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ABSTRACT. The results of this study suggest that marketing strategies need to be adjusted to changing cultures. Culture affects marketing decisions regarding product, price, promotion and place (the 4 Ps). Many marketing studies have been reported based on Hofstede's seminal work on national culture (1980). Marketing managers need to be cautious about assuming the validity of the Anglo cluster equating the cultures of the United States (U.S.) and Canada. We should recognize that national cultures are changing in the U.S., Canada and Mexico, as well as most other countries in the world. Our findings for a very recent sample of people attending executive and MBA programs would seem to apply to the upwardly-mobile business class. Contrary to the ubiquitous Hofstede data found in textbooks, we found no significant differences in Power Distance between the U.S., Mexico and Canada. Our findings regarding differences in Uncertainty Avoidance show that Mexico did not have a significantly higher mean than the U.S., but that the U.S. had a higher mean than Canada. The U.S. and Canada did not differ significantly on Individualism/Collectivism. Our results suggest that caution should be taken in automatically assuming cultural parity between the U.S. and Canada and that established cultural positions between the North American Free Trade Agreement (NAFTA) member nations may be changing.

KEYWORDS. NAFTA, culture, change, hofstede, uncertainty avoidance, marketing

How Changing Culture Influences Marketing

The purpose of this study is to demonstrate that cultures are changing and that marketing managers need to adjust their strategies; researchers need to adjust their aging assumptions about relative national cultural positions. Culture affects marketing strategies in many areas

including new product development and advertising. We focused on the cultures of the NAFTA countries, the U.S. and its neighbors Canada and Mexico which offer a very nice "test bed" for examining cultural change. In each country we collected MBA survey responses regarding culture along three dimensions which are often related to assumptions about culture typing (uncertainty avoidance, power distance and individualism).

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This study is important because most managers and researchers rely on Hofstede (1980) data that is aging and could very well be outdated. Hofstede (1980) himself originally cautioned that relative national positions related to culture should not be assumed static beyond certain parameters.

Hofstede (1980; 2001) developed a set of now familiar cultural dimensions utilized in our study. The original Hofstede study of 1980 sampled 116,000 employees of IBM, representing 40 different countries over a two-year period. Using factor analysis of work-related values, he labeled four basic cultural identifiers: "power distance (PD)," "uncertainty avoidance (UA)," "collectivism/individualism (CO)" and "masculinity/femininity (end note 2)." The Hofstede dimensions have not escaped valid critique, suggested improvements, new dimensions, exceptions or altogether different approaches (Bond, 1987; McSweeney, 2002; Schwartz, 1990; Triandis, et al., 1995; Trompenaars, 1993). Many have criticized Hofstede's use of the terms "masculinity" and "femininity" to describe achievement-orientation as well as traditional gender roles.

It is also important to note that our study attempts to actually measure these cultural constructs using more recent samples. As suggested by Schaffer & Riordan (2003), it may be a mistake to automatically rely on the 1980 rankings from the original Hofstede study. Specifically, Hofstede (1980) predicted that relative national cultural positions related to UA would likely change within a 20 to 40 year period. While we have now reached the limits of that original warning it is still fairly common to find marketing research relying on those now aging, perhaps questionable, national positions.

Important cultural changes occurred since 1980 due to many factors. For example, developments caused by NAFTA since 1994 are arguably significant in changing culture and cultural interaction in North America. Additional examples of potential catalysts for cultural change include globalization, technology advancement, increasing immigration and cross-national and cross-ethnic marriages. These examples are representative, and by no means exhaustive, of the many potential drivers that have likely had some impact on both culture dy-

namism and relative "positions" of comparative national culture.

"Uncertainty Avoidance" (UA) refers to formalization, and the apprehension in accepting ambiguity that is often related to certain types of risk. Some cultures more rigidly emphasize rules and regulations, while others tolerate ambiguity and deviation from the rules. This dimension indicates how threatened a society will be by ambiguous contexts and the degree to which it will attempt to avoid these situations, not tolerating deviant ideas or behaviors. In other words, high UA involves a belief in absolute truths and lack of comfort with vague rules or procedures. These elements may create greater overall anxiety and a heightened work ethic (Hofstede, 1980). For marketing perspectives, potential consumers in high UA cultures may require more adaptation time in accepting and purchasing new technology which has an unfamiliar track record.

In relation to marketing, there may be a connection between the cultural dimension of power distance and new product development. "Power Distance" (PD) refers to the centralization of decision-making authority, or the degree to which position power separates people socially. Higher PD implies greater acceptance of inequality in social relations. In a low PD culture, it is often acceptable to address a high-ranking leader by his or her first name as we usually do in the U.S. (Cushner & Brislin, 1996). In Hofstede's (1980) original sample, the U.S. and Canada were significantly lower than Mexico on this cultural dimension (Mexico ranking 56, the U.S. ranking 38 and Canada ranking 39). The U.S. and Canada ranked just next to each other, indicating relative closeness.

Nakata and Sivakumar (1996) proposed that the PD in a culture affects new product development. Companies in countries with low degrees of PD should excel at the initiation stage of new product development, due to the ready flow of diverse ideas and efforts across different levels.

On the other hand, organizations in countries with high degrees of PD should excel during the implementation stage of the new product process, because greater centralized command ensures coordination of the complex activities necessary for success.

In addition to UA and PD, there are differences across cultures in tendencies to view people as independent beings versus members of a larger collective. These cross-national differences have been used to explain the use of and responses to various types of advertising appeals. Constructs that reflect this dimension include individualism-collectivism (e.g., Hofstede, 1980, 1997; Triandis, 1995) and independence-interdependence (Markus & Kitayama, 1991).

Several cross-country analyses of the content of advertisements have used this individualism dimension to identify differences. In countries that are less individualistic/more collectivist, advertisements include a larger number or collective of central characters (Alden, Hoyer, & Lee, 1993). There is also a greater tendency to use emotional versus comparative themes (Hong, Muderrisoglu, & Zinkhan, 1987); to emphasize conformity rather than uniqueness (Kim & Markus, 1999); and to focus on in-group rather than individual benefits (Han & Shavitt, 1993).

Other research used the cultural dimension of individualism/collectivism to identify sharp distinctions in the processing and persuasiveness of advertising appeals (e.g., Aaker & Maheswaran, 1997; Aaker & Williams, 1998; Han & Shavitt, 1994; Zhang & Gelb, 1996), and the determinants of consumers' purchase intentions (Lee & Green, 1991). These studies make it clear that the distinction between individualistic and collectivistic societies is crucial to the cross-cultural understanding of consumer behavior.

The 1980s were labeled the decade of individualism-collectivism in cross-cultural psychology (Kagitibasi, 1994), and this continued to be the dominant construct in cross-cultural consumer research in the 1990s. Consumers from collectivistic, interdependent cultures tended to evaluate more positively advertisements based on the popularity of the target brand (Aaker & Maheswaran, 1997). Ads in collectivist countries tended to appeal to consumers' desires to assimilate with rather than differentiate from others (Aaker & Schmitt, 2001). These ads focused on family cohesion and harmony rather than personal success and independence (Han & Shavitt, 1993).

On the other hand, innovative ads appealed to individualistic ego-focused emotions (pride, happiness) which were more novel in collectivist cultures. These culturally contrary ads suggested the possibility that the buying decision would be based on the buyer alone, rather than collectivist emotions (empathy, peacefulness) (Aaker & Williams, 1998). They offered messages that included conflicting information (Aaker & Sengupta, 2000) or evoked conflicting emotions (e.g., both happy and sad) (Williams & Aaker, 2002).

Other marketing insights for a variety of important issues use an array of cultural value dimensions to explain consumer behavior. Culture has been related to price perceptions (Watchravesringkan & Yurchisin, 2007), responses to advertising themes (Han & Shavitt, 1993), consumer decision making styles (Leo, Bennett & Närtel), consumer responses to market signals of quality (Dawar & Parker, 1994), consumer tipping decisions (Lynn et al., 1993), brand market share (Roth, 1995) and consumer innovativeness (Steenkamp et al., 1999).

Cultural differences stimulated quite a bit of research examining the advertising domain, yielding important insights. An important benefit of this research approach is that it is quite parsimonious. Cultural differences in a particular behavior can be ascribed to specific, measurable mediating constructs. Once an association is established between a particular values dimension and some consumer behavior of interest, the predominant behavior in any given society can be inferred based on its score on that dimension. Segmentation of countries and regions, as well as tailoring of marketing efforts, can be informed by this sort of analysis.

Key Assumptions and Potential Problems

To make use of the findings arising from this research stream, countries' values reflecting the dimensions of interest must be stable. That is, a requirement for accurate prediction of behaviors is that values measurements taken in the past are valid now.

To illustrate, suppose that one would like to better understand Mexican consumers' advertisement preferences by applying some of

the individualism-collectivism research mentioned above. As a starting point, Mexico's position on the individualism-collectivism dimension must be identified. Hofstede's (1980) study did this but one might question whether these results are still valid more than two decades later.

Researchers who propose the use of values constructs to predict behaviors implicitly, and sometimes explicitly, often assume that societies are static and/or independent. That is, it is supposed that societies' values and ideals are not in flux or dynamic, and that any one society does not substantially influence the values of another. For this assumption to be valid, countries must have stable membership (i.e., populations are minimally mobile), and interactions should not be sufficiently frequent or extensive to prompt rethinking of accepted ideas and principles.

Additionally, the "stability assumption" generally assumes that cultures are not *capable* of experiencing relatively quick changes. This final assumption potentially violates one key parameter in the basic definition of culture—that culture attempts to ensure the survivability of the related societal group. While many would agree that culture is generally "stable," this does not, and should not, evolve into meaning that culture is either static or incapable of quick adjustments when necessary. There are many relevant examples that demonstrate how nimble-dynamic entire national cultures can be given the right context and motivation. Mikhail Gorbachev and the related policies of Perestroika and Glasnost radically and fairly quickly (1986–1990) began to have significant impact on Soviet and later Russian cultural landscape. The Asian Financial Crisis of 1997 brought quick and notable changes in national policy, citizen behavior and corporate policy in South Korea, Japan and other nations. Terrorist attacks in the U.S. during 2001 helped to create a social landscape whereby new and significant national policy shifts took place. Events, systems (e.g., educational, political, legal, etc.) and culture form an interlocking dynamic of influence. It is not entirely possible to neatly separate these elements. To say that a society's systems and culture cannot dynamically adjust, when necessary, to significant events is refutable by the type of global evidence previ-

ously mentioned. Culture is dynamic. Culture is potentially nimbly-dynamic.

In today's global village, societies and the values that underlie them are increasingly interconnected and potentially dynamic, rather than coherent and stable (Hermans and Kempen, 1998). Rather than being bounded, independent units, cultures are increasingly becoming interrelated systems. Our societies are more connected now than ever, and this trend seems likely to continue.

Migration has increased sharply in recent years, with workers often moving to wealthier nations, typically in search of better opportunities. North America is the most popular destination. In 2004 the U.S. and Canada had net immigration of 1.22 million and 188,100, respectively. These figures represent an increase over 1995 migration levels of 56% for the U.S. and 23% for Canada. Movement of people from Mexico occurred as nations endeavored to feed the engine of economic prosperity and growth.

Another source of demographic connection is travel, which allows more short-term interactions among people from different nations and cultures. These interactions are increasing in frequency. Spending on international travel ballooned to \$683 billion in 2005 from \$112 billion in 1984—an increase of over 500%. Worldwide there were 842 million international arrivals in 2006. This figure has almost tripled since 1984, when 307 million arrivals were recorded. Fifty one million non-residents arrived in the U.S. in 2006, up from 39.3 million arrivals in 1996—a 30% increase (Office of Travel and Tourism Industries, 2006).

Instability of Value Reports

The extent to which an individual embraces a particular value can depend on situational factors, causing some instability. For example, people have been shown to shift values depending on whether they think of themselves as an individual or a group member (Aaker & Lee, 2001), feel the need to justify their judgments or decisions (Briley, Morris & Simonson, 2000), feel pressured to arrive at a quick response (Briley, & Aaker, 2006), or determine a response by considering a specific rather than general reference group (Heine et al., 2002).

Another factor contributing to instability is the imprecise nature of many values constructs. Values constructs are often very broad in terms of the range of dimensions included. Consider the individualism-collectivism construct. Ho and Chiu (1994) identified 18 independent dimensions that could compose a more general construct of individualism-collectivism. Some of the facets they identified are uniqueness versus uniformity, self-reliance versus conformity, and economic independence versus interdependence.

CULTURAL DIMENSIONS

A cultural system can generally be defined as people sharing similar assumptions about the world, values, beliefs, customs and opinions (Brislin 2002; Hofstede, 1997). Triandis emphasizes a subjective aspect of culture by which he means people's response to the man-made part of the environment, or to a group's characteristic way of perceiving its social environment (Triandis, 1977; Triandis & Lambert, 1980).

Most definitions of culture share the following elements:

1. human-made elements that are shared through communication and passed along generations;
2. which increase the probability for survival of the group;
3. and result in greater satisfaction for those in the community.

Socialization and culture's affect on one's values and beliefs has been well established (Brislin, 1981). While not necessarily being static (Kelley, MacNab & Worthley, 2006), these elements are passed along and learned longitudinally over time, passed down from generation to generation.

Bowman (2000) reviewed the significant differences between the U.S. and Canada while also arguing a case for significant Canadian sub-cultures. The U.S. and Canada cannot be assumed to be the same in terms of culture, even if that parity is limited to the parameters of *Anglo*

culture typing (end note 1). Huo et al. (1991) argued that at least four of the national level cultures examined by Hofstede contain significant sub-cultural identities; these are identified as Canada, U.S., Malaysia and Belgium. The authors make the same case for China and explore the sub-cultural nuances.

Crossvergence allows for the possibility that opposites may coexist and even be complementary, as are two sides of the same coin (Ralston et al., 1997). Crossvergence recognizes that economic advancement brings inter-cultural contact, competition and interaction whereby, over time, cultures can retain core elements while at the same time adapting elements of another. National cultures and global marketing practices can be combined in a kind of hybrid; for example, the company can replace the family as the most important in-group. Individualism and market-orientation can exist side-by-side with traditional collectivism. Homogenization or convergence of marketing practices based on U.S. models is unlikely.

Because culture is not static, at some stage one would expect differences from the original Hofstede findings (Kelley, MacNab, & Worthley, 2006). One of the most significant influences on culture is communication-Hall (1990) defines culture as communication. Global shifts are likely to affect cultures as phenomena like the World Wide Web make easy access to new ideas, thoughts and realities. In his more recent work, Hofstede emphasizes that external influences on culture related to economic changes and evolving trade patterns can shift cultural perspectives (Hofstede, 2001: 12). However, researchers continue to maintain that culture is "very stable" and this is one assumption often cited with some of the more notable work in this area (House et al., 2004). But just how stable is culture? What is meant by cultural stability? Is culture so stable that assumptions based on work now more than two decades old should be maintained as in *Anglo* culture typing national groupings or in the relative positions of national culture reported in Hofstede (1980).

NAFTA, and the increase trend of global trade blocks in general, are example of significant events which likely influence national culture. Although aspects of Western Hemisphere trade

are currently being negotiated and dealt with (Hakim, 2004), regional integration is likely to continue in the future. Chile effectively became the fourth member of NAFTA in January, 2004, and other Central and South American countries are actively negotiating trade agreements with the U.S. and Canada.

Much has occurred since 1980–NAFTA being one big change. The continuing migration of millions of Mexicans back and forth into the U.S. and Canada greatly strengthened the social and economic integration of the three nations. Also, the boom in foreign direct investment and trade stimulated by the explosive growth in maquiladora/in-bond manufacturing and assembly plants exposed thousands of Mexicans to daily work experience with U.S., Canadian, Japanese, South Korean and other foreign managers, engineers and technicians.

HYPOTHESES

Six hypotheses will be developed as associated with the subject nations (U.S., Canada and Mexico). Cultural positions as related to the 1980 Hofstede dimensions that are associated with Anglo culture-typing will be examined. It is emphasized that our study examines this not in an attempt to directly relate to the original Hofstede findings and rankings but rather to test: (a) the potential for questioning the stability of culture in future research; (b) how sample-specific measurements, aggregated to the national group level may be different from some of the more traditional cultural patterns for our subject nations; (c) comparative national positions are capable of shifting. The following section develops hypotheses in relation to each cultural dimension.

Uncertainty Avoidance

“Uncertainty Avoidance” (UA) refers to formalization, and the apprehension in accepting ambiguity that is often related to certain types of risk. Some cultures more rigidly emphasize rules and regulations, while others tolerate ambiguity and deviation from the rules. This dimension indicates how threatened a society will be by ambiguous contexts and the degree to which it will

attempt to avoid these situations, not tolerating deviant ideas or behaviors. In other words, high UA involves a belief in absolute truths and lack of comfort with vague rules or procedures. These elements may create greater overall anxiety and a heightened work ethic (Hofstede, 1980).

Compared to the U.S. and Canada, Mexico ranked relatively much higher on this dimension in the original Hofstede data (Mexico ranking 18, Canada ranking 42 and the U.S. ranking 43). Based on these rankings, the following hypothesis is proposed:

H1a: The Mexican sample will currently rank relatively higher on UA than both the U.S. and Canadian samples.

H1b: Canadian and U.S. samples will have similar ranks on the UA dimension.

Power Distance

“Power Distance” (PD) refers to the centralization of decision-making authority, or the degree to which position power separates people socially. Higher PD implies greater acceptance of inequality in social relations. In a low PD culture, it is often acceptable to address a high-ranking leader by his or her first name (Cushner & Brislin, 1996). In Hofstede’s (1980) original sample, the U.S. and Canada were significantly lower than Mexico on this cultural dimension (Mexico ranking 81, the U.S. ranking 38 and Canada ranking 39). Again, the U.S. and Canada ranked just next to each other, indicating relative closeness. Based on these rankings, the following hypothesis is proposed:

H2a: The Mexican sample will rank higher on PD than both the U.S. and Canadian samples.

H2b: Canadian and U.S. samples will have similar ranks on the PD dimension.

Individualism and Collectivism

Individualism is valued in loose-knit cultures in which people are expected to look out for their own interests, and in which collectives such as families, clans, group affiliations and organizations are less important. The opposite

could be said for collective cultures where positive affiliation with certain groups is valued and emphasized.

Individualism versus collectivism is also related to the in-group/out-group distinction. In-group/out-group distinctions are less of a focus in individualism oriented societies. Ingroup is typified by relatives, affiliations, clans and organizational membership where out-groups are those not represented in closer social spheres. Collective societies are organized by tight social frameworks with high degrees of loyalty and in-group/out-group distinction.

Furthermore, this dimension has been examined as interactive with other dimensions (power distance) to create hybrid categories like vertical collectivism and horizontal individualism (Thomas & Au, 2003).

In Hofstede's (1980) original sample, the U.S. ranked highest on individualism, followed by Canada, which were both significantly higher than Mexico on this dimension. The Hofstede study again ranks the U.S. and Canada relatively close. The U.S. ranked the highest on individualism and Canada ranked 4 tied with the Netherlands. Mexico, however, ranked 32 on the Hofstede study-relatively high on the collectivism dimension. Based on these rankings, the following hypothesis is proposed:

H3a: The Mexican sample will rank higher on collectivism than both the U.S. and Canadian samples.

H3b: The U.S. will rank lower than Canada on collectivism.

Examining the subject nations on these three dimensions, we hypothesize that, in relation to Canada and the U.S., Mexico will be relatively higher on UA, PD and CO, while the U.S. and Canada will be similar on UA and PD. Furthermore, we hypothesize that the U.S. will rank relatively lower on collectivism (higher in individualism) than Canada.

METHODOLOGY

As part of a project to examine the potentially important influence of culture on manage-

ment, this research combines survey data collected in 10 regions of the U.S., Canada and Mexico.

A total of 1,187 business professionals enrolled in executive development courses were sampled for this study. Samples were collected in Canada ($n = 476$), the U.S. ($n = 463$) and Mexico ($n = 248$) during 2003–2004. The average age of our sample is 30.6 years and the total average level of work experience is 8.8 years. Females included in our study are 41%. For all respondents, the survey was administered by a university research collaborator who instructed participants that the survey was examining aspects of cross-cultural management. Participants were provided between 15–20 minutes to complete the questionnaire that also included demographic information, two qualitative questions and a research participant agreement form. All of the quantitative questions were measured using a seven-point, Likert-scale format that also included descriptive anchors. Sample items for each cultural dimension are provided in the appendix.

This study benefited from a high subject participation rate of over 95%. This was due largely by virtue of the personal contact that was established during the data collection process. Additionally, over 95% of the established data was complete for use in this study.

One critique of the Hofstede dimensions is that the conceptualization and measurement of the cultural constructs has been inconsistent across many acceptable studies (Schaffer & Riordan, 2003). Because of this, different measures for the dimensions have been used (Earley & Gibson, 1998). Despite this challenge, we still believe efforts to operationalize these dimensions in the particular research setting will be more fruitful than relying on pre-established categorizations based on Hofstede's (1980) country rankings or numeric ratings (Schaffer & Riordan, 2003). Others have also derived their own survey to directly measure select Hofstede dimensions as we have done for this effort (Smith, Dugan & Trompenaars, 1996).

Our instrument was initially developed using a two-phase validity process. In phase one, university students ($n = 97$) were sampled and

the instrument evaluated using factor analysis. Based on these initial results, adjustments were made to the instrument and a phase two validity test took place using a separate holdout sample ($n = 141$) that was not used in later analysis. Phase two defined the final latent constructs, creating three manifest measurements for each construct (see appendix). The BIC specification search in AMOS was used to generate the specific scale items with the following results. All of the scales resulted in excellent fit statistics, Collectivism ($\chi^2 = 2.23$, $p = .14$, GFI = .99, CFI = .96), Power Distance ($\chi^2 = 0.45$, $p = .50$, GFI = .99, CFI = .99), and Uncertainty Avoidance ($\chi^2 = 5.07$, $p = .02$, GFI = .97, CFI = .92).

Because of the multi-linguistic characteristic of our sample regions, the finalized instrument underwent a careful process of back-translation as recommended by Brislin, MacNab, and Bechtold (2004). The process included an initial translation of the English instrument into both French (some Canadian participants) and Spanish (Mexican participants) by translation collaborators specifically expert of those regions. A second phase then took the instrument and translated it back into English. This English version was compared to the original. Differences were examined, discussed with the research team and translation experts and adjustments made where appropriate for achieving intended semantic equivalence.

This research effort examines potential cultural differences with a word of caution. It is potentially misleading to examine management phenomena on the national level with samples that are confined to one specific area of a culturally complex nation. Because a nation's cultural diversity can be profound (McDonald, 2000; Schaffer & Riordan, 2003), our research has endeavored to take care in gathering current samples from multiple regions of each subject nation. For Canada, samples were collected in Vancouver, British Columbia; Hamilton, Ontario; Quebec City, Quebec; Montreal, Quebec and Halifax, Nova Scotia. For the U.S., samples were collected in Honolulu, Hawaii; Los Angeles, California; Columbia, South Carolina and Winter Park, Florida. For Mexico, samples were collected in Tijuana, Baja California Norte and Mexico City, D.F. We realize

that our sample regions for each nation are not exhaustive of the total, potentially meaningful regions of cultural influence (e.g., for neither the U.S. nor Canada did the research sample from plains areas). However, we believe there has been enough care in regional recognition to provide a national indication, and having explicitly identified the sample regions, the reader can actually self-determine the level of national applicability.

We have raised a potential issue about research that has relied on Hofstede (1980) cultural dimensions and national positions. More than 25 years since said study, it is appropriate to re-examine the national scores in recognition that culture may have elements that could be longitudinally dynamic (Hofstede, 2001; Ralston et al., 1999, 1997) or that a target sample may be different from the original Hofstede sample of IBM employees (Schaffer & Riordan, 2003). We have endeavored to make an indication of this by taking current measurements on Hofstede constructs in the subject nations and applying these to our study. We also carefully describe our subjects, allowing the reader to evaluate their potential comparability to the original sample of Hofstede IBM employees.

RESULTS

Tables 1 and 2 test hypotheses (H1a and b through H3a and b) about country differences with respect to the cultural dimensions used in this study and the original Hofstede positions (1980). Table 1 reports a series of models that have reasonable fit measures (RMSEA = .03, CFI = .89, ChiSq/df slightly over 2.0).

Hypothesis 1a that Mexico will have a larger mean UA than the U.S. and Canada is supported only for Canada ($P = .007$) and Mexico is not shown to have a significantly higher mean than the U.S. (This is also potentially relevant for demonstrating some evidence for cultural difference between the U.S. and Canada on this dimension.)

Hypothesis 1b that the U.S. and Canada will have similar means for UA is rejected ($P = .007$).

TABLE 1. Summary of Models and Goodness-of Fit Tests for Testing Equal Structural Means (CO, PD,UA)

No.	Model Description	χ^2	df	$\Delta\chi^2$	Δdf	P = Value
1.0	Factor Loadings and Intercept Invariance	187.68	90	—	—	—
2.1	Equal Latent Means for CO, PD, UA	233.02	96	45.34	6	<.001
2.2	Equal Latent Means for CO only	217.69	92	30.01	2	<.001
2.3	Equal Latent Means for PD only	189.38	92	1.70	2	ns
2.4	Equal Latent Means for UA only	200.87	92	13.19	2	.001
2.5	CO(US=C), PD (ALL =), UA (US = M)	192.22	94	4.54	4	ns
No.	Model Description	RMSEA	CFI	χ^2 / df		
1.0	Factor Loadings and Intercept Invariance	.030	.89	2.08		
2.5	CO(US = C), PD (ALL =), UA (US = M)	.030	.89	2.05		

CO = collectivism; PD = Power Distance and UA = Uncertainty Avoidance.

Hypothesis 2a that Mexico will rate higher on PD than the U.S. and Canada is not supported since Model 2.5 in Table 1 has PD equal for all three countries and is acceptable when compared to Model 1.0.

Hypothesis 2b that the U.S. and Canada will have similar means for PD is supported as seen in Model 2.5 tested against Model 1.0.

Hypothesis 3a that Mexico will have a higher level for Collectivism is fully supported with Table 2 showing a significantly ($P < .001$) higher level for Collectivism in Mexico compared to the U.S. and Canada.

Hypothesis 3b that the U.S. will have a lower mean than Canada for collectivism is not supported since Model 2.5 has Collectivism equal for the U.S. and Canada and this model is not significantly different from Model 1.0.

DISCUSSION

As the reader will recall, this study examined three hypotheses sets through hierarchical hypothesis testing, with examination of subject

nation indicators of select cultural dimensions (H1a through H3b). Also implicit to our study is that management research should not automatically assume the Hofstede (1980) cultural positions are currently accurate for testing cultural-related hypothesis. These dimensions should be re-sampled and measured due to phenomena like crossvergence (Kelley, MacNab, & Worthley, 2006; Ralston et al., 1997) and significant global events which may have exacted national cultural change.

We find potential evidence supporting that current research efforts should directly measure culture dimensions and not use Hofstede (1980) rankings as an automatic proxy. In relation to the original Hofstede rankings (for the U.S., Canada and Mexico), we clearly find mixed results. These findings support Schaffer & Rioridan’s (2003) position that researchers should not assume distal or sample equivalence to the Hofstede (1980) rankings. Additionally, we found in relation to the original Hofstede (1980) findings for UA, Canada and the U.S. changed positions, with the U.S. indicating a higher measure for UA in our sample than Canada (H1a). Geopolitical

TABLE 2. Estimated Mean Differences from Model 2.5

No.	Mean Difference	Difference	SE	CR	P-Value
2.5	CO (Mexico higher than US and Canada)	.622	.112	5.570	<.001
2.5	UA (Canada lower than US and Mexico)	-.201	.074	-2.712	.007

CO = collectivism and UA = Uncertainty Avoidance.

TABLE 3. Summary Research Hypothesis and Results

Hypothesis	Hypothesis Summary	Supported
H1a	UA for Mexico > U.S. and Canada	No
H1b	UA for US and Canada are equal	No
H2a	PD for Mexico > U.S. and Canada	No
H2b	PD for US and Canada are equal	Yes
H3a	CO for Mexico > U.S. and Canada	Yes
H3b	CO for US less than Canada	No

Note. CO = Collectivism; PD = Power Distance and UA = Uncertainty Avoidance.

events with the U.S. (including 9–11, the war on terrorism, invasions of both Afghanistan and Iraq) have created a heightened level of anxiety and psychological burden on the U.S. population (Kissinger, 2001). Anxiety has been sometimes linked with the dimension of uncertainty avoidance and war (Hofstede, 1997). It is perhaps no surprise, given recent political events, that the U.S. sample might demonstrate a higher level of uncertainty avoidance. Also, because many management topics are potentially influenced by UA, it is prudent from our sample findings to recommend gravitating away from assuming cultural similarity between the U.S. and Canada on this dimension.

Also, the results for PD and UA are quite different from the original Hofstede (1980) positions and national rankings. For example, we found no significant differences in power distance for our sample between the subject nations (H2a and H2b). For this dimension, Canada actually ranked the highest in a set of statistically non-significant rankings.

Our current findings seem to support the original Hofstede rankings for individualism/collectivism with Mexico being significantly higher on collectivism than both the U.S. and Canada (H3a). Additionally, as in the 1980 study, our research sample indicates that Canada is slightly higher for collectivism than the U.S. but the difference was relatively small and not significant (H3b).

Based on our results, we recommend that future research involving the U.S. and Canada not assume cultural parity in relation to the Anglo type cultural dimensions. This recommen-

dation is directly inline with other recent, empirical research that recommends caution when making a cultural “similarity assumption” between the U.S. and Canada (MacNab et al., 2004; Nevitte, 1996). Our finding of significant cultural difference between the U.S. and Canada for UA (and reverse of the original Hofstede, 1980 positions) provides further support for our recommendation.

NOTES

1. A fifth cultural dimension related to the Hofstede cultural framework is called Confucian dynamism (long-term orientation) (Bond, 1986). Two cultural dimensions related to the Hofstede (1980) framework are not included in this study because they are not theoretically related to Anglo culture typing. These dimensions are: 1) masculinity/femininity and 2) Confucian dynamism. Confucian dynamism relates to an array of issues that tend to gravitate toward how the culture views temporal relations. Masculinity/femininity is a multi-layered dimension that relates to quantity of life (e.g., success, achievement, competition) and quality of life (e.g., family time, enjoyment of free time, relationships) (Hofstede, 1997)

2. Hofstede (1980) places the following nations within an Anglo culture type or cluster which is identified with low PD, low UA and low CO: U.S., Sweden, New Zealand, Netherlands, Great Britain, Ireland, Denmark, Canada and Australia. Although Hofstede (1980) did not propose that these cultures are equal, one (perhaps unintended) result of culture typing and clustering has been an assumed equality of culture for some business research.

3. There are generally two avenues for cross-cultural research in relation to using individual responses for generating societal or national-level analysis: (1) Construct measures from concepts using data at the individual level. These individual level responses are then examined and analyzed to determine if they show enough consistency within societies and differences between societies for the use of study at the aggregate level. (2) Aggregation of each item to the national level, then evaluate the measurement structure at that level. (See Peterson, 2004). Our study examines aggregated responses for measures examining societal level values as demonstrated in appendix one. The findings of this study are not intended to be used as a direct comparison to the national rankings within the Hofstede (1980) study but rather are a management, sample-specific examination of those cultural patterns aggregated to the group level between the U.S., Canada and Mexico for the purposes stated in the body of this work.

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APPENDIX. Sample Listing of Manifest Items by Exogenous Category

Uncertainty Avoidance

UA1: Employees should have outlines of proper worker conduct, clear and in writing, or else there will be too much ambiguity/confusion.

Power Distance

PD1: Authority figures are normal people - they can be approached just like anyone else.*

Collectivism

IC2: It is more important to have harmonious social relations than to gain independent success.

* = Reverse coded.