

Does Country Equate with Culture? Beyond Geography in the Search for Cultural Boundaries

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Taras, V., Steel, P., & Kirkman, B. L. (2016). Does Country Equate with Culture? Beyond Geography in the Search for Cultural Entities. *Management International Review*. 56(4): 455-472.

This is a post-peer-review, pre-copyedit version of an article published in *Management International Review*. The final authenticated version is available online at:

<http://dx.doi.org/10.1007/s11575-016-0283-x>.

Abstract:

Traditionally, cultures have been treated as though they reside exclusively within, or perfectly overlap with countries. Indeed, the terms “country” and “culture” are often used interchangeably. As evidence mounts for substantial within-country cultural variation, and often between-country similarities, the problem with equating country and culture becomes more apparent. To help resolve the country-culture conundrum, we evaluate the extent to which political boundaries are suitable for clustering cultures based on a meta-analysis of 558 studies that used Hofstede’s (Culture’s consequences: international differences in work-related values. Sage Publications, Beverly Hills, 1980) cultural values framework. The results reveal that approximately 80 % of variation in cultural values resides within countries, confirming that country is often a poor proxy for culture. We also evaluate the relative suitability of other demographic and environmental characteristics, such as occupation, socio-economic status, wealth, freedom, globalization, and instability. Our results suggest that it may be more appropriate to talk about cultures of professions, socio-economic classes, and free versus oppressed societies, than about cultures of countries.

Keywords: Culture | Cultural values | Cultural regions | Cross-cultural management

Article:

Introduction

Traditionally, cultures have been assumed to reside within countries. From the earliest studies of cultural differences dating back over two centuries (Darton 1790, see Fig. 1) to more recent research by Hofstede (1980) and the GLOBE team (House et al. 2004), the unit of analysis in cross-cultural studies has typically been country. The focus on national cultures has appropriate applications, but its dominance in research has led to a lack of attention to other plausible organizing units of culture. Equating cultures with countries and using country of origin and individual culture interchangeably became a common practice (Brewer and Venaik 2012). However, the appropriateness of this trend depends on answers to two questions, including: (1) are countries good proxies for cultures, and (2) could other factors be superior for describing boundaries of cultural regions or groups of people who display similar cultural values?

Culture is a multi-faceted construct. First, the word culture has many meanings, from a collective of people who share a common history, language and traditions, to characteristics of such a collective in terms of its artifacts, practices, and value systems. Illustrating the pervasiveness and possibly ambiguity of the term “culture,” a Google search for “culture” and its derivatives returns 1.5 billion hits, making it one of the most popular words on the Web. More than 60 years ago, Kroeber and Kluckhohn (1952) found 164 distinct definitions of culture. Despite the variety of definitions, several elements are common across most of them, principally that culture is: (1) a relatively stable, (2) multi-level construct comprised of values, beliefs, norms, traditions, and artifacts that (3) are shared in a given population (cf. Taras et al. 2009). Early empirical research on cross-cultural differences has been largely qualitative and focused on describing artifacts, rituals, and social institutions. However, following the publication of Hofstede’s (1980) seminal book, *Culture’s Consequences*, the focus shifted to cultural values. As noted by Taras et al. (2009), “culture is values” has become one of the commandments of crosscultural management research.



Fig. 1 Page from one of the earliest studies into cultural differences by William Darton (1790)

The almost exclusive focus on cultural values is often justified, but also problematic and limiting in many ways, particularly if measured using Hofstede’s (1980) framework, one that was developed based on a survey not actually originally intended for cultural analysis (cf. Baskerville 2003; McSweeney 2002; Taras and Steel 2009 for reviews of problems with Hofstede’s framework in general and for studying “culture” in particular). For the purpose of the present study, however, the question of whether or not the Hofstede’s framework is suitable for studying culture due to its limitations is secondary because most empirical research on culture over the past 35 years has relied on Hofstede’s framework. As Taras and Steel (2009) concluded, since the publication of *Culture’s Consequences* (Hofstede 1980), research on culture effectively became research on values.

Indeed, reviews of cross-cultural research published in management, psychology and related disciplines confirm that empirical measurement of what is called “culture” has almost exclusively focused on assessing cultural values, usually by the means of self-response questionnaires (Caprar et al. 2015). Subsequent models following Hofstede’s work primarily refined his framework (e.g., House et al. 2004 (GLOBE); Schwartz 1994) rather than substantively altering it. Even though this work changed the wording of items and the list of the dimensions, the underlying practices remained the same and are subject to the same limitations (McSweeney 2013). Accordingly, the outcome of just about every major cross-cultural

comparative study has been a set of national cultural means and country rankings along dimensions of cultural values (Taras et al. 2009). Thus, to settle the culture-versus-country debate, we rely on the approach to culture that is at the foundation of most of the empirical literature on the topic.

Interpreting culture as inherently inseparable from country has become popular enough that the two terms often are used synonymously. For example, the word “culture” has been routinely included in titles of publications that provided crosscountry (but not culture) comparisons, as in “The Perception of Distributive Justice in Two Cultures” (Marin 1982), “Rules for Social Relationships in Four Cultures” (Argyle 1986), “The Effect of Culture on the Curvilinear Relationship between Performance and Turnover” (Sturman et al. 2012), “A Cross-Cultural Examination of Self-Leadership” (Houghton et al. 2014), and many others (e.g., Bagozzi et al. 2003; Cialdini et al. 1999; Goodwin and Plaza 2000). Similarly, there are numerous examples when nationality or country of residence are used as proxies for cultural values, as illustrated by such quotes as “cultural background was measured by the current citizenship (passport status) of each of the managers” (Offermann and Hellmann 1997, p. 346), “Individualism-collectivism was operationalized by the respondent’s native culture (country of origin)” (Trubisky et al. 1991, p. 73), or “participants were divided into high and low Power Distance groups by county-of-origin” (Eylon and Au 1999, p. 378), and “across two cultures (the U.S. and Korea)” (Lee et al. 2014, p. 692).

This is not to say that the interest of cross-cultural management and psychology researchers in values is misplaced. Indeed, it is primarily the core values and beliefs, not the external cultural artifacts, that affect organizational behaviors and attitudes, and the effect of cultural values on work-related outcomes appears to be significantly stronger than that of other commonly used predictors, such as demographics or personality (for meta-analytic reviews see Fischer and Smith 2003; Stahl et al. 2010; Taras et al. 2010). Measuring tacit values and beliefs, however, is no easy task. Self-response questionnaire has been the method of choice, but the efficacy of this approach has inherent limitations (Riordan and Vandenberg 1994; Taras et al. 2009; Taras and Steel 2009). As a result, it would be very convenient and advantageous if one’s country of origin was actually a good proxy of cultural values. But, the question remains: Is it?

This question has an extended history. The problem of equating country and culture has been recognized and sharply criticized for at least three decades, though attempts to address the problem have been predominantly theoretical, and much of the criticism has gone unheeded in subsequent research. As for empirical investigations, the evidence has typically targeted assessing within-country variation in cultural values, demonstrating that nations are imperfect indicators of its individual citizen’s values (e.g., Coon and Kemmelmeier 2001; Kaasa et al. 2014; Lenartowicz et al. 2003). The present study moves beyond confirming whether country is a good proxy for culture. By directly comparing within- and between-country variance in cultural values in a large global sample, we provide a new level of precision by assessing the exact extent to which national borders are suitable as boundaries for cultures. In addition to potentially pointing out that, yet again, cultures do not neatly compartmentalize between countries, we theorize what could be better ways to think about cultural clusters and empirically test the comparative worth of a number of alternatives, providing a foundation for moving forward on this long debated issue.

2. Theoretical Background

2.1 A Brief Review of the Culture vs. Country Discussion

Thinking about cultures and countries as overlapping concepts appears to date as far back as the construct of country itself. Consistent with the fundamental cognitive bias of group stereotypes, here based on country of origin (Verlegh and Steenkamp 1999), we have an innate readiness to equate country with culture and have done so for centuries (e.g., Darton 1790). Given this inclination to conflate, Hofstede's work providing country-averages for cultural values only made it more convenient to equate the two. His readily-available sets of national cultural indices provided a practical, low-cost and consequently attractive option for empirical research on culture.

As Hofstede's national cultural indices gained in popularity, the debate around the assumption that cultures are contained within countries was becoming increasingly pervasive. Even though the problem was identified early on, the discussion revolved around pointing out that cultures are not homogeneous within countries, and thus national averages may not adequately represent the distribution of the values in the population. Still, the solutions continued to adopt geography as the sorting mechanism, generating distinct sets of indices for different geographic regions within countries, such as assessing Switzerland's German, Italian and French regions or the Anglophone versus Francophone provinces in Canada (e.g., House et al. 2004; Punnett 1991). Ironically, despite trying to rectify the issue of excessive within-group heterogeneity, these more granular reports do not often include within-region variance statistics, effectively treating these geographic regions themselves as culturally homogenous. Thus, even though reporting regional averages is a refinement from the practice of relying on political borders, dividing countries into regions implicitly assumes geography as the appropriate clustering dimension and does not necessarily solve the underlying problem.

Hofstede responded to this criticism by stressing that his model is only suitable for the nation level of analysis and highlighting the importance of matched sampling to make the comparison of national averages meaningful (Hofstede 2002a, b, 2006). As a result, the discussion focused on the issue of ecological fallacy (i.e., acting as if the average represents the instance), which might have had the unintended consequence of doing more harm than good for the development of the field of cross-cultural research. Specifically, instead of trying to find more suitable dimensions for clustering cultures, researchers were preoccupied with the question of whether or not Hofstede's indices can be generalized to the individual level of analysis (Spector et al. 2001), developed instruments for measuring individual cultural values (Maznevski et al. 2002), and researched cultural regions within countries (Huo and Randall 1991). Country as a proxy for culture may have been discredited, but in the absence of a better alternative, the old framework held its ground. Even the more recent large-scale studies on cultural regions remained stuck in the "country's culture" paradigm (e.g., GLOBE country indices, House et al. 2004).

Clearly recognizing the problem without offering a viable alternative resulted in a curious phenomenon. In the past decade or so, researchers would still use Hofstede's (or GLOBE's) country indices, but add a paragraph on the limitations of this approach, thereby showing their understanding of the problem and attempting to rebuff potential criticism. It also became common to add the word "national" (as in "national culture", see Fig. 2) to signal the understanding of the controversy surrounding the use of national averages proxies for cultures and warn that the findings apply only at the national level, thereby making criticism redundant

(e.g., Han et al. 2010; Kanagaretnam et al. 2011). Unfortunately, acknowledging limitations does not resolve them.

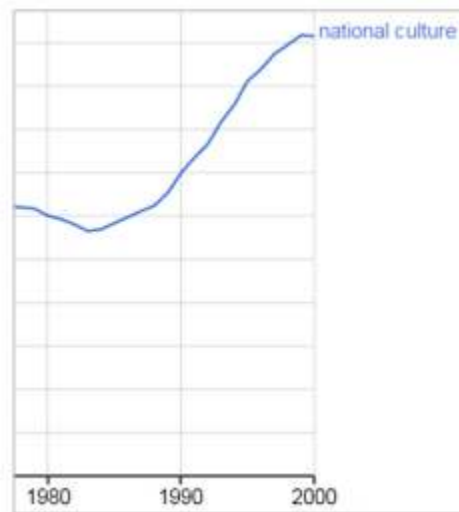


Fig. 2 The frequency of use of the term “National Culture”, Google Ngram

As a partial solution, many researchers moved on to directly measuring values in their samples by the means of surveys similar to Hofstede’s value survey module (Kirkman et al. 2009; Yoo and Donthu 2002). Even though this approach mitigates the problem of ecological fallacy, it does not address the issue of cultural boundaries. Culture is an inherently group level phenomenon, and values must be shared in a group to form a culture. Otherwise, we are likely dealing with personality, or the study of individual differences, even if we aggregate these personality profiles to the level of groups, such as nations (Hofstede and McCrae 2004). Unless we know the boundaries of the population in which those values are shared, direct measurement of participant values does not solve the problem of generalizability. If cultures do not cluster within countries, then just as national averages should not be taken to accurately represent individuals, so value effects found in a sample cannot be appropriately generalized to a country. If we do not know the boundaries of the population in which the given values are shared, we haphazardly generalize findings from the sample to that population.

Even though numerous Editorial Letters have called for banning the “passport” approach in cross-cultural research (e.g., Caprar 2015; Jackson and Aycan 2006; Lenartowicz et al. 2003; Lonner and van de Vijver 2004; Pudelko et al. 2006; Tung and Verbeke 2010; Zander 2004), there has been limited response to these recommendations in empirical studies. Studies that use country of residence as a proxy for culture remain commonplace, even in leading journals (Han et al. 2010; Kanagaretnam et al. 2011; Ng et al. 2009). Remarkably, the effect of the countryequals-culture paradigm is so strong that cross-cultural comparative studies do not often report standard deviations or other variance statistics for the national average (e.g., Hofstede 1980; House et al. 2004); nor are the standard deviations reported (or taken into account) when calculating national averages in meta-analytic reviews of the literature on the topic, given that most of the studies never provided these statistics (e.g., Oyserman et al. 2002; Steel and Taras 2010; Taras et al. 2012).

2.2 Arguments for Using Country as a Proxy for Culture

Before moving to analyzing the suitability of country as a proxy for culture, it is important to note that the use of country as a proxy for culture and the use of national cultural indices is sometimes justified. However, two conditions must be met in order to effectively equate the two, including: (1) within-country variance must be small; and (2) between-country variance must be large (cf. Gerhart and Fang 2005; Matsumoto et al. 2001; Taras and Steel 2009). That is, first, residents of a given country must have similar values. Second, values of residents of one country must be different from values of residents of another country.

Expecting values to vary little within countries and greatly across countries may not be completely unreasonable. Political, economic, and societal institutions tend to reside neatly within national borders. Education systems, cost and quality of life, and media and other entertainment options tend to be relatively homogenous within nations. Geographic distance as well as national borders have, to various degrees, limited interpersonal exchanges, flows of information, labor and products. Although globalization forces may be now attenuating these effects, for most of human history the speed and cost of international transportation has been exorbitant (Hummels 2007), exacerbated in the nineteenth century by need to obtain passports for border crossings (Torpey 2000). Since factors that profoundly affect values were relatively localized, it would make sense to expect values to cluster within country borders. As Peterson and Smith (1997, p. 934) note, “the link between nation and culture tends to occur because people prefer to interact with other people and be guided and politically government by institutions consistent with their values.” Nation-states can thus be a result of shared values and national institutions that, in turn, further perpetuate shared values.

Furthermore, many economic and societal development indicators are inherently national or measured and tracked at the country level, such as GNP, GDP, FDI, international trade, spending on education and military, and corruption levels. Thus, it may be feasible to use nation-level cultural indices to study relationship between culture and these indicators.

2.3 Arguments Against Using Country as a Proxy for Culture

Opponents of the culture-overlaps-with-country argument point out that even though these factors indeed historically align with national borders, it is increasingly no longer the case. The cultural convergence and modernization theories, which received ample empirical support, explain how cross-border personal and organizational exchanges blur the cultural differences among countries (Inglehart and Welzel 2005; Ralston et al. 1997). First, cross-border travel and long-term migration is rapidly increasing. The cost of instant communication internationally (e.g., voice, chat, video) is becoming effectively zero. Media and entertainment are more international than ever. Major music labels and movie studios have a truly global outreach. Institutions are morphing and converging in response to regional integration forces. Education is becoming increasingly international, with extended-time study abroad becoming the norm in many countries.

Second, many national borders were not aligned with ethnic and tribal boundaries in the first place, particularly in regions that experienced colonization where borders between what became sovereign states were often arbitrarily drawn. For example, modern Nigeria was created in 1914 as a matter of administrative convenience by the British, who merged two contiguous colonies. As with Nigeria, the effects of tribal histories and traditions often outweigh those of

national institutions. It is not uncommon in some regions to observe a virtually identical culture on both sides of a national border and different cultures within.

Supporting these concerns, numerous studies have revealed significant within-country variance in cultural values (e.g., Au and Cheung 2004; Coon and Kimmelmeier 2001; Dolan et al. 2004; Lenartowicz and Roth 2001). Indeed, a recent meta-analysis of research using Hofstede's framework revealed that as much as 70–90 % of variance in cultural values may reside within countries, with only 10–30 % of variance residing between (Steel and Taras 2010). The results reported by Gerhart and Fang (2005) are even more striking. Based on a re-analysis of Hofstede's data, they found that country of residence explains only 1–7 % of variance in responses to survey questions that were used to operationalize cultural values. The figures are similar to those reported by Hofstede (1980) himself, who acknowledged that country of residence accounted for just 4.2 % of the variance in survey responses. In Anderson's (2006) terms and the title of his book on the topic, nations are largely "Imagined Communities," with far greater variation within than most acknowledge.

2.4 In Search of More Relevant Boundaries of Culture

Even though there are legitimate reasons for assessing culture at the nation level, the concerns previously listed suggest considerable skepticism regarding the degree that country is a good proxy for culture. Certainly, national cultural averages may still yield useful information, particularly if they were derived based on matched representative samples. However, a lack of precision in defining the boundaries of cultural communities makes the cultural scores less than ideally representative of these communities.

For example, Weber (1930) argued that children's stories were a key mechanism for instilling protestant work values. If the stories had strong images and narratives promoting hard work, the children and subsequent adults would have higher levels of achievement motivation and economic success. One could then study the relationship geographically by assessing the percentage of schools in regions of a country that adopted schoolbooks with achieving imagery. If the motivational climate in regions is higher where a greater percentage of the schools had textbooks with strong achieving imagery, this would support Weber's thesis. Engeser et al. (2009) used this precise geographic methodology to compare the effects of imagery contained in the textbooks from two German federal states (i.e., Baden-Württemberg and Bremen). Finding their expected results supports the notion that regardless of whether region is randomly or weakly connected to adoption of particular reading books, some analyses can be done. On the other hand, consider how much more precise regarding the effects our schoolbook imagery if, instead of using region averages, we identified what textbooks school districts, individual schools, and specific classrooms actually adopted.

In this way, national averages may provide some useful information, but the estimates would be much more precise and informative if the averages represented properly delineated cultural communities, rather than the countries whose borders may not represent the true borders of the cultural ethos or a population segment or segments that display similar cultural values. The commonly used solution of using averages for smaller geographic areas can provide only a partial solution. Cutting regions small enough can help achieve reasonable homogeneity within a region and thus satisfy the first condition of low within-region variation. However, it will not address the problem of low inter-regional variation, which is the second necessary condition for using country (or region) as a proxy for country. Needless to say, cultural values, at least as

conceptualized by Hofstede, may systemically vary even within the same corporate building, which can have considerable vertical variation; that is, culture in the basement mailroom may be very different from culture in the executive suite on the top floor, so geographic boundaries would have to be very thinly sliced indeed to ensure within-region cultural homogeneity.

An equally important concern is that even though slicing populations into smaller groups and geographic regions may reduce within-group variance, it will inevitably result in separate areas that score similarly on cultural value tests, and thus also smaller between-group differences. A number of researchers have tried to address this problem by looking for supra-national geographic cultural regions. Hofstede's (1980) original *Culture's Consequences* provided a series of maps that grouped various countries into cultural regions based on closeness of their cultural scores. Likewise, Ronen and Shenkar (1985, 2013) started inquiry into this issue over thirty years ago, recently publishing an updated version of their study. However, on these maps, countries from different continents often would appear in the same cultural clusters. Due to the absence of a logical explanation for why some of these countries form a homogeneous cultural region, these maps often only add to the confusion. The solution, then, is not more segmentation, but rather a search for a smaller number of culturally homogeneous populations that are distinct from one another, irrespective of their geography.

Unfortunately, inquiries into whether other characteristics are more suitable for defining cultural boundaries have been limited. The field appears to agree with Hofstede's (2002a) belief that "[nations] are usually the only kind of units available for comparison." Essentially, we have settled upon an organizing schema (e.g., countries, regions within countries) without determining first the extent to which this is appropriate and whether other dimensions may prove superior.

Ironically, the direction for searching for more relevant dimensions for clustering cultures may have been in plain sight all along. In *Culture's Consequences*, Hofstede (1980, 2001) reported substantive correlations between his cultural indices and various national and personal characteristics, such as wealth, economic development, freedom, as well as age, gender, and occupational rank. Perhaps these could provide a better way to delineate cultural clusters? The present study assesses this possibility. As Steel and Taras (2010, p. 211) note, very little causal work has been done with culture, in that "Cultural values at both the national and individual levels have typically been assumed to be extremely stable and thus studying factors shaping culture have been deemed unjustifiable." However, this dearth does not preclude correlational work, so our search for alternatives to national borders for clustering cultural values was guided by prior research into the correlates of cultural values. As noted earlier, even though Hofstede was preoccupied with culture's consequences, he did explore the relationship between cultural values and demographics, social position, national development indicators, and the like. Regardless of the causality, the fact that cultural values appear to correlate with basic personal and environmental characteristics provides a prior foundation for identifying populations with shared cultural values.

As a brief overview of the theories that guided our choice of possible cultureboundary factors, we explore the effects of such personal and environmental characteristics as wealth (i.e., socio-economic status as the individual-level characteristic and GDP/capita as the national level characteristic), safety (i.e., age and the sense of security that comes with it as the individual characteristic and corruption or political freedom at the environment-level indicator), and modernization and progress (i.e., level of education at the personal level and urbanization or HDI as an environment-level indicator). As noted by Hofstede in *Culture's Consequences* and reviewed elsewhere in more detail (Basabe et al. 2002; Inglehart and Welzel 2005; Johnson and

Lenartowicz 1998; Steel and Taras 2010; Waldron 2003), individual and societal wealth reduces one's dependence on the group and, therefore, is expected to make people more individualistic and less power distance-oriented, more tolerant of uncertainty and promoting such masculine values as achievement and competition. Likewise, the sense of safety and stability, be it in personal life or society in general, also reduces one's need to depend on a group and induces individualism, tolerance of uncertainty, and the ability to be less concerned about pleasing figures of power. Finally, modernization and progress have been shown to bring about an increase in individualism and masculinizing and a drop on power distance and uncertainty avoidance orientations.

The nature of our study, however, is exploratory. As a first step, it appears most sensible at this stage to compare the suitability of country of residence as a cultural boundary versus the more basic, easily observable and commonly used personal and environmental characteristics. The goal is not to definitively establish the best way to think about cultural regions, but to determine how justifiable the current country-equals-culture approach is and whether or not there could be more worthwhile ways to approach the problem. Even though correlations and associations do not confirm causation or explanatory mechanisms, they are a requisite property for the latter and provide promising lines of inquiry.

Using meta-analytic data, we test whether or not country is a reasonable “container” for culture by comparing within- and between-country variance in cultural values. Our approach is similar to Minkov and Hofstede's (2012) regional level analysis, except we go a step further and consider groups based on factors other than geography. Then, using latent class analysis, we explore how cultural values cluster along other theoretically relevant factors besides geography. Although the underlying theories and rationales linking cultural values and demographic- and national-level characteristics have been reviewed at length in many earlier publications (e.g., Hofstede 2001; Steel and Taras 2010), for purposes of parsimony and the extensive number of alternative clustering dimensions we consider, we do not reiterate the theories in our analysis. Instead, we pose the following research question:

Research Question: To what extent is country a proxy for culture, and are there more accurate ways to define boundaries of cultures than along country borders?

We must stress again that the present study is concerned with culture in the Hofstedean sense. That is, the present study focuses on “culture” as a set of cultural values, including individualism, power distance, masculinity, or uncertainty avoidance. These values have been shown to explain and predict workplace behaviors (Taras et al. 2010). So, our search for dimensions for clustering “cultures” is an attempt to identify populations with similar values, such as the values described in models that have dominated the field of international business research since Hofstede's (1980) *Culture's Consequences*, and thereby aid with interpretation and generalizing the results of research into the effects of such values. For other attributes of culture—such as language, customs, or artifacts—alternate clustering dimensions may be more meaningful, and indeed country may be the optimal proxy for distinct groups. Also, other cultural values not included in Hofstede's model may indeed operate differently, though a case would have to be made for any hypothesized radical difference.

Method

3.1 Literature Search

The present study is based on a meta-analytic dataset, and so each data point represents a group or sample. Similar to previous meta-analyses of cultural values (e.g., Coon and Kimmelmeier 2001; Oyserman et al. 2002; Steel and Taras 2010; Taras et al. 2012), data from studies that involved assessment of cultural values of survey respondents were consolidated into a large multi-country longitudinal dataset. Studies that used Hofstede's (1980) four-dimensional cultural model, the Value Survey Module (VSM), or related instruments, were included.

The overriding benefit of using such meta-analytic data is that it enables this research in the first place, which is unusual. As Peterson and Søndergaard (2011, p. 1549) note, "One of the main constraints on testing culture theory based on alternatives to national boundaries has been the limited availability of cultural data about within-nation regions and the limited availability of criterion data." In contrast to our meta-analytic data, consider the matched samples design, a dominant choice among large-scale cross-cultural comparative studies. For example, we have cross-cultural studies based solely on information technology employees (Hofstede 1980), teachers (Schwartz 1994), mid-level managers (House et al. 2004), or students (Maznevski et al. 2002), not to mention further refinement by industry and organization. The matched sample design does have its advantages, as it potentially allows for isolating country-specific differences in cultures by minimizing data contamination due to sample background differences. On the other hand, matched samples designs have fixed or largely removed differences in terms of age, education level, occupation, and other relevant characteristics, a practice that simultaneously recognizes that these are related to culture while making it impossible to analyze the effects of these factors on cultural values of the respondents. Meta-analytic data, which is drawn from wide variety of samples and sources, possess sufficient diversity to allow clustering on these factors.

We conducted a comprehensive literature search to locate relevant empirical studies for the meta-analysis. First, we conducted a computer search using electronic databases of scholarly publications. Second, we reviewed over two-dozen relevant journals for studies that used Hofstede's VSM or similar instruments for assessment of cultural values. Third, for each article being coded, we checked the reference section for links to publications potentially containing data for the metaanalysis. Fourth, we used the "cited by" function of the Web of Science and Google Scholar databases to identify publications citing articles coded for our meta-analysis and, if relevant, included in our dataset. Finally, as a part of a larger meta-analytic project, we sent out a call via the Academy of International Business and Academy of Management list serves for studies that used Hofstede's (1980) framework to measure culture. We received over two dozen responses and included all relevant papers in our meta-analytic database.

3.2 Inclusion Criteria

A common challenge in meta-analysis is that the summarized studies rarely use identical research design and methodology (Rosenthal and DiMatteo 2001). Scale length modification (e.g., 1–5 modified to 1–7), change in the sequence of the survey items, and other minor differences are not likely to lead to a substantial alteration of the construct. However, if the studies are substantively different, aggregation becomes questionable, leading to the so-called problem of "apples and oranges" (Sharpe 1997). The tradeoff is that, on the one hand, the more relaxed are the inclusion criteria, the more studies are included in the meta-analytic dataset. Indeed, the larger sample size improves estimates and strengthens the validity of the findings. On

the other hand, relaxing inclusion criteria lowers consistency across the studies and increases error, thereby lowering reliability and validity of the findings.

To deal with the issue of commensurability, we relied on content validation in which multiple coders determined if instruments were similar by conducting a thorough item analysis and ensuring the instrument is consistent with Hofstede’s model of culture and is compatible with the different versions of Hofstede’s VSM (Hofstede 1982). This established meta-analytic methodology has been successfully used in earlier meta-analyses (e.g., Steel et al. 2008; Steel and Taras 2010; Taras et al. 2010). To minimize inconsistencies, we attempted to be as conservative as possible when making our inclusion decisions. That is, when in doubt, we excluded a measure, making errors of omission rather than errors of commission.

Only studies that defined and operationalized cultural values consistently with Hofstede’s (1980) framework qualified for inclusion, such as those that used various versions of Hofstede’s original VSM. Studies that used other instruments to quantify cultural values posed a greater challenge. We conducted a thorough item evaluation and content analysis of individual survey instruments considered for inclusion in our sample. Drawing on the catalog of over 100 cultural measures collected by Taras (2011), eight measures and their variations satisfied our inclusion criteria. Table 1 provides a summary of the number of data points derived using each of the eight instruments. Further easing concerns of commensurability, the vast majority (up to 79.1 %, depending on the dimension) of the data points in our metaanalytic dataset were derived using Hofstede’s original VSM and its variations.

Table 1 Data points in the meta-analytic dataset, by instrument

Instrument	Dimension								Total	
	PD		IND		MAS		UA		#	%
	#	%	#	%	#	%	#	%		
Dorfman and Howell (1988)	51	6.8	54	4.4	40	4.4	47	5.1	208	29.0
Earley (1993) ^a			24	2.0					26	3.6
Furrer et al. (2000)	5	0.7	45	3.7	45	4.9				
GLOBE, values (House et al. 2004)	62	8.2	62	5.0	62	6.7	62	6.7		
Hui (1988) ^a			145	11.8					157	21.9
Maznevski and DiStefano (1995)	40	5.3	50	4.1					99	13.9
Singelis (1994) ^a			99	8.1	92	10.0			209	29.2
Triandis (1983) ^a			107	8.7	30	3.3			149	20.8
VSM (82 and 94 versions) ^a	597	79.1	643	52.3	650	70.7	607	66.1	2699	76.1
Total	755		1229		919		716		3547	

#, number of data points

%, percent of the total data points

^a Some instruments have multiple versions, sometime up to half a dozen variations (e.g., Triandis 1983, 1994; Triandis et al. 1988). Cited here is the basic original version of each instrument

3.3 Data Coding Procedures

Hofstede’s (1980) model of culture is comprised of the following value dimensions: (1) Power Distance the extent to which the less powerful persons in a society accept inequality in power and consider it as normal; (2) Individualism the degree to which people prefer to act as individuals rather than as members of groups. In individualist cultures, people look primarily

after their own interest, while in collectivist cultures people are assumed to belong to tight in-groups that protect interest of its members in return for their loyalty; (3) Masculinity the degree to which values like assertiveness, performance, success, and competition prevail over values like the quality of life, maintaining warm personal relationships, service, care for the weak, and solidarity; (4) Uncertainty Avoidance the extent to which people are made nervous by situations that they perceive as unstructured, unclear, or unpredictable. The Long- versus Short-Term Orientation dimension (i.e., Confucian Dynamism) was later added to the model (Hofstede and Bond 1988), but we could not include it in our meta-analysis due to its rare use.

Aside from the previous four cultural dimension sample means, key information extracted from studies in our meta-analytic database included: sample size, survey year, survey country, and sample demographics (i.e., percent male, average age, education level, and occupation). Using sample descriptions, we also coded respondents' socio-economic status and calculated the year in which the respondents were born, which we coded as generation. Further, using publicly available data published by the World Bank, Heritage Foundation, and Transparency International, we linked these sample descriptions with measures of wealth, freedom, and economic and societal conditions for each country, as well for each matching time period (e.g., the 1980s). Specifically, the following 20 variable groups are included in the analysis:

3.3.1 Cultural Values

Power distance, individualism-collectivism, masculinity-femininity, and uncertainty avoidance, as measured by different versions of the Hofstede VSM and compatible instruments, were used as the dependent variable. To provide a foundation for the analysis, we converted all culture data into a common metric. First, the scales were transformed to a 0-1 range to resolve the issue of range differences (e.g., 1–5, 1–7). Then, we standardized the scores (mean 0, SD 1) within data subsets corresponding to each instrument type in our pool to address the differences in item functioning and scoring schemes of different instruments. These removed any remaining data inconsistencies stemming from instrument differences.

3.3.2 Year

Recording year, when available, enabled us to match country characteristics with the respective period. For example, if country X's data were collected in the 1990s, national indicators, such as civil freedom or HDI, would also be from the 1990s. In addition, this chronological data allowed us to calculate when respondents were born and to test the effect of the historic period on cultural values of the respondents.

3.3.3 Country

We coded the country of residence of the respondents as a nominal categorical variable. Data from a total of 32 countries and regions were available for the analysis. Due to limited data availability for some countries, they were grouped into regions. For consistency, when possible, the grouping was done following the schema used by Hofstede (1980). Specifically, Arab countries were grouped together and coded as one region, as were the countries of Africa (South Africa was coded separately), Caribbean region, former USSR republics, Scandinavian countries,

as well as smaller Latin American countries (e.g., Brazil, Argentina and Mexico were coded as separate regions).

3.3.4 Gender

Since we only had sample-level data available for analysis, gender was coded as percent male in a given sample. For the Intra Class Correlational (ICC) analysis, described in the following Data Analysis section, the continuous variable was split into three groups: mostly female ($\leq 35\%$ male), mixed (35–65 %) and mostly male ($\geq 65\%$).

3.3.5 Age

We coded age as the average age in a given sample. For ICC analysis, we split the continuous variable into approximately nine equal groups, starting with young teenager (15) and up to senior citizen (60?), with intervals of about 5 years in the younger age, increasing to about 10 year intervals for older people.

3.3.6 Generation

We coded generation as the year in which the respondents in a particular sample were born by subtracting their average age from the year in which the data were collected. We split the data into generations by decade, resulting in six generations, starting with 1925–1935 through 1975–1985, in 10-year intervals.

3.3.7 Education

Information about education of the respondents was typically presented as the average years of schooling or as the mode of the highest degree attained in the sample. Both pieces of information were coded and, if one of them was missing in a given publication, it was inferred from the other. The continuous version of the variable (i.e., years of schooling) was used in the Latent Class Modeling (LCM) analysis, while the ordinal categorical variable (i.e., highest degree) was used in ICC tests.

3.3.8 Occupation

The list of occupations, as described in each study, was fairly lengthy with a total of about 30 categories. They all were collapsed into seven general categories including: worker, clerk, professional, middle-level manager, top manager, student, and graduate student.

3.3.9 Socio-Economic Status (SES)

We coded SES as an ordinal variable with five categories: lower, lower middle, middle, upper middle, and upper class. Information about the respondent's income level (lowest to highest income quintile in the corresponding country), occupation (by skill requirement and supervisory role; from unskilled to highly skilled with supervisory functions), or prestige of university for

students (lowest to highest quintile of the university ranking) were used to estimate the social class of the respondents.

3.3.10 Civil and Political Freedom

We used data provided by the Freedom House to code this variable. A 7-point scale is used by this organization. The data were recoded so that seven represents the highest degree of freedom.

3.3.11 Economic Freedom

We used the Heritage Foundation data to operationalize this variable. Originally, it was a continuous variable designed to range from 0 to 100. For ICC analysis, we split the sample into six roughly equal groups.

3.3.12 GDP/Capita at PPP

We used World Bank data, with values adjusted for inflation and expressed in year 2000 US dollar equivalents. For ICC analysis, the countries were split into ten roughly equal groups with GDP/capita at PPP ranging from less than \$5000 to over \$30,000, with the step of about \$3000 dollars in the lower range and up to \$7000 in the upper range.

3.3.13 Human Development Index (HDI)

We used United Nations Development Program (UNDP) data to operationalize human development level in a given country in a given time period. The originally continuous variable was later split into five approximately equal classes for ICC analysis.

3.3.14 Globalization Index

We used Kearney/Foreign Policy Magazine data to describe the extent of globalization (i.e., the degree of connectivity, integration, and interdependence). We split the originally continuous variable with a possible range of 0–100 into eight approximately equal classes for ICC analysis.

3.3.15 Long-Term Unemployment

We used World Bank data to capture unemployment. Rather than using simple unemployment indicators (i.e., percent of people currently out of job and actively seeking one), long-term unemployment (i.e., percent of people unemployed for 6+ months) was used as the former index is too volatile and can drastically change in a matter of weeks. We split this variable into ten approximately equal groups, with the class range of about two percent in the lower range and about 5 percent in the upper range.

3.3.16 Urbanization

We used UNDP data to record organization rate in a given society at a given time. Urbanization was operationalized as percent of people living in cities, split into nine classes ranging from less than 20 % to over 90 %, with the step of about 10 percentage points.

3.3.17 Income Inequality

We used the World Bank's estimates of the Gini index to operationalize income inequality. The continuous data, ranging from about 25 to about 75, were split into eight approximately equal-range classes for the purpose of ICC analysis.

3.3.18 Corruption

We used the Corruption Perception index provided by Transparency International to operationalize this variable. The estimates are done using a 10-point scale, with greater values representing a lower level of corruption.

3.3.19 Crime Rate

We used Euromonitor International data, collected in partnership with Interpol, on the number of criminal offences per 100,000 inhabitants to quantify criminal situation in a given country. The data were split into ten approximately equal classes for the purpose of ICC analysis.

3.3.20 Employment in Agriculture

Finally, to capture the structure of the economy, we used UNDP data to code percent of people employed in agriculture. The continuous variable was later split into seven groups, with the class range of about 2 percentage points in the lower range to about 10 percentage points in the upper range.

3.4 Data Analysis

Consistent with the meta-analytic procedures of Hunter and Schmidt (2004), all estimates in the tests described below were weighted by the sample size, allowing more emphasis on data points with less error. The estimates, however, were not corrected for unreliability, because internal consistency indices (along with other estimates of heterogeneity) have not been reported in most of the studies. The present study relies on, first, ICC analysis to assess suitability of the different dimensions for clustering cultural values. Then, we use LCA to explore optimal grouping of cases into distinct cultural entities.

3.4.1 Intra Class Correlation (ICC)

First, we wanted to test how well cultural values cluster along various dimensions, such as geography (i.e., countries), demographic, and environmental characteristics. Cluster analysis is not suitable for this kind of test as it does not involve a dependent variable, which in our case is culture. Instead, we performed a series of one-way ANOVA tests to estimate ICC and calculate within- and between-group variance in cultural values for countries and other clustering

dimensions to see what percentage of differences between subjects reside within and between groups, or how similar subjects in groups are to one another, and how distinct groups are from one another. A simple correlation analysis was also performed to explore more closely the relationship between the cultural value predictors tested using one-way ANOVA and ICC analysis.

The disadvantage of ICC analysis is that it does not allow for identifying clusters that maximize between-group and minimize within-group variance; rather, it simply estimates the within- versus between-group variance for existing groups. For nominal variables, such as country of residence or occupation, such a split into groups is natural, and ICC analysis would be sufficient. For continuous variables, such as level of education or age, the respondents could be divided into groups in many ways and depending on grouping, the results may be very different. Accordingly, we grouped values along our continuous variables by commonly used categories. For example, in the case of years of education, such categories as “less than high-school”, “high school”, “some college”, “college”, “master’s” and “doctorate”, corresponding to up to 10, 12, 14, 16, 18, and 20? years of education, seemed most natural. However, even though these simple tests were very informative, a more sophisticated analysis was required to explore the issue in more depth.

3.4.2 Latent Class Analysis (LCA)

To go beyond uni-dimensional testing of pre-existing groups, we employed LCA, which allows for multi-dimensional search for latent classes. First, like factor analysis and cluster analysis, LCA allows for classifying cases according to their maximum likelihood class membership, but unlike factor or cluster analysis, LCA does so with respect to a dependent variable, which in our case is culture. Second, the tests can be performed with multiple predictors simultaneously and the solution, similar to that in structural equation modeling or multivariate regression, provides coefficients that indicate how well each criterion predicts membership in the latent classes.

Most importantly, LCA does not require a pre-set number of classes, as would be the case for ICC analysis. Instead, in a very computation-intensive procedure, it tests every possible combination and identifies a solution that produces the best latent-class fit based on a set list of predictors. So rather than testing how well cultural values cluster within, for example, 32 countries or eight socio-economic classes, LCA identifies the number of distinct classes (in our case, cultural clusters) that results in the greatest between- to within-class variance ratio.

4 Results

4.1 Sample

The final pool contained 558 empirical publications (see Appendix 1 for the complete list). Due to space restrictions, the complete list of studies included in our meta-analytic dataset could not be provided here, but is obtainable from the first author upon request. Of the 558 studies, 419 were published in peer-reviewed journals, 10 in book chapters, 120 were doctoral dissertations, and nine were Master’s theses. On average, the respondents were 28.9 years old, had 14.1 years of education and 49.1 % of them were male.

4.2 ICC

Table 2 provides a summary of our main findings. As can be seen, “country” as a clustering function had an unfair advantage. A total of 32 countries were included in the analysis, as compared to only 5–10 categories along the other dimensions. Generally, as the number of categories increases, more small groups are created, the between-group variance increases, and the within-group variance decreases. Therefore, we also provide F-statistics, which are an indicator of group variance overlap, adjusted for the sample size and number of groups in the sample. A larger F-statistic means that the groups are more distinct from one another and shows how meaningful our grouping method is in terms of producing homogeneous separate entities.

Somewhat consistent across all four cultural dimensions, only about 16–21 % of the variance in cultural values resides between countries. The results indicate that although country of residence is not an irrelevant dimension in terms of grouping cultural values, the between-country variance numbers are certainly too low to treat terms “country” and “culture” as synonymous or interchangeable; indeed, 79–84 % of variance in cultural values resides within countries. Clearly, our data confirm that national averages are poor estimates of cultural values of individuals or small groups.

Table 2 also provides correlations between cultural values and various personal and environment-level indicators. For demographics, occupation stands out as a comparatively good dimension for clustering cultural values. With only seven categories, it closely aligns with cultural values, accounting for approximately 50 % of between-occupation variance in power distance. The results are less impressive along the other dimensions of culture, although for individualism the between-group variance is greater than that for country. For masculinity, the ICC analysis results favor country over occupation (i.e., between group variance at 12.8 versus 18.5 %), but accounting for the number of categories in each factor, occupation still emerges as a more meaningful predictor of cultural clusters (i.e., F-statistics of 18.3 versus 6.2). We observed similar results for socio-economic status, but this could be expected given that this variable was largely coded based on the profession and occupation of the respondents.

For uncertainty avoidance and power distance, education level and generation (i.e., decade in which the respondent was born) provide comparable results to those obtained for country, though the between-group variance statistics are somewhat lower for these two factors compared to country. However, taking into account the much lower number of groups created along these two predictors, the F-statistics actually suggest education and generation are more meaningful than country for clustering into cultural entities based on their uncertainty avoidance, power distance, and individualism values.

We found that age and gender were generally not good for clustering cultures. Differences among individuals within the same age groups and sexes were far greater than differences between different age groups and sexes. That is, on average, cultural values of different age cohorts and men versus women were found to be negligible, with great overlap among the groups and almost all variation residing within groups.

With respect to environmental characteristics, importantly, they were almost all superior to geography in terms of model significance. Most notably, F-statistics consistently favor economic freedom, globalization extent, long-term unemployment, wealth distribution inequality, corruption, crime rate, and the share of employment in agriculture over country as a clustering function.

Finally, the historic time period—year and decade when the data were collected—provided mixed results. For power distance and uncertainty avoidance, which have been steadily falling worldwide as indicated by negative correlations, the time period when the data were

collected provides a meaningful cultural cluster, at least as good as geography. For individualism and masculinity, which are more stable longitudinally, the timing of the data collection seems largely irrelevant.

	Power distance				Individualism				Masculinity				Uncertainty avoidance			
	k	r	%b/w	F	k	r	%b/w	F	k	r	%b/w	F	k	r	%b/w	F
Country	755	-	20.8	6.6	1229	-	16.6	7.2	919	NA	18.5	6.2	716	-	18.9	12.2
Demographic																
Gender (% male)	743	0.07	1.2	4.4	1211	0.14	3.1	19.6	862	0.08	0.0	1.6	704	0.09	2.6	9.6
Age	745	-0.14	8.4	8.5	1214	0.11	2.2	3.5	864	-0.12	2.3	2.5	706	0.11	4.9	3.0
Generation	745	-0.26	9.8	16.3	1214	-0.18	1.8	7.2	901	0.15	0.1	0.5	706	-0.20	14.8	20.2
Education	747	-0.12	8.1	16.6	1154	0.24	5.3	17.4	900	0.23	5.4	8.5	714	-0.13	17.1	14.4
Occupation	743	NA	50.1	107.1	1170	-	22.0	57.3	878	NA	12.8	18.3	595	NA	15.1	7.9
Socio-economic status	755	-0.55	32.2	71.5	1170	0.43	21.2	62.4	898	0.24	7.0	10.7	704	-0.15	2.7	3.8
Environment (National)																
Civil freedom	744	-0.15	9.4	12.8	1171	0.26	8.7	12.3	842	0.14	2.2	2.1	681	-0.19	12.8	11.0
Political freedom	755	-0.15	7.8	10.5	1138	0.22	7.6	9.3	802	0.21	6.2	5.2	645	-0.12	4.7	3.1
Economic freedom	643	-0.41	24.2	40.7	1042	0.15	6.3	16.3	727	0.09	7.6	11.9	578	-0.36	13.7	17.1
GDP/Capita, PPP	751	-0.19	10.0	8.2	1226	0.10	5.6	7.0	876	-0.15	10.2	9.8	692	-0.15	15.5	12.5
HDI	652	-0.13	1.7	2.9	1088	0.10	2.5	7.0	749	-0.16	0.5	1.1	604	-0.09	1.3	1.9
Globalization index	751	-0.28	12.5	15.2	1225	0.15	9.7	19.8	875	-0.29	14.3	20.8	711	-0.24	14.4	15.8
Unemployment, long-term	356	0.31	51.2	36.3	657	-0.01	8.2	5.8	414	0.12	20.0	10.1	320	0.26	30.8	13.8
Urbanization	746	-0.09	3.1	3.0	1194	0.13	8.3	13.4	859	-0.12	4.0	4.5	676	-0.12	10.8	10.1
GINI	713	0.14	13.3	15.5	1171	-0.07	4.6	8.0	822	0.04	5.5	6.8	669	-0.07	8.8	9.2
Corruption perception	746	0.18	17.1	25.5	1216	-0.25	8.3	16.8	867	-0.23	5.3	8.0	702	-0.41	27.0	42.9
Crime rate	697	0.22	16.0	13.1	1130	0.28	12.5	16.0	809	-0.34	19.6	19.4	642	-0.32	17.9	13.8
% in agriculture	589	0.05	17.3	20.4	1013	-0.17	6.4	13.8	695	0.18	9.8	16.0	555	0.14	15.3	21.3
Time period																
Year data collected	755	-0.36	19.3	6.9	1129	0.15	7.6	3.8	880	-0.02	3.7	1.4	716	-0.20	23.9	9.4
Decade data collected	755	-0.35	16.5	24.6	1129	0.16	3.2	6.7	880	-0.02	2.4	3.5	716	-0.25	10.6	14.0

k, number of meta-analytic data points available for analysis; r, sample-size weighted correlation between the corresponding cultural values and predictor factors, generally indices >0.1 are significant at $p < 0.01$ level; %b/w, percent variance between groups, sample-size weighted

4.3 LCA

ICC analysis showed that country is a poor proxy for culture. With the exception of HDI and urbanization rate, every criterion we considered outperformed geography (i.e., country) as a criterion for setting boundaries for cultural entities. At the same time, none of the tested criteria by themselves seemed to be a perfect “container” for cultural values. In all cases, the between-group variance for cultural values remains less than 50 percent, although the within-between variance split was close to 50–50 for economic freedom and long-term unemployment along power distance as well as for corruption perception along uncertainty avoidance.

To explore more complex multi-dimensional solutions we turned to LCA. Table 3 provides a summary of the findings. The results of LCA provide further support for the conclusions suggested by our ICC tests.

First, country is only a marginal predictor for culture. Even though we had 32 countries in our dataset (i.e., the greater the number of categories, the more likely the variable would be significant), country was a statistically significant predictor only for masculinity and uncertainty avoidance, and then only at $p < 0.05$.

Second, using study level data, there appear to be fewer cultural regions in the world than there are countries. The greatest number of latent classes (i.e., groups with relatively

homogeneous cultural values) suggested by LCA was eight. Solutions with a greater number of classes were clearly inferior to those more parsimonious; and, hence, our report includes goodness-of-fit indices for up to eight latent classes. In fact, a solution with even fewer latent classes seemed preferred in most cases.

For instance, let us consider individualism, where a four-class solution seemed optimal. The classes were found to be unbounded by geography and, instead, were largely driven by wealth at the personal (SES) and environment levels (GDP/capita, PPP). Put simply, there appears to be only four cultural regions with respect to individualism, and they seem to be split along the individual and societal wealth lines; that is, poorer people are more collectivistic, richer people are more individualistic, and there are two intermediate individualism classes in between. Occupation and crime rate may slightly modify this picture, but this is fundamentally the conclusion suggested by our results.

The solutions for the other three cultural dimensions are more complex and suggest that seven or even eight distinct cultural classes may exist in the world. Either way, the number is still substantively fewer than the lengthy lists of countries or geographic regions normally assumed to be culturally distinct.

Depending on the dimension, different criteria seem most relevant to identifying cultural classes. Consistent with the results of the ICC and bivariate correlation tests, wealth at both demographic (SES, occupation) and environmental (GPD/capita, PPP) levels are almost universally significant factors. Also, the amount of freedom and globalization tend to matter across all cultural dimensions. Unsurprisingly, indicators of society traditionalism (e.g., percent of population in agriculture) and indicators of economic and societal turbulence (e.g., unemployment, inflation, and crime rate) are also significant, particularly with respect to uncertainty avoidance and power distance.

Table 3 Results of latent class analysis

	Individualism			Power distance			Masculinity			Uncertainty avoidance		
	AIC	BIC	ABIC	AIC	BIC	ABIC	AIC	BIC	ABIC	AIC	BIC	ABIC
Latent classes												
2	2039	2151	2075	7242	7351	7266	2311	2478	2367	1943	2048	1975
3	2059	2180	2097	Failed to converge			2316	2495	2356	1940	2054	1975
4	2028	2159	2070	6863	7004	6893	Failed to converge			1936	2060	1974
5	2067	2207	2111	6676	6833	6710	2334	2472	2380	1935	2068	1976
6	2071	2220	2118	6865	7039	6903	2311	2459	2361	1939	2081	1983
7	2075	2233	2125	6447	6637	6488	2293	2450	2346	1917	2068	1963
8	2079	2247	2132	6270	6476	6314	2311	2478	2367	1913	2073	1962
	Individualism			Power distance			Masculinity			Uncertainty avoidance		
	B	B/SE	p	B	B/SE	p	B	B/SE	p	B	B/SE	p
Country	0.00	0.43	0.67	Failed to converge			0.00	2.00	0.05	0.00	-2.14	0.03
Demographic												
Gender	0.00	1.09	0.28	0.00	0.11	0.92	0.00	-2.82	0.01	0.00	5.26	0.00
Age	0.00	-0.62	0.54	0.01	1.04	0.30	0.00	-5.11	0.00	0.00	-4.65	0.00
Education	0.01	0.35	0.73	0.00	-0.19	0.85	-0.01	-1.50	0.13	0.00	-1.07	0.29
SES	0.26	2.82	0.01	-0.46	-8.36	0.00	0.04	1.61	0.11	-0.03	-1.91	0.05
Occupation	-0.05	-2.33	0.02	0.00	0.14	0.89	-0.04	-2.67	0.01	0.00	-1.12	0.26
Environment												
Agriculture employment	0.00	-0.77	0.44	-0.02	-2.74	0.01	0.01	1.75	0.08	0.01	3.95	0.00
Corruption	-0.01	-0.25	0.80	0.02	0.66	0.51	0.00	-0.70	0.48	0.00	-0.32	0.75
Crime rate	0.00	1.94	0.05	0.00	-2.81	0.01	0.00	-1.23	0.22	0.00	-5.67	0.00
Freedom, civil	-0.07	-1.18	0.24	0.05	0.62	0.54	0.06	2.44	0.02	0.05	3.26	0.00

Table 3 continued

	Individualism			Power distance			Masculinity			Uncertainty avoidance		
	<i>B</i>	<i>B/SE</i>	<i>p</i>	<i>B</i>	<i>B/SE</i>	<i>p</i>	<i>B</i>	<i>B/SE</i>	<i>p</i>	<i>B</i>	<i>B/SE</i>	<i>p</i>
Freedom, economic	-0.13	-1.77	0.08	0.18	2.29	0.02	0.00	0.08	0.94	-0.01	-0.98	0.33
Freedom, political	0.09	1.57	0.12	0.05	0.61	0.54	-0.05	-1.77	0.08	-0.07	-6.66	0.00
GDP/capita PPP	0.00	1.90	0.05	0.00	-3.09	0.00	0.00	-0.32	0.75	0.00	-5.83	0.00
GINI	0.02	1.58	0.12	-0.03	-2.48	0.01	0.00	0.24	0.81	0.00	-0.50	0.62
Globalization extent	0.01	1.46	0.15	-0.03	-3.18	0.00	0.00	-1.82	0.07	0.00	-5.31	0.00
Inflation	0.00	0.88	0.38	-0.01	-1.56	0.12	0.00	2.66	0.01	0.00	4.50	0.00
Unemployment	0.02	1.30	0.20	0.00	0.01	0.99	0.00	1.18	0.24	0.00	-0.30	0.76
Urbanization	-0.01	-1.63	0.10	0.00	0.61	0.55	0.00	1.54	0.12	0.00	5.26	0.00
Intercept	0.00	-1.68	0.09	3.91	5.18	0.00	-1.40	-4.03	0.00	-1.08	-6.03	0.00

Bolded italics indicate statistical significance or preferred solution

5 Discussion

As Tov and Diener (2009, p. 33) warn, “By equating entire nations with single cultures, we risk overlooking important differences within nations, as well as similarities that extend beyond national borders.” The present study addresses this concern by assessing the suitability of national borders for delineating groups of individuals with similar cultural values and by exploring what other relevant personal and environmental group characteristics might be more suitable. Using a meta-analysis of data from 558 studies, we conducted tests for each of the four dimensions that comprise Hofstede’s (1980) original cultural value framework. Performing a series of one-way ANOVA tests (estimates weighted by sample size), we obtained ICC statistics and calculated within- and between-group variances in cultural values. Given the roughly equal number of observations, but the different number of categories along different variables (i.e., over 30 countries versus only five to ten groups along the other predictors), we also compared F-statistics to assess the overall significance of the different models. We draw the following five conclusions based on our study’s results. The first three reconfirm the limitations of using geography for clustering, and the final two suggests superior units of culture.

First, if culture is a collection of four sets of values as conceptualized by Hofstede, then country does not equate to culture. Even though country of residence may be of some value in predicting cultural values of respondents, there is far more variation in cultures within countries than between countries. Consistent with McSweeney’s (2013) recent review, we empirically confirm that the practice of using the two terms interchangeably is unwarranted, despite its popularity: country of residence certainly does not equal culture. Even when cultural dimensions were found to have a statistically significant relationship with country (i.e., masculinity, uncertainty avoidance), the link was rather weak overall, and much weaker than that with demographic and environmental factors, such as gender, age, SES, occupation, economic and political environment.

Second, statistically significant differences in national averages do not mean that people in the countries are actually different. Essentially, this is the classical and pervasive statistical error of comparing means without considering within group variance (Lubinski and Humphreys 1996). Given the high within-country, and low between-country, variation in cultural values, even if the country averages are significantly different, there are likely to be more residents in one country whose values are identical to those in another country than otherwise (cf. Matsumoto et al. 2001). Alternatively, the concept of cultural overlap has been recently

introduced by Maseland (2011), and it may prove more suitable to operationalize cultural differences among countries than the traditional use of national averages.

Third, regional indices do not solve the problem of within-country variations in culture. In fact, geography is largely limited when defining cultural entities. Even though offering separate averages for within-country geographic regions in countries such as Switzerland and Canada is a refinement upon country-based cross-cultural research (Kaasa et al. 2013), it is still not an adequate or reliable answer. If the goal is to produce homogenous cultural groups, geography is unlikely to produce them, with rare exceptions being perhaps the thinly sliced neighborhood or gated community (Pow 2011). For example, as Haidt (2012, p. 25) noted when researching moral values, which have strong overlap with cultural values, “I had flown five thousand miles south to search for moral variation when in fact there was more to be found a few blocks west of campus, in the poor neighborhood surrounding my university.”

Furthermore, when such micro-cultures do emerge, the underlying reason is probably due to the demographics of those residing there or because of the regions’ environmental characteristics. People in a village in China are not more collectivist than people in lower Manhattan just because the two regions are on different continents, but likely because the residents in these two locations differ in terms of their socio-demographics and the politico-economic environments, which in turn lead to different needs, views, and values.

Fourth, if we are seeking to cluster at the group level, there are far fewer distinct cultural entities than there are countries (or otherwise geographically distinct regions). Eight or even as few as four cultural clusters seem sufficient to classify people into distinct cultural groups. This suggests that having separate cultural profiles for each nation is an unnecessary complication. There are simpler organizational schemas available, which brings us to the last, and perhaps the most important, point.

Fifth, if not geography, what then should be used to delineate cultural regions? Demographic and environment characteristics appear more relevant. Even though nationality still has relevance in cross-cultural studies, where the focus can be explicitly the country, our results show that there are better “containers” for culture than country. Based on an assessment of demographic and environmental characteristics, even though none of them can be considered proxies, we conclude that a number of them appear more suitable than countries for clustering cultures. Even though our results here are based on associations, these point the way towards understanding the basic mechanisms by which cultural groups are created or coalesced. While our study could not provide definitive answers, it offered initial empirical support for the notion that we should not be focusing exclusively on cultures of countries, but rather exploring and comparing cultures of socioeconomic classes, professions, age cohorts, historic time periods, geographic or social environments characterized by certain level of wealth, freedom, equality, instability, and globalization.

The story told by our data has far-reaching implications. Our innate readiness to form group stereotypes based on country of origin needs to be consistently challenged. For example, Huntington’s (1996) overwhelmingly influential book, “The Clash of Civilizations,” is fundamentally based on cultural and religious entities forming along rigid national geographic lines, which our findings indicate as extremely unlikely. Essentially, work-related values of a lawyer from Manhattan may in fact have more similar to those of a lawyer from Shanghai, than to those of a construction worker working on a site just a few blocks away, just as a construction worker from Shanghai may have more in common with a construction worker in Manhattan than with a lawyer from a Shanghai office. This commonality would not extend to external cultural

attributes such as language, food tastes, and traditions. But as far as cultural values as defined by Hofstede, geography may be inferior to demographics and environment characteristics as a clustering factor.

In summary, our results indicate that we have been overemphasizing a single organizational frame when discussing culture. Instead of just focusing on what country is being dealt with when discussing the cultural implications of managerial, interpersonal, and strategic advice, it would be better to also consider the group's level of freedom, globalization, and above all, its wealth. Consistent with F. Scott Fitzgerald's famous quote from *The Great Gatsby* (i.e., "Let me tell you about the very rich. They are different from you and me.") and what we found here, there is substantial support that socio-economic bracket predicts and determines a wide range of values and perceptions (cf. Kraus et al. 2012). Highlighting the limitations of geography to identify the wealthy, an extensive review by Hay and Muller (2012) discussed how those who are in the top 1 % (or perhaps the top 0.1 %) have increasingly become transnational or de-territorialized.

5.1 Limitations and Directions for Future Research

As with all research, our study is not without limitations. We review several of them here and provide four suggested directions for building upon our research and further advancing the field based on these limitations. First, our study relied on Hofstede's (1980) framework, which makes it subject to the same drawbacks as his original study. Although very popular, which is a necessity for using a meta-analytic methodology, his approach has been criticized in a number of subsequent publications (e.g., Baskerville 2003; McSweeney 2002; Taras and Steel 2009; Williamson 2002). It remains an open question as to the degree to which our findings generalize to values assessed using other models of culture (e.g., House et al. 2004; Schwartz 1994), such as the 27 dimension suggested by Taras et al. (2009) in addition to the six moral values put forth by Haidt (2012). Unfortunately, the number of studies that used models of culture other than that offered by Hofstede has been limited. However, as more studies become available, a metaanalysis in these areas may become possible in the near future.

Second, the present study is a meta-analysis. As is true for any meta-analysis, one of the threats to validity of the findings presented here is the issue of data commensurability. Each study included in our meta-analytic database was based on different sampling and methodology. Although we were very selective to avoid the "apples and oranges" problem, the only way to resolve the issue is to conduct a study using an original individual-level dataset. Unfortunately the earlier large-scale cultural comparison studies may not be suitable for the task (such as those by Hofstede 1980; House et al. 2004; Maznevski et al. 2002; Schwartz 1994; Trompenaars 1993), as all of them were based on matched samples. That is, the respondents were selected so that the demographics of the samples from each country were as close as possible (which implicitly recognizes that these indeed influence cultural values). Even though this approach minimized between-country sample differences, lack of variation in sample characteristics precludes an investigation of alternative dimensions for clustering cultures. Consequently, this meta-analysis can be considered an intermediate step, highlighting the need for an original multi-level dataset that spans across multiple countries and demographic groups. Such projects are extremely ambitious, but the resulting dataset would be based on a more comprehensive sample, collect more characteristics, and provide information at a participant level, rather than at a study

or group level as done here. Spurred by our results and their implications, we hope future researchers will be motivated to collect such data and better determine where culture coalesces.

Third, a number of seemingly relevant factors have not been included in the analysis. Due to limited data availability, we could not cluster along factors such as race or language. In particular, organizational membership has long been offered as an alternative or competing cultural frame (e.g., Schneider 1988), with Gerhart and Fang (2005, p. 982) concluding that “organization differences are larger than country differences in cultural values.” The concept of person-organization fit is well established (Kristof-Brown et al. 2005), in which people are attracted to, and are less likely to leave, organizations sharing similar values to themselves. Research into which cultural values best represent organizations, how many value clusters exist at an organizational level, the advantages and disadvantages of organizational homogeneity, and the determinants of organizational values are all valuable areas for investigation. We could, for example, consider the degree that organizations inculcate values versus attract those consistent with them.

Finally, the present study was conducted using four independent datasets, one for each cultural dimension in Hofstede’s model, which did not allow us to search for multi-dimensional cultural regions or test how the four different dimensions interact. To conduct such tests, a dataset with all cultural dimensions in it (i.e., each respondent assessed along cultural dimensions) would be needed. As noted earlier, existing cultural databases, such as those compiled by Hofstede and the GLOBE team, will not work due to their matched sampling designs. Although its dimensionality does not exactly replicate those of popular models of culture, the World Value Survey is more demographically diverse and could potentially serve as the next stop on the route of exploring cultural regions unconstrained to geography. Early investigations along these lines are promising (e.g., Kaasa et al. 2013).

6 Conclusion

In the field of personality, twin research uncovered the provocative finding that relatively little variance in personality can be attributed to parental upbringing or shared family environment (Bouchard and Loehlin 2001). At a cultural value level, our results speak similarly to our shared country environment, supporting Anderson’s conclusion that people’s belief in community far exceeds reality. In Anderson’s (2006, p. 7) words, “regardless of the actual inequality and exploitation that may prevail in each, the nation is always conceived as a deep, horizontal comradeship. Ultimately, it is this fraternity that makes it possible, over the past two centuries, for so many millions of people, not so much to kill, as willingly to die for such limited imaginings.” This illusion of national homogeneity may be a useful fiction though, allowing a broad level of cooperation and sacrifice not easily achieved otherwise. What it does not allow for are country averages to act as proxies for cultural values of individuals or small groups from these countries. National cultural indices are appropriate if the study itself is at a national level, such as examining GDP per capita (McSweeney 2013). Here and only here are national averages, like those offered by Hofstede (1980) or the GLOBE team (House et al. 2004), truly suitable. On the other hand, if we want to determine the drivers of culture or what identifies a homogenous culture, then we need to look beyond geography.

Our findings not only corroborate the earlier warnings that national borders may not be a good way to delineate cultural regions, but also provide solid initial evidence that other dimensions may be more suitable for clustering cultures. Cultural clusters derived based on

profession, socio-economic class, political, economic, and societal characteristics of the environment may be more homogeneous within, and more heterogeneous between, compared to cultures of countries. It is this exact movement beyond country that we wish to inspire with the present research.

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