception was Furrer, Liu, and Sudharshan (2000), who developed a set of 20 items to measure all the five dimensions. But psychometric properties of the scale were found to be very poor as it used Hofstede's survey items directly for individuals; the reliability of each dimension ranged from $-.26$ to $.51$ (Soares et al. 2007). The latest effort was Sharma's (2010) 40-item scale that measures Hofstede's culture at the individual level. The scale was psychometrically sound, establishing the validity, reliability, and cross-cultural measurement equivalence. However, by reconceptualizing Hofstede's culture as 10 dimensions of personal cultural orientations, the scale lost the original 5-dimensional model of Hofstede's concept of culture and made

it difficult and confusing to actually measure Hofstede's original dimensions.

In summary, the CVSCALE proposed in this article would be a scale that measures Hofstede's five cultural dimensions at the *individual* level for a more *general context* while achieving satisfactory *psychometric properties*.

DEVELOPING AND VALIDATING THE CVSCALE

Following the research stream previously discussed, the purpose of this study was to develop a measurement tool that assesses Hofstede's five dimensions of culture at the individual level. The scale, named CVSCALE, must be psychometrically sound so that it can be confidently used for measuring individual cultural orientations.

Item Generation and Testing

To generate an appropriate pool of items, we first chose and modified items from the HERMES values questions, which were Hofstede's original questions (see Hofstede, 1980, 403–410), the Values Survey Module 1994 (an improved and shortened version of the HERMES questions: Hofstede, 2001, 494–497), and Hofstede's other works. We also considered items from non-Hofstede works when we observed them carry the core meanings of the constructs as defined by Hofstede. As for long-term orientation, we used the Chinese Culture Connection's (1987) original items as they had been designed for general contexts.

Hofstede (2001, 491) developed the power distance index for a country, using a formula based on three questions selected after examining their relationships to other related items in the survey. We modified Hofstede's original items to fit general contexts. For example, our modified item "I prefer a superior who consults with me before reaching a decision" was meant to measure the consultative tendency of high-position people. Second, we adopted some of Bochner and Hesketh's (1994) items. They validated Hofstede's power distance and individualism scales in a single multicultural work setting using 263 workers from 28 different

countries employed in a large bank. Third, we transformed Hofstede's power distance definition into items covering a larger domain of the construct as they delivered the core meanings of power distance.

Hofstede's (2001, 491) formula for the uncertainty avoidance index was based on three items. We modified the items; one read "I feel comfortable in ambiguous situations and with unfamiliar risks." We also added other candidate items to more closely reflect Hofstede's definition of the dimension. Examples are: "Uncertainty in life is a threat that must be overcome," "I prefer questions with the right answers," and "I am precise and punctual." Hofstede (2001, 492) created the individualism index based on the factor loadings of work goal items. As Hofstede's work goals are too work-related to serve broad situations, we generated new items by reflecting Hofstede's definition of the dimension and other relevant studies (Hui 1984; Triandis, Bontempo, and Villareal 1988). In addition, we referenced Triandis and colleagues' (1993) items, which found that independence, personal competence, and separation from in-groups were strong etic items for individualism. Example items included "I would rather struggle through a personal problem by myself than discuss it with my friends," "Individuals should be judged on their own merits, not on the company they keep," and "I prefer to work in a team or a pair rather than alone."

The masculinity/femininity dimension, originally labeled "social-ego" in reference to the dominant sex-role pattern, represents male assertiveness, and "social" represents female nurturance. Hofstede's (2001, 492) masculinity index was also comprised of the factor scores of work goal items. Because Hofstede's items were highly work-related, we generated other modified items. Examples of the items include "Men are supposed to be assertive, ambitious, and tough."

Similar to Hofstede (1991, 2001), we used long-term orientation scale items developed by Bond and others (Chinese Culture Connection, 1987). The original label used in the Bond study was "Confucian work dynamism" to reflect Confucian work ethics. Each long-term orientation item was evaluated in the format, "How

important is (value x) to you?" This dimension's items included thrift; persistence; a sense of shame; order of relationships by status; observation of this order; personal steadiness and stability; preservation of appearances; respect for tradition; and reciprocation of greetings, favors, and gifts. In addition to other items, we used the original items for this cultural dimension.

The original pool of 230 items was carefully reviewed for their fit to corresponding dimensions, and 125 items were selected by us and other scholars who were familiar with Hofstede's typology of culture. Then a questionnaire was developed by organizing the items in a random order and adding other questions, including demographic questions. The cultural orientation items were evaluated using 5-point Likert-type scales anchored as 1 = "very unimportant" and 5 = "very important" for the long-term orientation dimension, and 1 = "strongly disagree" and 5 = "strongly agree" for the remaining dimensions. The questionnaire was administered to undergraduate college students in the U.S. to check for wording. Participation was optional. A total of 196 participants reviewed the items, and we modified the wording of the items based on participants' suggestions to enhance face validity and clarity in meaning. After eliminating redundant items, 86 newly worded items were administered to another sample of 116 American undergraduate students to obtain items that provide decent reliability. After a series of item-selection procedures, satisfactory reliability, ranging from .74 to .91, was achieved for the cultural dimensions. As a result, we retained a total of 39 reliable candidate items to enter the main scale development process (9 for power distance, 6 for uncertainty avoidance, 6 for masculinity, 8 for collectivism, and 11 for long-term orientation).

Scale Development

Using new samples independent of the previous ones, we tested, purified, and finalized the items, producing CVSCALE. We surveyed American, Korean-American, and South Korean undergraduate students in an effort to develop a scale with cross-cultural generalizability. South

Korea and the United States have been often selected for cross-cultural research because they represent East and West (e.g., Choi, Nisbett, and Norenzayan 1999; Dubinsky et al. 1994). A Korean version of the questionnaire was prepared based on the English version. Three bilingualists translated it back into English, and we kept modifying the Korean version to ensure translation equivalence until the translators were satisfied with it (Werner and Campbell 1972). We administered the Korean version to Koreans in Korea and the English version to Americans and Korean-Americans in the U.S. Non-U.S. citizens were excluded from the American sample to maintain homogeneous backgrounds in the American group. A total of 1,530 eligible responses (577 Americans, 320 Korean-Americans, and 633 Koreans) were obtained. Overall, each sample's characteristics appeared to match the college population characteristics well. Since the cross-cultural literature suggests that age, gender, and marital status may affect measures of cultural orientations (Lenartowicz and Roth 1999), we tested these variables for their confounding influence. Initial data analysis showed that the correlation between age and each cultural dimension was small, ranging from $-.01$ (nonsignificant) to $.06$ ($p < .05$). Hofstede (2001) reported a significant gender effect on masculinity, which our data ($p < .001$) also confirmed.

Exploratory Factor Analysis

We analyzed the data from the three samples separately and compared them. Then we analyzed the pooled sample by the Leung and Bond technique (1989), called *an individual level multicultural factor analysis*. The technique has two steps. The first step is within-subject standardization that standardizes scores or responses across items for each individual. This step removes the cultural positioning effect, which is "the relative location of the responses made by the average individual from a particular culture" (Leung and Bond 1989, 141). The second step is within-culture standardization, in which variables have a zero mean and unity standard deviation within each culture. This step eliminates the patterning effect of culture.

We conducted factor analysis using orthogonal rotation for the items, and five distinct factors emerged in the pooled sample and in each of the three individual samples. Careful step-by-step elimination of weakly or cross-loaded items resulted in the CVSCALE, a 26-item scale of five cultural orientation factors (see the appendix), which explained 44.5% of the total variance for the pooled data (49.0% for Americans, 47.9% for Korean-Americans, and 40.7% for Koreans). This was similar to Hofstede's (2001) country-level analysis in which 49% of the total variance was explained. Factor analysis using oblique rotation produced similar factor patterns, confirming the discriminant and convergent validity of the measures (Rummel 1970). All items loaded highly on the appropriate factors, and no item loaded on more than one factor, supporting the independence of the constructs and providing strong empirical evidence of their validity.

Confirmatory Factor Analysis

The clean factor patterns shown in the exploratory factor analysis were consistently found in confirmatory factor analysis for the pooled sample (see table 1). We conducted confirmatory factor analysis to detect and confirm the clear multidimensionality of the five cultural dimensions as asserted by Hofstede.

A completely standardized solution produced by the LISREL 8 maximum likelihood method (Jöreskog and Sörbom 1993) showed that all items loaded on their corresponding constructs. Demonstrating adequate convergent validity of all items, the lowest t -value was 12.22 for LT3 on long-term orientation. Also, the overall fit of the measurement model was excellent: $\chi^2(df = 289) = 714.14$; goodness-of-fit index (GFI) = .96; adjusted goodness-of-fit index (AGFI) = .96; root mean square residual (RMR) = .033; root mean square error of approximation (RMSEA) = .031; normed fit index (NFI) = .90; comparative fit index (CFI) = .94; and incremental fit index (IFI) = .94. Despite the large number of items considered, no substantial departures from unidimensionality were observed. The composite reliability estimates, which are evidence of convergent validity (Fornell and Larcker 1981), were acceptable: .62 for power distance, .71 for uncertainty avoidance, .76 for

collectivism, .70 for long-term orientation, and .68 for masculinity. The reliability was modest, but it was considered satisfactory in this stage of scale development, and significantly higher reliability is usually achieved in the scale-validation phase because only the final items (i.e., a fewer number) are administered without all other deleted items (Nunnally and Bernstein 1994).

Validating the CVSCALE

Validating the Measurement Model of the Scale

The CVSCALE was tested for a variety of validity, using another set of samples. To validate CVSCALE, we obtained 433 responses (213 from American adults and 220 from Korean adults). The two samples were not different in gender composition (60% male in both samples: $\chi^2 = .72$) or age (34.1 years each for Americans and Koreans: t value = $-.04$) but, as expected, very different in personal income (US\$32,334 for Americans and US\$18,624 for Koreans: t value = 9.77). As reported in the top of table 2, the CVSCALE was highly reliable in both adult samples, indicating the credibility of the scale. The reliability ranged from .79 (long-term orientation) to .91 (power distance) for Americans and from .78 (long-term orientation) to .89 (collectivism) for Koreans.

The five-dimensional measurement model of the CVSCALE exhibited an excellent level of fit. Specifically, the model's χ^2 with 289 degrees of freedom was 496.27 for Americans and 416.34 for Koreans. RMSEA was .058 for Americans and .039 for Koreans. CFI and TLI were .91 and .94 respectively for both samples. The item loadings to their constructs ranged from .43 (t value = 5.97) to .85 (t value = 15.10) for Americans and .56 (t value = 4.71) to .87 (t value = 14.24) for Koreans.

Testing the Measurement Invariance of the Scale

We subsequently performed an invariance test for the measurement model of CVSCALE, which is useful in examining the equivalence of a factorial measurement across multiple samples (see Yoo 2002). In each step of the invariance test

TABLE 1. Confirmatory Factor Analysis of the CVSCALE: The Pooled Sample ($N = 1,530$)

Items	Factor Loadings ^a				
	Power Distance	Uncertainty Avoidance	Collectivism	Long-Term Orientation	Masculinity
PO1	0.43 (13.69) ^b				
PO2	0.48 (15.50)				
PO3	0.54 (17.26)				
PO4	0.58 (18.48)				
PO5	0.44 (13.99)				
UN1		0.46 (16.08)			
UN2		0.68 (25.02)			
UN3		0.65 (23.72)			
UN4		0.50 (17.98)			
UN5		0.58 (21.13)			
CO1			0.53 (20.24)		
CO2			0.49 (18.50)		
CO3			0.81 (33.49)		
CO4			0.75 (30.71)		
CO5			0.45 (16.79)		
CO6			0.44 (16.36)		
LT1				0.42 (14.82)	
LT2				0.35 (12.22)	
LT3				0.53 (19.12)	
LT4				0.57 (20.85)	
LT5				0.54 (19.32)	
LT6				0.73 (27.12)	
MA1					0.58 (20.39)
MA2					0.62 (21.52)
MA3					0.71 (24.46)
MA4					0.43 (14.56)
Intercorrelations of Dimensions					
CVSCALE Dimensions	Power Distance	Uncertainty Avoidance	Collectivism	Long-Term Orientation	Masculinity
Power Distance	1.				
Uncertainty Avoidance	-0.12 (-3.11) ^b	1.			
Collectivism	0.00 (-0.06)	0.13 (3.97)	1.		
Long-Term Orientation	-0.14 (-3.68)	0.38 (12.10)	0.08 (2.28)	1.	
Masculinity	0.33 (9.11)	-0.03 (-0.97)	0.15 (4.38)	-0.10 (-2.70)	1.

^aCompletely standardized solution; ^bt value.

we compared an unconstrained and a constrained model. In the unconstrained model, every element of the measurement model is specified to vary across samples; some elements of the model are specified to be the same across samples in the constrained model (Bollen 1989). If the chi-square fit difference between these models is insignificant, the constrained elements are invariant across samples. The first step in our testing hierarchy was to assess the invariance of factor loadings (i.e., Λ_x). Equality of factor loadings (i.e., metric invariance) is of more importance than the equality of measurement

error variances (i.e., Θ_δ) or the equality of the covariance matrices of the latent variables (i.e., Φ). Metric invariance is a minimal requirement for testing cross-cultural invariance because it is the evidence that cross-cultural subjects interpret and respond to the measures in an equivalent manner (Steenkamp and Baumgartner 1998). Although full measurement invariance is desirable, such a strict invariant model is practically impossible and scientifically unrealistic (Steenkamp and Baumgartner). Due to the high ratio of the number of items to the sample size, we analyzed each dimension

TABLE 2. Validation and Invariance Test of the CVSCALE: American and Korean Adults

CVSCALE Dimensions	Reliability		Mean (Standard Deviation)		<i>t</i> value				
	Americans (<i>n</i> = 213)	Koreans (<i>n</i> = 220)	Americans (<i>n</i> = 213)	Koreans (<i>n</i> = 220)					
Power Distance	.91	.79	2.10 (.93)	2.00 (.58)	1.31				
Uncertainty Avoidance	.88	.79	3.71 (.78)	3.96 (.48)	-3.98 [†]				
Collectivism	.85	.89	3.05 (.75)	2.71 (.72)	4.80				
Long-Term Orientation	.79	.78	3.97 (.60)	4.07 (.42)	-1.99*				
Masculinity	.84	.84	2.25 (.96)	3.00 (.76)	-8.98 [†]				
Results of the Measurement Model									
	χ^2	<i>df</i>	χ^2/df	RMSEA	RMR	GFI	TLI	CFI	IFI
Americans (<i>n</i> = 213)	496.27	289	1.72	.058	.067	.85	.90	.91	.91
Koreans (<i>n</i> = 220)	416.34	289	1.44	.039	.055	.88	.93	.94	.94
Simultaneous Tests of Invariance for the Single-Construct Measurement Models between Americans and Koreans									
			χ^2	<i>df</i>	$\Delta\chi^2$	Δdf			
Power Distance									
The unconstrained model			25.36	10	-	-			
The constrained model with Λ_x invariant			28.86	14	3.50	4			
The constrained model with Λ_x and Θ_δ invariant			85.40	19	60.04 [†]	9			
The constrained model with Λ_x , Θ_δ , and φ invariant			89.70	20	64.34 [†]	10			
Uncertainty Avoidance									
The unconstrained model			38.43	10	-	-			
The constrained model with Λ_x invariant			39.99	14	1.56	4			
The constrained model with Λ_x and Θ_δ invariant			72.69	19	34.26 [†]	9			
The constrained model with Λ_x , Θ_δ , and φ invariant			74.93	20	36.50 [†]	10			
Collectivism									
The unconstrained model			90.35	18	-	-			
The constrained model with Λ_x invariant			95.82	23	5.47	5			
The constrained model with Λ_x and Θ_δ invariant			114.08	29	23.73*	11			
The constrained model with Λ_x , Θ_δ , and φ invariant			114.80	30	24.45*	12			
Long-Term Orientation									
The unconstrained model			55.69	18	-	-			
The constrained model with Λ_x invariant			61.71	23	6.02	5			
The constrained model with Λ_x and Θ_δ invariant			69.97	29	14.28	11			
The constrained model with Λ_x , Θ_δ , and φ invariant			70.21	30	14.52	12			
Masculinity									
The unconstrained model			2.97	4	-	-			
The constrained model with Λ_x invariant			5.38	7	2.41	3			
The constrained model with Λ_x and Θ_δ invariant			8.21	11	5.24	7			
The constrained model with Λ_x , Θ_δ , and φ invariant			8.21	12	5.24	8			

p* < .05; *p* < .01; ****p* < .001; [†]*p* < .0001.

of the CVSCALE separately for its cross-sample invariance. Thus, each dimension had its own unconstrained model for the invariance test.

As shown in the bottom of table 2, each unconstrained model yielded an excellent fit to the data as expected from the good fit of the full measurement model discussed previously. The chi-square fit index ranged from 2.97 (masculinity) to 90.35 (collectivism) for the unconstrained

models. For the constrained model, the chi-square fit for the Λ_x invariance ranged from 5.38 (masculinity) to 95.82 (collectivism). To check whether the factor loadings were invariant across samples, the unconstrained model was compared with the constrained model in which the factor loadings were specified to be the same between American and Korean samples. As reported in table 2, for every dimension, the fit difference, ranging from 2.41 for 3 degrees of freedom

(masculinity) to 6.02 for 5 degrees of freedom (long-term orientation), was not significant even at the .30 level. This strongly indicates that the factor structure is invariant between the American and Korean samples; therefore, CVSCALE can be compared meaningfully across samples thanks to the cross-cultural metric equivalence (Steenkamp and Baumgartner 1998). Next, we assessed the equality of Θ_{δ} in addition to Λ_x . We also were most interested in the equality of Λ_x . Then, the final test determined whether all three parameter matrices (Λ_x , Θ_{δ} , and Φ) were simultaneously invariant across samples. As shown in table 2, only two dimensions (long-term orientation and masculinity) had full measurement invariance, whereas the other three dimensions had metric invariance only. In summary, in this scale validation study of American and Korean nonstudent adults, the CVSCALE showed satisfactory reliability and metric invariance. As demonstrated in the sufficient invariance of the factor loadings, meaningful cross-cultural comparisons of the parameters become possible.

Validating the CVSCALE in Different Countries

In this additional validation study, we collected data from Brazil and Poland. According to Hofstede (2001), the national culture scores of Brazil are between American and Korean scores in all dimensions except for power distance, where Brazil is higher than both the U.S. and Korea. According to Nasierowski and Mikula (1998), Poland is higher in power distance, uncertainty avoidance, and masculinity than both the U.S. and Korea and moderate in individualism between the U.S. and Korea.

Using Brazilian Portuguese- and Polish-language versions of the questionnaire developed by following the same method described previously, we obtained 300 complete responses from Polish adults and 149 from Brazilian college students. The confirmatory factor analysis of the 26 CVSCALE items produced a clear pattern of five dimensions for each sample. The reliability was satisfactory for both samples. Poles and Brazilians showed .84 and .79 reliability alpha respectively for power distance;

.76 and .70 for uncertainty avoidance; .85 and .76 for collectivism; .78 and .72 for long-term orientation; and .71 and .71 for masculinity. This high reliability in the new samples of different countries demonstrates further cross-national generalizability of the scale.

Nomological Validity of the CVSCALE

To evaluate the CVSCALE's nomological validity, we investigated the relationship of its individual dimensions to two relevant constructs: consumer ethnocentrism and attitudes toward marketing norms.

Consumer Ethnocentrism

Consumer ethnocentrism refers to "the beliefs held by consumers about the appropriateness, indeed morality, of purchasing foreign-made products" (Shimp and Sharma 1987, 280). This construct has been examined as a leading factor explaining why consumers blindly favor domestic products over imports. We expect each cultural value is related to consumer ethnocentrism. Specifically, collectivism is expected to be positively related to consumer ethnocentrism because collectivists are willing to sacrifice personal interests for the country's (a major in-group) welfare by purchasing domestic products over foreign products. Consumers rated high on femininity, seeking harmony to avoid conflict, are expected to support a harmonious coexistence of imports and domestic products and more willingly accept the imports. Thus femininity (masculinity) is expected to be negatively (positively) related to consumer ethnocentrism. People of strong uncertainty avoidance are more likely to perceive that an influx of imports creates uncertainty in the domestic economy by costing domestic jobs and threatening the industry stability. Intolerant with uncertainty in the future, they would resist the imports. Therefore, uncertainty avoidance is expected to be positively related to consumer ethnocentrism. People of high power distance, more willingly accepting injustice and power gaps in relationships, would be less likely to think about an equal and uniform treatment of imports in the domestic market. Thus, power distance is expected to be positively related to consumer ethnocentrism.

Long-term oriented consumers, preferring a dynamic market structure to a static one, are likely to welcome continuous changes caused by imports, which increases competition. People of long-term orientation, tolerating something seemingly different or unclear, are more likely to accept imports that are different from domestic products. Thus, long-term orientation is expected to be negatively related to consumer ethnocentrism. The full version of the 17-item CETSCALE (Shimp and Sharma 1987) was asked to measure consumer ethnocentrism. Data from the 213 adult American consumers (the sample used to validate the measurement model of the scale) were analyzed in this validation study. The analysis confirmed the expectations. Specifically, consumer ethnocentrism was positively related to collectivism ($r = .21, p < .01$), masculinity ($r = .35, p < .0001$), and power distance ($r = .29, p < .0001$), and negatively related to long-term orientation ($r = -.20, p < .01$). However, consumer ethnocentrism was not significantly related to uncertainty avoidance ($r = .08$).

Attitudes toward the Marketing Norms

In the second nomological validity test, we examined the relationship between each dimension of CVSCALE and the attitudes toward marketing norms. Collectivism, susceptible to in-group influences, loyal to in-group norms, and prone to harmony, is expected to be positively related to attitudes toward marketing norms. Preferring explicit rules and structured situations, people with strong uncertainty avoidance are also expected to show positive attitudes toward marketing norms. "Masculine" people value assertiveness and success, whereas "feminine" people value nurturance and harmony. Thus, they are more likely to emphasize job performance rather than process through marketing norms, which implies a negative relationship between masculinity and attitudes toward marketing norms. People of high power distance value centralization, formalization, authoritarian rule, tight control, and formal norms, accepting lack of autonomy and inequalities in power. Thus, power distance is expected to be positively related to attitudes toward marketing norms. Long-term oriented

people value ordering relationships by status and observing this order and avoid improper behaviors that can ruin their honor or reputation. Thus, they are expected to respect formal rules and conform to marketing norms. Attitudes toward marketing norms were measured through Vitell, Rallapalli, and Singhapakdi's (1993) 24-item scale of marketing norms, which consisted of five norms: price and distribution norms, product and promotion norms, obligation and disclosure norms, information and contract norms, and general honesty and integrity.

A new sample of 200 American undergraduate students taking marketing classes volunteered for participation: 54% of them were male, and their average age was 22. The data analysis confirmed the expectations. Specifically, attitudes toward each type of marketing norms were positively related to collectivism (ranging from $r = .14, p < .05$ to $r = .30, p < .0001$), uncertainty avoidance (from $r = .39$ to $r = .46, p < .0001$), and long-term orientation (from $r = .18, p < .01$ to $r = .27, p < .001$) and negatively related to masculinity (from $r = -.12, p < .10$ to $r = -.34, p < .0001$) and power distance (from $r = -.24, p < .01$ to $-.37, p < .0001$).

An Illustration of CVSCALE Usage: Global Market Segmentation

In segmenting individuals across countries, individual-centered cultural orientations can be more useful and meaningful than can countries or ethnic groups. Let us call the former *individual-centered market segmentation* and the latter *country-centered market segmentation*. Frequently, *global market segmentation* refers to the latter by grouping countries into a segment that scores similarly on Hofstede's national-culture indices, and marketing strategies are developed to equally target all the people of the countries within the segment (Kale 1995). But to illustrate the usefulness of CVSCALE in global market segmentation, we conducted cluster analysis. For this purpose, we analyzed three samples of nonstudent adults: Americans ($n = 213$), Koreans ($n = 220$), and Poles ($n = 300$), whose data were used for scale validation tests. The U.S., South Korea, and Poland have developed very different cultures

with their own unique histories, geography, and languages. If such differences in national culture are significant enough to influence member citizens' cultural orientations, country-centered segmentation must produce more distinct groupings than individual-centered segmentation.

Segmentation variables were the five dimensions of CVSCALE. According to hierarchical methods of cluster analysis, a three-cluster solution was found optimal for the data because both the distance and the cubic clustering criterion between the final three clusters suddenly jumped, much more than in any other cluster solution (Milligan and Cooper 1989). As reported in the top of table 3, the average CVSCALE score profiles showed that segment 1 was higher in uncertainty avoidance and masculinity and segment 3 was higher in power distance, collectivism, and masculinity. Segment 2 maintained the lowest mean value in every dimension among the three segments. The CVSCALE mean differences among the three segments were highly significant ($p < .0001$) in every dimension except for long-term orientation, which indicates the clear division among the segments and the usefulness of CVSCALE for market segmentation. Overall, segment 1 might be labeled "masculine and uncertainty-avoiding consumers," segment 3 might be labeled "power-distant and masculine consumers," and segment 2 might be labeled as "weak power-distant and feminine individualist consumers." As reported at the bottom of table 3, slightly more than a half of Americans (62.4%) and Koreans (59.5%) belonged to segment 2 and segment 1 respectively, whereas Poles were divided almost equally across segments (37.7%, 36.7%, and 26.3%). Therefore, the derived clusters did not show a clear-cut match to the countries.

In the country-centered segmentation, all citizens of each country were assigned uniformly to their country segment without consideration of their individual differences. As reflected by the size of F value and its p value of the result, the difference among the three countries was not as significant as that among the three segments. To further evaluate which segmentation method, individual- or country-centered, produces a more meaningful global segmentation, we performed

MANOVA for each method, in which the five CVSCALE dimensions were collectively rather than singularly assessed, as done in ANOVAs. Both Wilks's Lambda and Roy's greatest root value were much more significant ($F = 201.56$ and 345.58 respectively, $p < .0001$) for the three segments identified by the individual-centered method than by the country-centered method ($F = 22.99$ and 34.02 , $p < .0001$). The analysis confirmed that the mean vectors of the individual-centered segments were more significantly different than those of the country-centered segments.

Replication and Usage of the CVSCALE in a Few Other Studies

Although the current article is the very first one that discusses the scale development process and rationale of CVSCALE, the scale has been used by scholars in many studies since it was first invited for presentation at academic conferences (Yoo and Donthu 1998, 1999). Researchers adopted the scale to test their theories in which individual cultural orientations take a role, for example, on issues such as service-quality expectations (Donthu and Yoo 1998), marketing ethics (Yoo and Donthu 2002), and consumer ethnocentrism (Yoo and Donthu 2005). In those studies, the scale demonstrated satisfactory reliability and usefulness. Table 4 summarizes the reliability of the scale reported in a few other studies. As shown in the table, the scale achieved a satisfactory reliability in a variety of countries, including the UK, the U.S., Portugal, Australia, Thailand, Egypt, Hong Kong, the United Arab Emirates, and India, whose diversity exhibits the cross-country generalizability of the scale. The scale was also measured in a variety of sample types—students, females, professionals, employees, salespersons—whose diversity exhibits the cross-sample generalizability of the scale.

DISCUSSION AND IMPLICATIONS

Our study developed CVSCALE, a 26-item scale to assess an individual's cultural orientations as reflected on Hofstede's (1980 and

TABLE 3. Individual-Centered Global Market Segmentation: Americans, Koreans, and Poles (Adults)

Segment Composition of Three-Cluster Solution: Mean and Standard Deviation				
By Cultural Orientation	Market Segments			F value
	Segment 1	Segment 2	Segment 3	
Power Distance	1.96 (.45)	1.79 (.59)	3.34 (.58)	447.84 [†]
Uncertainty Avoidance	3.93 (.53)	3.72 (.68)	3.76 (.64)	9.02 [†]
Collectivism	2.94 (.73)	2.79 (.77)	3.24 (.73)	18.49 [†]
Long-Term Orientation	4.02 (.49)	3.91 (.57)	3.96 (.59)	2.54
Masculinity	3.43 (.51)	1.89 (.54)	3.50 (.75)	656.56 [†]
Descriptive Variables				
Age	35.1 (9.6)	32.5 (6.4)	35.5 (10.0)	7.17***
Ratio of Male Subjects	68%	38%	62%	31.75 [†]
Income (US\$000)	\$16.1 (13.2)	\$20.1 (17.8)	\$15.7 (15.5)	6.34**
By Country	Membership 1	Membership 2	Membership 3	Total
Americans	34 (16.0%)	133 (62.4%)	46 (21.6%)	213 (100%)
Koreans	131 (59.5%)	66 (30.0%)	23 (10.5%)	220 (100%)
Poles	111 (37.0%)	110 (36.7%)	79 (26.3%)	300 (100%)
Total	276 (37.7%)	309 (42.2%)	148 (20.2%)	733 (100%)

* $p < .05$; ** $p < .01$; *** $p < .001$; [†] $p < .0001$.

2001) renowned five dimensions of culture. This tool allows consumer researchers and business practitioners to assess the cultural orientations of individuals and to use primary data instead of cultural stereotypes. CVSCALE exhibited appropriate reliability and validity. The surveyed four countries (the U.S., South Korea, Brazil, and Poland) do not share a common language, history, or ethnicity. Nevertheless, in those diverse samples, the 26-item five-dimensional CVSCALE consistently achieved satisfactory psychometric properties. This is strong evidence that the scale can be used across countries. We also found that the measures were valid in student and nonstudent samples, which also indicates cross-sample generalizability. Such generalizability across sample types and countries was well demonstrated in other independent studies, 13 of which we discussed.

The application of the proposed instrument in cross-cultural studies is extensive. A cross-cultural study is most frequently designed to collect data on dependent variables (business managers' or consumers' behavior) at the individual level. The study typically extrapolates the independent variable (a cultural character-

istic) from some benchmark study or national identity of the sample. We argue that when data on dependent variables are collected, the cultural orientations of consumers or managers of the study should also be assessed. Then our instrument can be of help as it measures each individual's own cultural orientations, which may or may not reflect their national culture.

As demonstrated in the analysis of three-country data, CVSCALE is very adequate for global market segmentation. Global product and brand managers will benefit from the scale because they can find equivalent market segments across countries based on consumer groupings showing similar cultural orientations. Then they can apply a similar business program to those equivalent consumer segments in different countries under the assumption that the segments' responses would be similar across countries. For instance, a company may develop a new product that is targeted at very individualistic, high uncertainty-avoiding, and masculine-oriented consumers. Instead of identifying just two or three countries that meet this profile (using the popular Hofstede

TABLE 4. Reliability of CVSCALE Reported in a Few Other Studies

Sources	Countries (Sample Types)	<i>n</i>	PO	UN	CO	LT	MA
Study 1	Portugal (Students)	161	.61	.69	.79	.55	.74
	The UK (Students)	151	.78	.69	.72	.74	.78
Study 2	Thailand and Australia (A pooled sample of students)	487	.73	.80	.61	n.a.	n.a.
Study 3	The U.S. (MBA students)	110	.78	.86	.84	.61	.84
	India (MBA students)	188	.76	.81	.85	.71	.76
Study 4	The U.S. (Sales managers and salespersons)	132	.65	.83	.67	.59	.68
Study 5	Australia (Anglo-Australian students)	125	.69	.67	.61	.68	.54
	Australia (Chinese–Australian students)	125	.62	.61	.70	.69	.67
Study 6	United Arab Emirates (Indian employees)	n.a.	.67	.65	.60	.52	.65
	United Arab Emirates (Egyptian employees)	n.a.	.60	.59	.68	.66	.67
Study 7	Hong Kong and the U.S. (Adult customers)	349	.93	n.a.	.94	n.a.	n.a.
	Hong Kong and the U.S. (Service employees)	349	.90	n.a.	.93	n.a.	n.a.
Study 8	India (Indian adult women)	42	>.70	>.70	>.70	>.70	>.70
	Australia (Indian adult women)	44	>.70	>.70	>.70	>.70	>.70
Study 9	Thailand (Students)	1,098	.63	.81	.81	.61	.85
Study 10	The U.S. (Students)	186	.85	.80	.78	.68	.84
Study 11	The U.S., Mexico, Australia, China, Hong Kong, Thailand, India, Germany, the Netherlands, Poland, and Russia (Business students)	1,910	.77	.86	.86	n.a.	.83
Study 12	India (Business students)	290	n.a.	.78	.83	n.a.	.73
	The U.S. and Canada (Business students)	292	n.a.	.79	.80	n.a.	.77

Notes. Study 1. Soares et al. (2007); Study 2. Patterson, Cowley, and Prasongsukarn (2006); Study 3. Paul et al. (2006); Study 4. Smith (2004); Study 5. Kwok and Uncles (2005); Study 6. Alrawi and Jaber (2008); Study 7. Chan, Yim, and Lam (2010); Study 8. Adapa (2008); Study 9. Prasongsukarn (2009); Study 10. Yoo and Totten (2005); Study 11. Schumann et al. (2010); and Study 12. Ganguly et al. (2010). n.a. = Not available as it was not measured in the study.

country-level cultural scores), the company may be able to identify such a consumer segment in every country and then develop a strategy to target the segment worldwide. Recent theoretical and technological advances such as consumer database management, extensive information technology, and electronic commerce can be used to implement such individual-centered segmentation approaches.

Future studies need to keep validating our measures using larger samples, demographically diverse samples, and respondents from other countries, although the scale was already

adopted by and proved useful to researchers for many countries. However, a more urgent, meaningful research agenda is to use CVSCALE in testing prominent theories of culture at the individual level and explaining cross-cultural phenomena by culture (Earley 2006). A convenient and productive start will be to replicate existing studies to see if similar findings can be made when culture is measured at the individual level (e.g., Yoo 2009, forthcoming). Similarities and differences in findings from individual-level and national-level measures of culture will provide insights into psychological, sociological,

and business managerial differences of the same constructs.

ACKNOWLEDGMENTS

The authors greatly acknowledge Sungnan Yoo, Ju-Young Park, Gwangyong Gim, Seokjoong Yoon, Choongsup Lee, Doug Amyx, Jung H. Sohn, Rajiv Kishore, and Jeff Lewin for data collection.

REFERENCES

- Aaker, J. L., and A. Y. Lee. 2001. "I" seek pleasures and "we" avoid pains: The role of self-regulatory goals in information processing and persuasion. *Journal of Consumer Research* 28 (1): 33–49.
- Adapa, S. 2008. Adoption of Internet shopping: Cultural considerations in India and Australia. *Journal of Internet Banking & Commerce* 13 (2): 1–17.
- Alrawi, K., and K. Jaber. 2008. Differential responses to managerial incentives among workers: Case study. *Journal of International and Cross-Cultural Studies* 2 (1): 1–20.
- Bearden, W. O., R. B. Money, and J. L. Nevins. 2005. Multidimensional versus unidimensional measures in assessing national culture values: The Hofstede VSM 94 example. *Journal of Business Research* 59 (2): 195–203.
- Bearden, W. O., R. B. Money, and J. L. Nevins. 2006. A measure of long-term orientation: Development and validation. *Journal of the Academy of Marketing Science* 34 (4): 456–467.
- Blodgett, J. G., A. Bakir, and G. M. Rose. 2008. A test of the validity of Hofstede's cultural framework. *Journal of Consumer Marketing* 25 (6): 339–349.
- Bochner, S., and B. Hesketh. 1994. Power distance, individualism/collectivism, and job-related attitudes in a culturally diverse work group. *Journal of Cross-Cultural Psychology* 25 (2): 253–257.
- Bollen, K. 1989. *Structural equations with latent variables*. New York: Wiley.
- Chan, K. W., C. K. (B.) Yim, and S. S. K. Lam. 2010. Is customer participation in value creation a double-edged sword? Evidence from professional financial services across cultures. *Journal of Marketing* 74 (3): 48–64.
- Chandy, P. R., and T. G. E. Williams. 1994. The impact of journals and authors on international business research: A citation analysis of JIBS articles. *Journal of International Business Studies* 25 (4): 715–728.
- Chinese Culture Connection (a team of 24 researchers). 1987. Chinese values and the search for culture-free dimensions of culture. *Journal of Cross-Cultural Psychology* 18 (2): 143–164.
- Choi, I., R. E. Nisbett, and A. Norenzayan. 1999. Causal attribution across cultures: Variation and universality. *Psychological Bulletin* 125 (1): 47–63.
- Clark, T. 1990. International marketing and national character: A review and proposal for an integrative theory. *Journal of Marketing* 54 (4): 66–79.
- Cleveland, M., M. Laroche, and N. Papadopoulos. 2009. Cosmopolitanism, consumer ethnocentrism, and materialism: An eight-country study of antecedents and outcomes. *Journal of International Marketing* 17 (1): 116–146.
- Dawar, N., and P. Parker. 1994. Marketing universals: Consumers' use of brand name, price, physical appearance, and retailer reputation as signals of product quality. *Journal of Marketing* 58 (2): 81–95.
- Donthu, N., and B. Yoo. 1998. Cultural influences on service quality expectations. *Journal of Service Research* 1 (2): 178–185.
- Dorfman, P. W., and J. P. Howell. 1988. Dimensions of national culture and effective leadership patterns: Hofstede revisited. *Advances in International Comparative Management* 3:127–150.
- Dubinsky, A. J., M. Kotabe, C. U. Lim, and R. E. Michaels. 1994. Differences in motivational perceptions among U.S., Japanese, and Korean sales personnel. *Journal of Business Research* 30 (2): 175–185.
- Earley, P. C. 2006. Leading cultural research in the future: A matter of paradigms and taste. *Journal of International Business Studies* 37 (6): 922–931.
- Erdem, T., J. Swait, and A. Valenzuela. 2006. Brands as signals: A cross-country validation study. *Journal of Marketing* 70 (1): 34–49.
- Farley, J. U., and D. R. Lehmann. 1994. Cross-cultural "laws" and differences in market response. *Management Science* 40 (1): 111–122.
- Fornell, C., and D. F. Larcker. 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research* 18 (1): 39–50.
- Furrer, O., B. S.-C. Liu, and D. Sudharshan. 2000. The relationships between culture and service quality perceptions. *Journal of Service Research* 2 (4): 355–371.
- Ganguly, B., S. B. Dash, D. Cyr, and M. Head. 2010. The effects of website design on purchase intention in online shopping: The mediating role of trust and the moderating role of culture. *International Journal of Electronic Business* 8 (4/5): 302–329.
- Hofstede, G. 1980. *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage.
- Hofstede, G. 1994. Management scientists are human. *Management Science* 40 (1): 4–13.
- Hofstede, G. 2001. *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations*. 2nd ed. Thousand Oaks, CA: Sage.

- Hoppe, M. H. 1990. A comprehensive study of country elites: International differences in work-related values and learning and their implications for management. Unpublished PhD diss., University of North Carolina at Chapel Hill.
- Hui, C. H. 1984. Individualism-collectivism and collectivism: Theory, measurement, and its relation to reward allocation. Unpublished PhD diss., University of Illinois at Urbana-Champaign.
- Jöreskog, K. G., and D. Sörbom. 1993. *LISREL 8: User's reference guide*. Chicago: Scientific Software International.
- Kale, S. H. 1995. Grouping Euroconsumers: A culture-based clustering approach. *Journal of International Marketing* 3 (3): 35–48.
- Kale, S. H., and J. W. Barnes. 1992. Understanding the domain of cross-cultural buyer-seller interactions. *Journal of International Business Studies* 23 (1): 101–132.
- Kamakura, W. A., and J. A. Mazzon. 1991. Value segmentation: A model for the measurement of values and value systems. *Journal of Consumer Research* 18 (2): 208–218.
- Kamakura, W. A., and T. P. Novak. 1992. Value-system segmentation: Exploring the meaning of LOV. *Journal of Consumer Research* 19 (1): 119–132.
- Kwok, S., and M. Uncles. 2005. Sales promotion effectiveness: The impact of culture at an ethnic-group level. *Journal of Product & Brand Management* 14 (3): 170–186.
- Lenartowicz, T., and K. Roth. 1999. A framework for culture assessment. *Journal of International Business Studies* 30 (4): 781–798.
- Leung, K., and M. H. Bond. 1989. On the empirical identification of dimensions for cross-cultural comparisons. *Journal of Cross-Cultural Psychology* 20 (2): 133–151.
- Limon, Y., L. R. Kahle, and U. R. Orth. 2009. Package design as a communications vehicle in cross-cultural values shopping. *Journal of International Marketing* 17 (1): 30–57.
- Milligan, G. W., and M. C. Cooper. 1989. An examination of procedures for determining the number of clusters in a data set. *Psychometrika* 50 (2): 159–179.
- Nasierowski, W., and B. Mikula. 1998. Culture dimensions of Polish managers: Hofstede's indices. *Organization Studies* 19 (3): 495–509.
- Nunnally, J. C., and I. H. Bernstein. 1994. *Psychometric theory*. 3rd ed. New York: McGraw-Hill.
- Paek, H.-J., J. (H.) Yu, and B. J. Bae. 2009. Is on-line health promotion culture-bound? Cultural characteristics manifested in U.S. and South Korean antismoking web sites. *Journal of Advertising* 38 (1): 33–47.
- Patterson, P. G., E. Cowley, and K. Prasongsukarn. 2006. Service failure recovery: The moderating impact of individual-level cultural value orientation on perceptions of justice. *International Journal of Research in Marketing* 23 (3): 263–277.
- Paul, P., A. Roy, and K. Mukhopadhyay. 2006. The impact of cultural values on marketing ethical norms: A study in India and the United States. *Journal of International Marketing* 14 (4): 28–56.
- Prasongsukarn, K. 2009. Validating the Cultural Value Scale (CVSCALE): A case study of Thailand. *ABAC Journal* 29 (2): 1–13.
- Robinson, R. V. 1983. Review of culture's consequences. *Work and Occupations* 10; 110–115.
- Rummel, R. J. 1970. *Applied factor analysis*. Evanston, IL: Northwestern University Press.
- Schumann, J. H., F. v. Wangenheim, A. Stringfellow, Z. Yang, V. Blazevic, S. Praxmarer, G. Shainesh, M. Komor, R. M. Shannon, and F. R. Jiménez. 2010. Cross-cultural differences in the effect of received word-of-mouth referral in relational service exchange. *Journal of International Marketing* 18 (3): 62–80.
- Shao, L., and S. Webber. 2006. A cross-cultural test of the “five-factor model of personality and transformational leadership.” *Journal of Business Research* 59 (8): 936–944.
- Sharma, P. 2010. Measuring personal cultural orientations: Scale development and validation. *Journal of the Academy of Marketing Science* 38 (6): 787–806.
- Shimp, T. A., and S. Sharma. 1987. Consumer ethnocentrism: Construction and validation of the CETSCALE. *Journal of Marketing Research* 24 (8): 280–289.
- Smith, B. A. 2004. Relationship management in the sales organization: An examination of leadership style and cultural orientation in sales manager and salesperson dyads. PhD diss., Drexel University.
- Soares, A. M., M. Farhangmehr, and A. Shoham. 2007. Hofstede's dimensions of culture in international marketing studies. *Journal of Business Research* 60 (3): 277–284.
- Søndergaard, M. 1994. Research note: Hofstede's consequences: A study of reviews, citations, and replications. *Organization Studies* 15 (3): 447–456.
- Spector, P. E., C. L. Cooper, and K. Sparks. 2001. An international study of the psychometric properties of the Hofstede Values Survey Module 1994: A comparison of individual and country/province level results. *Applied Psychology* 50 (2): 269–281.
- Steenkamp, J.-B. E. M., and H. Baumgartner. 1998. Assessing measurement invariance in cross-national consumer research. *Journal of Consumer Research* 25 (1): 78–90.
- Swaidan, Z., M. Y. A. Rawwas, and S. J. Vitell. 2008. Culture and moral ideologies of African Americans. *Journal of Marketing Theory & Practice* 16 (2): 127–137.
- Triandis, H. C. 1982. Review of “Culture's consequences: International differences in work-related values.” *Human Organization* 41 (1): 86–90.
- Triandis, H. C. 1995. *Individualism and collectivism*. Boulder, CO: Westview.

- Triandis, H. C., H. Betancourt, S. Iwao, K. Leung, J. M. Salazar, B. Setiadi, J. B. P. Sinha, H. Touzard, and Z. Zaleski. 1993. An etic-emic analysis of individualism and collectivism. *Journal of Cross-Cultural Psychology* 24 (3): 366–383.
- Triandis, H. C., R. Bontempo, and M. J. Villareal. 1988. Individualism and collectivism: Cross-cultural perspectives on self-ingroup relationships. *Journal of Personality and Social Psychology* 54 (2): 323–338.
- Vitell, S. J., K. C. Rallapalli, and A. Singhapakdi. 1993. Marketing norms: The influence of personal moral philosophies and organizational ethical culture. *Journal of the Academy of Marketing Science* 21 (4): 331–337.
- Volkema, R. J. 2004. Demographic, cultural, and economic predictors of perceived ethicality of negotiation behavior: A nine-country analysis. *Journal of Business Research* 57 (1): 69–78.
- Werner, O., and D. T. Campbell. 1972. Translating, working through interpreters, and the problem of decentering. In *A handbook of cultural anthropology*, ed. R. Naroll and R. Cohen, 398–419. New York: American Museum of Natural History.
- Yoo, B. 2002. Cross-group comparisons: A cautionary note. *Psychology & Marketing* 19 (4): 357–368.
- Yoo, B. 2009. Cross-national invariance of the effect of personal collectivistic orientation on brand loyalty and equity: The United States versus South Korean consumers. *Asia Pacific Journal of Marketing and Logistics* 21 (1): 41–57.
- Yoo, B. Forthcoming. Store image on purchase intention: The moderating effect of individual and societal uncertainty aversion among American and Korean consumers. *Journal of International Business and Law*.
- Yoo, B., and N. Donthu. 1998. Validating Hofstede's five-dimensional measure of culture at the individual level. Paper presented at the 1998 Summer Marketing Educators' Conference of American Marketing Association, Chicago.
- Yoo, B., and N. Donthu. 1999. Cultural orientation and consumer ethnocentrism. Presented at the 1999 Summer Marketing Educators' Conference of American Marketing Association, San Francisco.
- Yoo, B., and N. Donthu. 2002. The effects of marketing education and individual cultural values on marketing ethics of students. *Journal of Marketing Education* 24 (2): 92–103.
- Yoo, B., and N. Donthu. 2005. The effect of personal cultural orientation on consumer ethnocentrism: Evaluations and behaviors of U.S. consumers toward Japanese products. *Journal of International Consumer Marketing* 18 (1/2): 7–44.
- Yoo, B., and J. W. Totten. 2005. The effects of marketing education and individual cultural values on the ethics of a southern school's students. *International Journal of Business Disciplines* 16 (2): 73–84.

RECEIVED: July 18, 2010

REVISED: November 29, 2010

ACCEPTED: January 18, 2011

APPENDIX. CVSCALE: A 26-Item Five-Dimensional Scale of Individual Cultural Values

Item	A(n = 577)	K (n = 633)	KA (n = 320)	Content and Scale Reliability
PO	1.97	1.91	2.07	Power Distance (A = .69; K = .61; KA = .64; P = .62)
PO1	2.13	1.65	2.29	People in higher positions should make most decisions without consulting people in lower positions.
PO2	2.03	2.85	2.24	People in higher positions should not ask the opinions of people in lower positions too frequently.
PO3	1.77	1.53	1.63	People in higher positions should avoid social interaction with people in lower positions.
PO4	1.96	1.84	1.98	People in lower positions should not disagree with decisions by people in higher positions.
PO5	1.95	1.68	2.20	People in higher positions should not delegate important tasks to people in lower positions.
UN	4.01	3.83	4.01	Uncertainty Avoidance (A = .80; K = .65; KA = .83; P = .71)
UN1	3.69	4.02	3.83	It is important to have instructions spelled out in detail so that I always know what I'm expected to do.
UN2	4.20	3.82	4.15	It is important to closely follow instructions and procedures.
UN3	4.11	3.64	3.98	Rules and regulations are important because they inform me of what is expected of me.
UN4	3.85	3.73	3.88	Standardized work procedures are helpful.
UN5	4.19	3.95	4.20	Instructions for operations are important.
CO	3.15	2.57	3.37	Collectivism (A = .80; K = .78; KA = .80; P = .76)
CO1	3.01	2.62	3.53	Individuals should sacrifice self-interest for the group.
CO2	3.67	2.36	3.79	Individuals should stick with the group even through difficulties.
CO3	3.21	2.70	3.45	Group welfare is more important than individual rewards.
CO4	3.17	2.63	3.41	Group success is more important than individual success.
CO5	2.90	3.02	2.98	Individuals should only pursue their goals after considering the welfare of the group.
CO6	2.90	2.10	3.07	Group loyalty should be encouraged even if individual goals suffer.
LT	4.12	4.18	4.02	Long-Term Orientation (A = .76; K = .73; KA = .74; P = .70)
LT1	4.27	4.15	4.19	Careful management of money (Thrift)
LT2	3.88	4.41	3.77	Going on resolutely in spite of opposition (Persistence)
LT3	4.31	4.37	4.23	Personal steadiness and stability
LT4	4.14	4.33	4.01	Long-term planning
LT5	3.75	3.53	3.66	Giving up today's fun for success in the future
LT6	4.39	4.28	4.24	Working hard for success in the future
MA	2.53	3.16	2.86	Masculinity (A = .77; K = .64; KA = .69; P = .68)
MA1	2.11	3.05	2.59	It is more important for men to have a professional career than it is for women.
MA2	2.60	2.58	2.82	Men usually solve problems with logical analysis; women usually solve problems with intuition.
MA3	2.36	3.20	2.65	Solving difficult problems usually requires an active, forcible approach, which is typical of men.
MA4	3.07	3.83	3.38	There are some jobs that a man can always do better than a woman.

A = Americans; K = Koreans; KA = Korean-Americans; and P = the pooled sample.