

# National Culture and Urban Resilience: A Case Study of Resilient Cities

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**ABSTRACT:** As climate change, population growth, and globalization create new challenges for cities around the world, it is imperative that urban areas take steps to increase their resilience. Previous research has shown that national culture, or the beliefs and attitudes that guide behavior, can play a significant role in shaping the values of a nation's citizens. With more and more cities designing urban resilience plans, it is highly relevant to assess the role that national culture plays in the creation of these plans. Through a qualitative content analysis of 71 urban resilience plans from 27 countries around the world using Geert Hofstede's cultural dimensions theory, this research assesses whether and how national culture influences urban resilience efforts. The results of the analysis show that, for many cities, urban resilience efforts are not strongly influenced by national culture, but instead share a common thread of being inclusive, future-oriented, and prioritizing quality of life over profits.

**Keywords:** climate change, national culture, sustainability, urban resilience, Hofstede

**AUTHOR'S NOTE:** My interest in urban resilience and national cultures stems from a year I spent studying urban planning in the Netherlands. There, I first learned about Geert Hofstede's cultural dimensions theory and became curious as to whether and how cultures influence the ways in which urban areas respond to climate change. This research provides some insight into this inquiry, and has inspired me to continue learning about different cultures and their roles in shaping urban systems.

## Introduction

Urban areas are predicted to house 68% of the world's population by 2050 (United Nations 2019). For this reason, cities are of unique concern to government officials given the pressing need to accommodate both a growing population and adapt to the changing climate (Bulkeley 2013). Adding to the complexity of urban climate adaptation is the increasingly globalized nature of cities; this interdependence means that one city's actions can have consequences for cities around the world (Knox 1997). It is therefore critical that cities develop physical, social, and economic resilience to ensure stability and prosperity both locally and globally.

Culture, which is a system of beliefs, attitudes, and values (Hofstede 2001), plays an important role in how societies respond to challenges. Geert Hofstede's cultural dimensions theory is the predominant framework to perform cross-cultural analyses on national culture. According to Hofstede, there are six cultural dimensions that guide how organizations operate: (1) Power Distance, (2) Uncertainty Avoidance, (3) Individualism

vs. Collectivism, (4) Masculinity vs. Femininity, (5) Long-term Orientation, and (6) Indulgence vs. Restraint. Hofstede demonstrates that national culture can influence the values of a nation's citizens.

While studies have extensively addressed the relationship between national culture and organizational behavior (Smith, Dugan and Trompenaars, 1996; Deephouse, Newburry, and Soleimani, 2016), a literature search revealed little research on the role of national culture in the context of urban resilience. The most relevant research pertains to the concept of equity in urban contexts, as equity is involved in Hofstede's notions of collectivity and femininity (Frías-Aceituno, Rodríguez-Ariza, and González-Bravo, 2013; Northridge and Freeman, 2011; Grant, 2014; Partners for Livable Communities, 2000). More recently, a few studies have addressed the role of equity in urban resilience contexts (Meerow and Newell, 2016; Meerow, Majouhesh, and Miller, 2019; Fitzgibbons and Mitchell, 2019). Although Meerow, Pajouhesh, and Miller (2019) and Fitzgibbons and Mitchell (2019) reviewed the plans of a few cities participating in the initiative, neither study assessed the plans from a lens

of national culture. Therefore, the scope of knowledge regarding how national culture is reflected in urban resilience plans is limited. This research aims to close that gap.

## Literature Review

### National Culture

Culture is the thread by which a country is united. Dutch sociologist Geert Hofstede defines culture as a “collective programming of the mind” which drives how a group responds to its surrounding environment (Hofstede 1991, 5). Between 1967 and 1973, Hofstede pioneered a study of the influence of national culture in organizations by surveying thousands of International Business Machines (IBM) Corporation employees in 50 countries and three regions during two different time periods. His research assessed how people behaved within large organizations. After reviewing the survey results, Hofstede noticed considerable differences between the employees depending on the country in which they worked. He reduced these differences to four different dimensions which addressed how each society responded to issues such as power imbalances and individualism. The results led Hofstede to propose his cultural dimensions theory.

As shown in Figure 1, the dimensions include (1) Power Distance (PDI), (2) Uncertainty Avoidance (UAI), (3) Individualism vs. Collectivism (IDV), and (4) Masculinity vs. Femininity (MAS). These dimensions, according to Hofstede, refer to how different national societies cope with inequality, ambiguity, individual identification with groups, and the distribution of gender roles. After further research, Hofstede later added two more dimensions: (5) Long-term Orientation (LTO) and (6) Indulgence vs. Restraint (IVR) (Hofstede, Hofstede, and Minkov 2010). These two dimensions refer to societies’ affinities toward tradition and the gratification of human drives for enjoyment.

Hofstede (2001) defines power distance as the societal acceptance that power is unevenly distributed. Low scores represent a cultural acceptance of hierarchy, whereas high scores mean a society has low tolerance for inequality of power. Uncertainty avoidance is described as the extent to which societies dislike unpredictability. A high score in this dimension suggests that a society prefers tradition over innovation, whereas a low score means a society prefers practice over principles. Individualism vs. collectivism refers to the extent to which societies expect the individuals to take care of themselves as opposed to integrating into groups. A high score corresponds with a highly

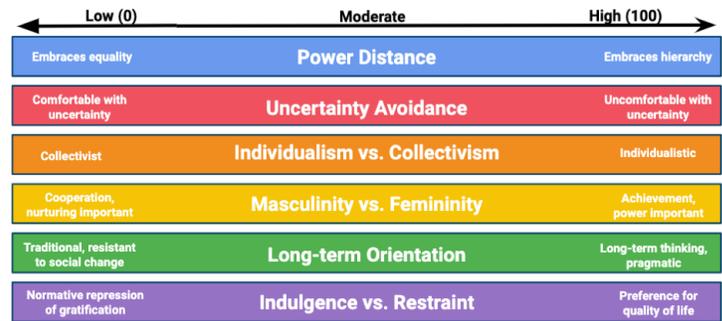


Figure 1: Scale of dimensions

individualistic society and a low score is demonstrative of a society that prefers collectivism.

Masculinity vs. femininity refers to how societies adhere to traditionally male values (such as economic growth, power, high achievement) and traditionally female values (care, cooperation, pleasant atmospheres). High scores represent a preference for masculine values and low scores represent a preference for feminine values. Long-term orientation relates to a society’s ability to be pragmatic versus their tendency to focus on traditions. A high score means that a culture prefers pragmatic problem-solving as opposed to tradition and social norms. Indulgence vs. restraint refers to a society’s ability to “accept delayed gratification of their material, social, and emotional needs” (pg. xx). A high score suggests that a society prefers a high quality of life over strict societal norms.

Despite its widespread use, Hofstede’s approach is not immune from scholarly criticism. Touburg (2016) argues that Hofstede disregards the impact of non-cultural factors, assumes national homogeneity, and has an inherent Western bias. Other scholars argue that the national culture scores are inaccurate measures at the organizational level and therefore should not be used to describe sub-groups within countries (Brewer and Venaik 2013). But research on cultural diversity within countries has suggested that this claim has little empirical support because there is still an influence of national culture on many subcultures (Hofstede et al. 2010; Minkov and Hofstede 2012; Minkov and Hofstede 2014).

Arguably, the most prominent criticism came from McSweeney (2002) who claimed that a survey cannot measure the influence of national culture on behavior. He suggested that Hofstede disregarded variability within cultures and questioned the theory’s measurability, causality, and bipolar nature (i.e. the dimension of individualism versus collectivism). Another related criticism is that not all of Hofstede’s cultural dimensions are

“empirically useful” (Minkov 2018, 250; Sharma 2003). In the decades following Hofstede’s pioneering research, both critics and those inspired by Hofstede have expanded upon his research in an effort to better understand cross-cultural interactions.

### Urban Resilience

Climate change has made its way to the forefront of urban planning, as cities are increasingly challenged to mitigate and adapt to problems such as increased precipitation, heat waves, and decreased air quality. The term “urban resilience” developed in response to the threat of climate change, but is also a broader term that encompasses the nature of an urban system’s response to uncertainty. Meerow, Newell, and Stults (2016, 39) define urban resilience as “the ability of an urban system — and all of its constituent socio-ecological and socio-technical networks across temporal and spatial scales — to maintain or rapidly return to desired functions in the face of a disturbance, to adapt to change, and to quickly transform systems that limit current or future adaptive capacity.” As the definition suggests, planning urban resilience is not a one-size-fits-all endeavor.

Different cities take different approaches to addressing climate change; some emphasize equity (Meerow, Pani and Miller 2019) while others focus on structural measures (Birkmann et al. 2010). One lens through which to analyze equity in urban resilience is to consider the ‘5 W’s’: resilience for whom, what, where, when, and why (Meerow and Newell 2019). This planning tool enables those involved in the planning process to assess the tradeoffs for different beneficiaries of proposed measures. For example, when considering where it is most equitable to create green spaces, urban planners can assess which areas are most vulnerable to flooding or heat waves *in addition* to which areas are the most socially vulnerable. Biermann (2014, 178) goes further in arguing that equitable allocation of resources is not an option; it is a political necessity. He suggests that in some cities, areas of high social vulnerability and environmental risk tend to be one and the same (Bolin et al. 2012). By contrast, other research has demonstrated that there may be little overlap (Meerow and Newell 2019; Talen 1997).

Critics of urban resilience argue that the concept is vague and difficult to measure (Vale 2013; Cote and Nightingale 2011). This definitional ambiguity suggests that urban resilience may be defined differently depending on the cultural context. Urban systems function within the context of national cultures. As the impacts of climate change become more pressing, it is critical to recognize that urban resilience plans are not one-size-fits-all and

evaluate whether national cultures play a role in their formation. Assessing the impact of national culture on urban resilience plans in terms of Hofstede’s cultural dimensions will contribute to both cultural and earth systems governance research.

### Cultures and Resilience

Having identified the role of national culture within organizations, it is of special interest to study the role of national culture in urban contexts with respect to urban resilience. Although past research addresses concepts of equity, local culture, governance, and urban resilience, there are no comprehensive studies that assess the influence of national culture on urban resilience efforts, or how countries’ plans differ depending on their cultural context.

One possible explanation for this lack of research is that the discipline of urban sociology focuses on the characteristics of and between cities, and has therefore traditionally focused on local rather than national culture. Yet, the local-national division is becoming harder to parse. As the world becomes more urbanized (United Nations 2019), it also becomes more interconnected (Castells 2002; Sassen 2002). This global shift, which is largely technologically-driven, has made it increasingly difficult to distinguish urban societies from societies at large (Wu 2016). Castells (2002) proposes the idea of the “network-state”. This network-state, in contrast to the city-state, takes into account the influence of supranational urban institutions. These institutions interact on interactive electronic networks and are thereby able to surpass spatial boundaries. Since cities are increasingly becoming hubs for supranational institutions, they need to be able to adapt quickly to global dynamics.

### Methodology

To analyze the relationship between national culture and urban resilience, I reviewed the urban resilience plans of 71 cities representing 27 different countries and assessed how each demonstrates Hofstede’s six cultural dimensions (see Table 1). The plans include those of 61 cities taking part in the 100 Resilient Cities (100RC) initiative and, to control for the selection of the dependent variable, 10 cities not participating in the 100RC initiative. Though there were 97 total cities participating in the 100RC initiative, I only analyzed plans which met the following criteria:

1. The plans were either (a) originally written in English, or (b) had an English translation available on 100ResilientCities.org.

- The plans came from countries which have all six national cultural dimension scores listed in Hofstede, Hofstede, and Minkov's *Cultures and Organizations* (2010).\*

\* South Africa was excluded because data was sourced from white citizens only.

The 10 cities not participating in the 100RC initiative were selected by location to proportionally match the regions of the cities participating in the initiative.

**Table 1:** Plans which met the above criteria

Argentina (Buenos Aires, Santa Fe)
Australia (Adelaide*, Melbourne, Sydney)
Brazil (Campinas*, Rio de Janeiro)
Canada (Calgary, Mississauga*, Montreal, Toronto, Vancouver)
Chile (Santiago Metropolitan Region)
China (Deyang, Huangshi)
Colombia (Cali, Medellin)
Denmark (Vejle)
France (Paris)
Germany (Berlin*)
Greece (Athens, Thessaloniki)
India (Chennai, Pune, Medan*, Surat)
Indonesia (Makassar*, Semarang)
Italy (Rome)
Japan (Kyoto, Toyama)
Malaysia (Melaka)
Mexico (Colima, Mexico City, Juárez)
New Zealand (Christchurch, Wellington)
Singapore (Singapore)
South Korea (Seoul)
Thailand (Bangkok)
Netherlands (Rotterdam, the Hague)
United Kingdom (Bristol, Glasgow)
United States (Atlanta, Berkeley, Boston, Boulder, Chicago, Dallas, El Paso, Greater Miami and the Beaches, Honolulu, Los Angeles, Louisville, New Orleans, New York City, Oakland, Pittsburgh, Portland OR*, Portland ME*, Norfolk, San Francisco, Seattle, St. Petersburg*, Tulsa, Washington D.C.)
Uruguay (Montevideo)
Vietnam (Can Tho, Da Nang)

\*Non-100RC initiative

**Table 2:** Coding scheme for resilience plan documents

Coding Category	Description
<b>Power Distance (PDI)</b>	
Citizen participation	Text describing how citizens will participate in the decision-making process (Search terms: "particip", "citizen", "panel," "stakeholder," "engage")
<b>Uncertainty Avoidance (UAI)</b>	
Detailed plans	Text describing specific steps to achieve plans, as opposed to ambiguity
<b>Individualism vs. Collectivism (IDV)</b>	
Planning for the whole city	Text describing how city will address all neighborhoods, rather than mainly wealthy neighborhoods (Search terms: "inclusiv," "access," "poor," "vulnerab," "neighb")
<b>Masculinity vs. Femininity (MAS)</b>	
Equitable distribution of resources	Text defining how access to services and facilities will be addressed
Recognition of vulnerable groups	Text describing vulnerable populations and their issues (Search terms: "access," "vulnerab," "neighb," "equit," "equit," "facilit")
<b>Long-term Orientation (LTO)</b>	
Long-term adaptive strategies	Text describing adaptive strategies which will benefit future generations
Investment in education	Text describing how the city plans to educate its citizens about urban resilience efforts (Search terms: "long," "future," "generation")
<b>Indulgence vs. Restraint (IVR)</b>	
Quality of life	Text describing efforts to enhance the quality of life (ex. parks, community development centers) (Search terms: "quality," "health" "well," "happ")

The 71 cities analyzed demonstrate geographic diversity, representing 27 countries on five continents. There is also economic diversity, with high, upper middle, and lower middle income countries represented (The World Bank 2020). The countries also all exhibit different cultural dimension scores (Hofstede, Hofstede, and Minkov 2010).

I employed a qualitative coding scheme similar to that of Meerow, Pajouhesh, & Miller (2019) to assess the presence of cultural dimensions in each resilience plan. The coding scheme, which originally focused on equity, was modified to analyze the six dimensions through an urban resilience lens (see Table 2). The texts of the urban resilience plans were coded with values of 0, .5, or 1 depending on whether there was a high presence, moderate presence, or absence of the text from Table 2 (see Table 3). It is important to note that for all dimensions except long-term orientation (LTO) and indulgence vs. restraint (IVR), a high presence of cultural-specific text corresponds with a low national cultural dimension score. For example, if there is a high presence of text describing the individualism vs. collectivism (IDV), it would mean that the urban resilience plan reflects a collectivist culture and would subsequently correspond with a low cultural dimension score for the country.

**Table 3:** Urban resilience plan coding scores for national cultural dimensions

Coding Category	0	+0.5	+1
<b>Power distance</b>	High presence in text	Moderate presence in text	Absence in text
<b>Uncertainty avoidance</b>	High presence in text	Moderate presence in text	Absence in text
<b>Individualism vs. collectivism</b>	High presence in text	Moderate presence in text	Absence in text
<b>Masculinity vs. femininity</b>	High presence in text	Moderate presence in text	Absence in text
<b>Long-term orientation</b>	Absence in text	Moderate presence in text	High presence in text
<b>Indulgence vs. self-restraint</b>	Absence in text	Moderate presence in text	High presence in text

After reviewing the plans for texts describing cultural dimensions, I compared my findings to the cultural dimension scores from Hofstede, Hofstede, and Minkov’s *Cultures and Organizations* (2010), shown in Table 4. These scores, which range from 0 to 100, were categorized as either low (<45), moderate (45-55), or high (55+).

By comparing the national scores (Hofstede, Hofstede, and Minkov 2010) to the scores of each resilience plan, I qualitatively analyzed the relationship between cultural dimension scores and the presence of these dimensions in the plans. The analysis includes a determination of an overall strong, moderate, weak, mixed, or no relationship between the scores and the urban resilience plans. Cities with no national cultural dimensions aligning with their urban resilience plans have no relationship, those with one or two aligning have a weak relationship, those with three or four have a moderate relationship, and those with five or six have a strong relationship.

### Analysis

When the plans of the 71 cities were analyzed based on the coding scheme from Table 2 and the national cultural dimension scores in Table 4, they all scored the same for each of the cultural dimensions (see Table 5). They all demonstrated a low power distance, low uncertainty avoidance, low individualism, low masculinity, high long-term orientation, and high indulgence. In other words, urban resilience efforts were inclusive, future-oriented, and prioritized quality of life over profits. Though each city’s plan had at least one cultural dimension aligned with their respective national scores, there is insufficient evidence to suggest that national culture influences the ways in which cities plan for resilience.

### Power Distance

For the power distance (PDI) dimension, all urban resilience plans demonstrated low PDI scores by having

**Table 4:** National cultural dimension scores\* from *Cultures and Organizations* (2010)

Country (estimated***)	PDI	UAI	IDV	MAS	LTO	IVR
Argentina	49	86	46	56	20	62
Australia	38	51	90	61	21	71
Brazil	69	76	38	49	44	59
Canada	39	48	80	52	36	68
Chile	63	86	23	28	31	68
China	80	30	20	66	87	24
Colombia	67	80	13	64	13	83
Denmark	18	23	74	16	35	70
France	68	86	71	43	63	48
Germany	35	65	67	66	83	40
Greece	60	100	35	57	45	50
India	77	40	48	56	51	26
Indonesia	78	48	14	46	62	38
Italy	50	75	76	70	61	30
Japan	54	92	46	95	88	42
Malaysia	100	36	26	50	41	57
Mexico	81	82	30	69	24	97
New Zealand	22	49	79	58	33	75
Singapore	74	8	20	48	72	46
South Korea	60	85	18	39	100	29
Sweden	31	29	71	5	53	78
Thailand	64	64	20	34	32	45
Netherlands	38	53	80	14	67	68
United Kingdom	35	35	89	66	51	69
United States	40	46	91	62	26	68
Uruguay	61	99	36	38	26	53
Vietnam	70	30	20	40	57	35

\*\*\* Scores range from 0-100

a high presence of text describing how citizens will participate in the decision-making processes. Low PDI scores, as demonstrated in Map 1, are typically found in Germanic and Anglo countries. Latin and Asian countries, in contrast, tend to have higher PDI scores. This means that countries such as Vietnam, Malaysia, and Mexico are more accepting of social hierarchy. Low PDI countries like Denmark, the Netherlands, and the United States are less accepting of such power inequalities and have national values that align with the participatory nature of urban resilience efforts.

**Table 5:** Coding scores of urban resilience plans and alignment with national cultural scores\*

Country	City	PDI	UAI	IDV	MAS	LTO	IVR	Relationship Strength
Argentina	Santa Fe	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Buenos Aires	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
Australia	Melbourne	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Sydney	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Adelaide	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
Brazil	Rio de Janeiro	<u>0</u>	<u>0</u>	0	<u>0</u>	<u>1</u>	1	Weak
	Campinas	<u>0</u>	<u>0</u>	0	<u>0</u>	<u>1</u>	1	Weak
Canada	Calgary	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Montreal	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Toronto	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Mississauga	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Vancouver	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
Chile	Santiago	<u>0</u>	<u>0</u>	0	0	<u>1</u>	1	Moderate
China	Deyang	<u>0</u>	0	0	<u>0</u>	1	<u>1</u>	Moderate
	Huangshi	<u>0</u>	0	0	<u>0</u>	1	<u>1</u>	Moderate
Colombia	Cali	<u>0</u>	<u>0</u>	0	<u>0</u>	<u>1</u>	1	Weak
	Medellin	<u>0</u>	<u>0</u>	0	<u>0</u>	<u>1</u>	1	Weak
Denmark	Vejle	0	0	<u>0</u>	0	<u>1</u>	1	Moderate
France	Paris	<u>0</u>	<u>0</u>	<u>0</u>	0	1	<u>1</u>	Weak
Germany	Berlin	0	<u>0</u>	<u>0</u>	<u>0</u>	1	<u>1</u>	Weak
Greece	Athens	<u>0</u>	<u>0</u>	0	<u>0</u>	<u>1</u>	<u>1</u>	Weak
	Thessaloniki	<u>0</u>	<u>0</u>	0	<u>0</u>	<u>1</u>	<u>1</u>	Weak
India	Pune	<u>0</u>	0	<u>0</u>	<u>0</u>	<u>1</u>	<u>1</u>	Weak
	Chennai	<u>0</u>	0	<u>0</u>	<u>0</u>	<u>1</u>	<u>1</u>	Weak
	Surat	<u>0</u>	0	<u>0</u>	<u>0</u>	<u>1</u>	<u>1</u>	Weak
	Medan	<u>0</u>	0	<u>0</u>	<u>0</u>	<u>1</u>	<u>1</u>	Weak
Indonesia	Semarang	<u>0</u>	<u>0</u>	0	<u>0</u>	1	<u>1</u>	Weak
	Makassar	<u>0</u>	<u>0</u>	0	<u>0</u>	1	<u>1</u>	Weak
Italy	Rome	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	1	<u>1</u>	Weak
Japan	Kyoto	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	1	<u>1</u>	Weak
	Toyama	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	1	<u>1</u>	Weak
Malaysia	Melaka	<u>0</u>	0	0	<u>0</u>	<u>1</u>	1	Moderate
Mexico	Colima	<u>0</u>	<u>0</u>	0	<u>0</u>	<u>1</u>	1	Weak
	Mexico City	<u>0</u>	<u>0</u>	0	<u>0</u>	<u>1</u>	1	Weak
	Juárez	<u>0</u>	<u>0</u>	0	<u>0</u>	<u>1</u>	1	Weak
New Zealand	Christchurch	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Wellington	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
Singapore	Singapore	<u>0</u>	0	0	<u>0</u>	1	<u>1</u>	Moderate
South Korea	Seoul	<u>0</u>	<u>0</u>	0	0	1	<u>1</u>	Moderate
Sweden	Stockholm	0	0	<u>0</u>	0	<u>1</u>	1	Moderate
Thailand	Bangkok	<u>0</u>	<u>0</u>	0	0	<u>1</u>	<u>1</u>	Weak
Netherlands	Rotterdam	0	<u>0</u>	<u>0</u>	0	1	1	Moderate
	The Hague	0	<u>0</u>	<u>0</u>	0	1	1	Moderate
United Kingdom	Bristol	0	0	<u>0</u>	<u>0</u>	<u>0</u>	1	Moderate
	Glasgow	0	0	<u>0</u>	<u>0</u>	<u>0</u>	1	Moderate
United States	Atlanta	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Berkley	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Boston	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Boulder	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Chicago	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Dallas	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak

**Table 5, cont'd**

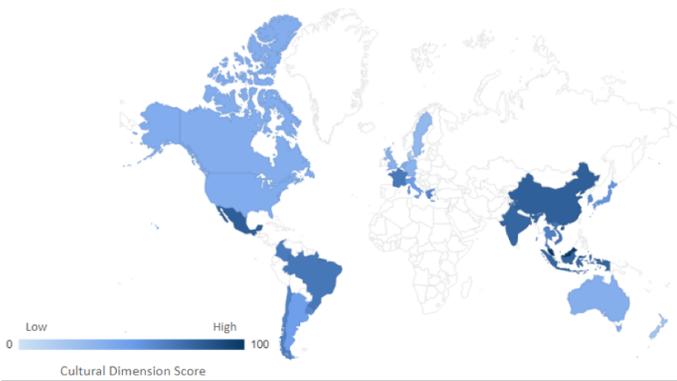
Country	City	PDI	UAI	IDV	MAS	LTO	IVR	Relationship Strength
United States	El Paso	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Miami	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Honolulu	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Los Angeles	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Louisville	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	New Orleans	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	New York City	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Oakland	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Pittsburgh	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Norfolk	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	San Francisco	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Seattle	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Tulsa	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Portland, ME	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Portland, OR	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	St. Petersburg	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
	Washington, DC	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	1	Weak
Uruguay	Montevideo	<u>0</u>	<u>0</u>	0	0	<u>1</u>	<u>1</u>	Weak
Vietnam	Can Tho	<u>0</u>	0	0	0	1	<u>1</u>	Moderate
	Da Nang	<u>0</u>	0	0	0	1	<u>1</u>	Moderate

\*Scores which are bold and underlined differ from national cultural dimension scores

Participation takes different forms in urban resilience plans. In Denmark, Vejle’s urban resilience plan describes citizen participation and specific initiatives to promote engagement such as discussion groups for refugees and migrants, online platforms to share resilience ideas, and participatory design processes for enhancing climate adaptation. Boston’s resilience strategy, Resilient Boston, is entirely focused on citizen engagement with a focus on inclusion of historically disadvantaged groups. Compared to the plans of the other 70 cities, Boston’s plan includes more specific measures as to how it planned to include citizens in decision-making processes. For example, the city planned to launch several participatory budgeting processes to include low income residents and youth in financial resource distribution decisions.

**Uncertainty Avoidance**

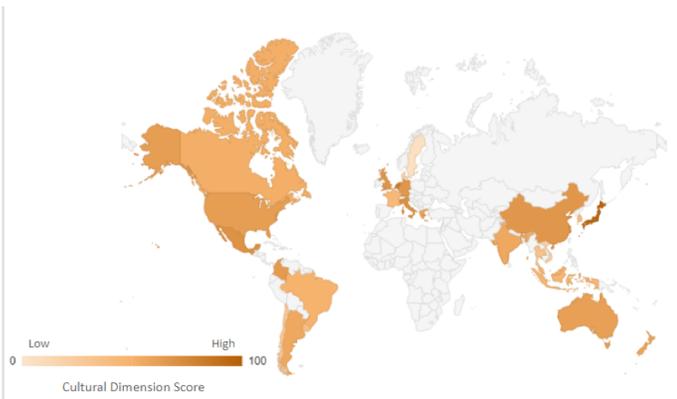
Urban resilience is centered around the idea that cities should be able to adapt and prepare for future risks. In the uncertainty avoidance (UAI) dimension, all 71 plans had a high presence of text mentioning specific initiatives and projected timelines. Since all of the plans included innovative solutions as well as short- and long-term timeframes for implementation, the UAI dimension from an urban resilience perspective aligns with a low score. Chinese,



**Map 1:** National power distance scores on a global scale



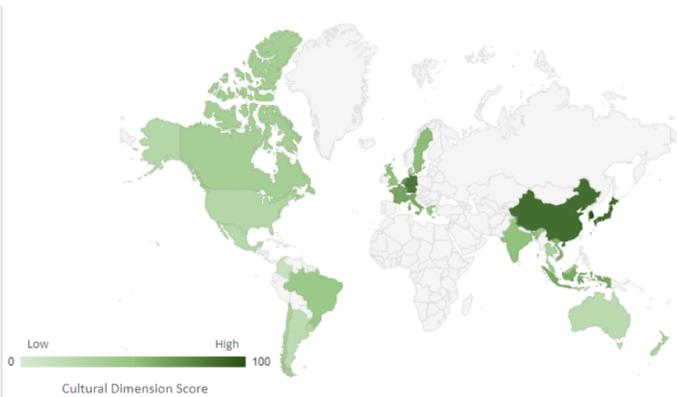
**Map 2:** National uncertainty avoidance scores on a global scale



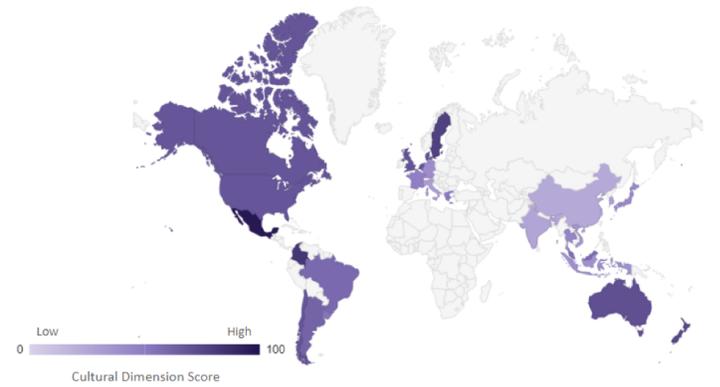
**Map 3:** National individualism vs. collectivism scores on a global scale



**Map 4:** National masculinity vs. femininity scores on a global scale



**Map 5:** National long-term orientation scores on a global scale



**Map 6:** National indulgence vs. restraint scores on a global scale

Nordic, and Anglo countries tend to have low scores in this dimension. Latin American countries tend to have higher scores in this dimension, meaning these cultures are less comfortable with planning for the unpredictable.

**Individualism vs. Collectivism**

For the individualism vs. collectivism (IDV) dimension, all of the plans mentioned inclusive and

community-oriented language. Typically, there is a significant difference in IDV scores, with higher income countries having a high score and lower income countries having a low score. For example, the United States has a high score of 91 while Colombia has a low score of 13. However, according to my analysis, these preferences do not translate into significant differences in how much each

country's plan values individualism or collectivism; all plans demonstrated a low IDV score.

The Rotterdam Resilience Strategy mentions specific plans to improve livability in the underprivileged Rotterdam Zuid district in the Netherlands. Its plans, which are supported vertically by the national government (Young 2013), include improved access to education, work, and housing. The city of Montevideo in Uruguay has designated inclusivity as one of four foundational pillars in its resilience plan, while Santiago in Chile plans to engage with disadvantaged communities and enhance their access to public services and facilities.

### ***Masculinity vs. Femininity***

All urban resilience plans scored low in the masculinity vs. femininity (MAS) dimension, suggesting that urban resilience embodies traditionally Western feminine values such as care, cooperation, and equity over masculine values of competition and high achievement. The uniformity in scores differs from Hofstede's findings that most countries have moderate or high masculinity scores with the exception of Nordic countries. For example, Hofstede ranks Sweden as a feminine country with a MAS score of 5. Low MAS scores were demonstrated in different ways throughout the 71 plans, but each plan contained detailed text describing vulnerable populations and how equitable distribution of resources would be addressed. In Thailand, Bangkok has designated plans for how vulnerable groups such as the elderly can gain better access to transportation and healthcare. The plan for Paris, France, involves adapting infrastructure to help vulnerable citizens cope with a warmer climate.

### ***Long-Term Orientation***

The analysis of the 71 urban resilience plans demonstrated that the cities all have a long-term orientation (LTO) towards urban resilience efforts, corresponding with a high LTO score. These efforts include plans to improve the cities' physical, social, and economic resilience. East Asian countries ranked as having a high LTO in Hofstede's study, meaning their national cultures tend to prefer more pragmatic, long-term problem-solving techniques. Latin American countries generally rank low in this dimension and tend to adhere to traditions and prefer short-term solutions.

Though Colombia has a low LTO score of 13, the plans of both Cali and Medellin include future-oriented language and long-term sustainability goals. Rotterdam's strategy includes the creation of climate-proof districts, water sensitive infrastructure, and a transition from a

fossil fuel-based port economy to a bio-based one. Melaka, in Malaysia, has long-term strategies including creating a centralized government operation center and raising public awareness about the threats of climate change. In Boston, long-term initiatives include supporting local entrepreneurs, providing financial empowerment tools, and adapting to extreme heat.

### ***Indulgence vs. Restraint***

Lastly, all 71 resilience plans contained a high presence of text describing steps to improve the quality of life for citizens and therefore scored high in the indulgence vs. restraint (IVR) dimension. Hofstede found that most Nordic European, Anglo, and Latin American countries have highly "indulgent" cultures, suggesting that these cultures prefer leisure, optimism, and a high quality of life over pessimism and strict social norms. East Asian countries, in contrast, tended to score either low or moderate in this category. This means that these cultures place less value on leisure and more on a strong work ethic. As was the case in the other five dimensions, the plans of the cities did not all align with their national scores in the IVR dimension. Despite China having a low IVR score of 24, the plans of both Deyang and Huangshi place emphasis on improving the quality of life of all residents. Proposed measures include enhancing green spaces and reducing pollution. In Bangkok's plan, the city aims to improve the local quality of life through innovation and adaptation. Specific plans include creating a more connected mass transport system and improving the living conditions for migrant workers. Paris plans to increase green space, access to transportation, and affordable housing.

## **Discussion**

The urban resilience plans all scored the same for each of the cultural dimensions, showing zero variance. The plans of each city demonstrated a low power distance, low uncertainty avoidance, low individualism, low masculinity, high long-term orientation, and high indulgence. In other words, the urban resilience plans were inclusive, future-oriented, and prioritized quality of life over profits. While the 71 urban resilience plans reflected their national cultures in at least one dimension, there were usually multiple dimensions in which the cities' plans differed. There were no urban resilience plans which contained text reflecting all six of its national cultural dimensions. The strongest relationship between urban resilience plans and national cultures — which is a moderate relationship — was found in the plans of Danish, Dutch, Swedish, and Vietnamese cities. These plans had 4/6 dimensions

aligning with their respective national cultures. The plans of Chilean, Chinese, Malaysian, Singaporean, South Korean, and British cities showed the next strongest relationship, with 3/6 dimensions aligning with their respective national cultures. The urban resilience plans of the following countries had 2/6 dimensions aligning: Australia, Brazil, Canada, Colombia, France, Germany, Indonesia, Mexico, New Zealand, Thailand, the United States, and Uruguay. The urban resilience plans of Argentinian, German, Greek, Indian, Italian, and Japanese cities had 1/6 dimensions aligning.

National cultures that have low power distances, low uncertainty avoidance, low individualism, low masculinity, high long-term orientation, and high indulgence share values with urban resilience efforts. While there were no national cultures sharing all six values with urban resilience, the cultures of Denmark, Sweden, the Netherlands, and Vietnam appear to best mirror the values of urban resilience. Denmark, Sweden, and the Netherlands share political, economic, and geographical similarities, but Vietnam's inclusion in this group suggests these similarities are not sole determinants of having urban resilience values. The groupings of the remaining 23 countries do not show any obvious relationships. Since all plans scored the same in each dimension, this research suggests that urban resilience has its own set of values and is not significantly influenced by national cultures. The values of urban resilience include being equitable, embracing uncertainty, having a community focus, prioritizing equity, thinking long-term, and enhancing quality of life.

A potential reason for this lack of correlation between national culture is the presence of universal cosmopolitan values inspired by the network society. As noted by Sassen (2002), the increasingly globalized nature of the world is contributing to dynamic transnational networks. These networks facilitate the flow of goods and information while serving as a vehicle for cultural transmission (Sassen 2000) It is important to note that while national cultural values are not reflected in urban resilience plans, they may influence the ways in which the plans are implemented (Smith 2010). Each country has its own planning culture, with some countries prioritizing devolution and others having a more centralized process (Reimer, Getimis, and Blotevogel 2014). Studies show that planning cultures, which are inspired by national cultural values, can impact how plans are implemented (Allemendinger 2001). This suggests that despite all of the urban resilience plans sharing the same resilience values, these shared values might be overshadowed by national cultures when plans need to be put into action.

Limitations of this study include a lack of representation of low income countries, specifically those located in Africa. While there were several African cities participating in the 100RC initiative, Hofstede's IBM data included few African countries and it was not possible to match the 100RC cities to Hofstede's national scores. The development of urban resilience strategies requires coordinated responses from social, financial, and governmental actors – most of which would be lacking in low income countries.

This research serves as a foundation for future analyses of cross-cultural urban governance dynamics. Future studies should include a more economically and geographically diverse selection of cities to enhance the validity of their conclusions. It would also be productive to replicate this study using a different framework for cultural analysis, such as the GLOBE model or Ingelhart-Welzel cultural map. A follow-up study to assess the implementation of the plans may shed light on the translation of the plans' values to reality. How impactful is national culture in cross-cultural communications and policy sharing efforts? What traits would cross-cultural liaisons need to possess to facilitate policy sharing efforts? How can urban governments best learn from other cities to implement change in their own cities? These are pressing questions that future research must answer.

## Conclusion

Hofstede demonstrated that national culture is multi-dimensional and that there are regional and economic trends among cultural values. Based on the content analysis, there was zero variance in the urban resilience plans with regards to cultural values (i.e. all plans scored the same in each dimension). This means that urban resilience has its own set of values focused on preparing for unforeseen circumstances with a long-term focus, all while also considering equity and justice within an urban system. Based on the analysis of the 71 urban resilience plans, this research suggests that for most cities, plans prioritize values of urban resilience over those of national culture. This implies that there is a shared system of values within the urban resilience plans and that cities around the world can engage in policy learning. This may include sharing strategies with each other and developing international networks of resilient communities.

Though national cultures may not directly influence urban resilience strategies for many cities, Hofstede's IBM study showed that cultures can influence the ways in which people respond and interact with one another. Though most studies focus on cross-cultural business communications, cross-cultural collaboration in the field of urban

resilience should yield similar results. Future research should expand this analysis to assess a more economically and geographically diverse selection of cities, particularly African cities. Additionally, there is a need to research the influence of culture in interurban resilience planning. Increasing the breadth of cities studied would strengthen conclusions made in this area of research, and future case studies can provide an in-depth look at how cultures influence interurban communication on a smaller scale.

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