
Exploring cultural values connected to sustainability: why some people are more likely to act in a sustainable manner than others

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Abstract: The current article seeks to explore if we can scientifically determine some rudimentary behavioural practices that lead certain people to act in a more sustainable manner compared to others. To accomplish this, a set of values and attitudes are collected from varying demographics throughout Europe which are then contrasted against commonly accepted sustainable behaviours. Very strong correlations emerged between the seven attitudes towards business practices and sustainable behaviour. Slightly weaker correlations were found linking the ten chosen cultural values with sustainable behaviour. Taken holistically, the results provide clear indication that some attitudes and values in people do facilitate sustainable behaviour and that these attitudes and values can be fostered to create greater sustainable behavioural practices. It is hoped that the results initiate a debate and further motivation for research into sustainable practices.

Keywords: sustainability; attitudes; values; culture; Europe.

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Biographical notes: Rune Ellemose Gulev is a Professor of Business and Management at the University of Applied Sciences in Kiel and teaches sustainability and management courses to under- and post-graduate students. His current research aims at linking national variances in culture together thereby furthering the understanding of how sustainable agendas can be promoted at a pan-European level. Being from Denmark but having lived, he worked and studied mostly abroad. He is a Firm Believer in a unified Europe and a strong supporter of professional and academic initiatives that transcend national borders and celebrate cultural diversity.

1 Introduction

It is difficult to respond to the question “what promotes sustainable behaviour in people?” When asked, most of us will hesitate and after a while acknowledge that we cannot produce a coherent answer. This is not the result of intellectual inadequacy or ignorance towards the field. Rather, it is a difficult question that has not been scientifically explored and leaves much to the imagination and personal biases.

As we stand amidst a wealth of environmental and human challenges, we know that the topic of environmental and human sustainability is important and must be addressed. Rising sea levels and temperatures, melting icecaps, the depletion of natural resources, the systematic destruction of rainforests, species extinction represent a tiny account of important environmental concerns that require sustainable agendas. Equally important is the topic of sustainability within areas of human development. Gender and income inequality, literacy rates, education possibilities, life expectancies and poverty alleviation are important to address for sustainability within human development.

At current we know that sustainable behaviour is something we can measure and deliberate, but its origins perplex us. Why do some groups of people act in a more sustainable manner than other groups? Are financial and economic determinants, that is, the wealth of a nation's demographics [as explored by Novak (2011) in relation to sustainable EU growth], at the root or are there some cultural values that lie at the base that may explain this variance in behaviour?

The present article works towards addressing these questions by exploring several potential origins of sustainable behaviour that are often overlooked or entirely neglected. From the outset, it is declared that this is not a clean science. Attempting to link cultural variances with sustainable behaviour is a murky business that requires leniency in the interpretation of the results. In a research venture of this nature that gauges soft values and perceptions of cultural values among populaces of several countries, it is not rewarding to regard the data from each country on various subjects as the decisive truth – the data does not permit for such a degree of precision. It is the broad contrast between high and low scores that ultimately yield significant correlations between sustainable behaviour and cultural values. Further, it is worth mentioning from the outset that finding precise indicators pertaining to sustainable behaviour is never without complications and the indicators used in this study from the Environmental Sustainability Index and Human Development Index (HDI) could be argued to represent only part of the larger sustainable behaviour picture. It is important to understand the ramifications of both these shortcomings as they provide the context of the results: the emerging correlations of this pilot study are suggestive and probable; however, supplementary studies within this area are needed to further validate the results. It is hoped that this paper may lead to more studies of this kind.

The study is set in a purely European context which brings inherent advantages and disadvantages to the research endeavour. By limiting the scope of countries, we are able to acquire uniformly collected data for the focus countries; an absolute necessity for the results to bear any fruit. Further, by remaining within a common market, we lower the existence of certain external variables present only within some countries and that are foreign to the research focus that could pollute the correlations between cultural values and sustainability. However, it is acknowledged in advance that such external variables can never be completely eliminated, even within a study of a singular region.

2 Defining sustainable behaviour

The concept of sustainable behaviour can imply a wealth of different meanings ranging from environmental (e.g., Chichilnisky, 2011; White and Sulkowski, 2010) to social (e.g.,

Leszczynska, 2011; Gulev and Dukaric, 2010) to economic (e.g., Coco and Ferri, 2010) sustainability. The current research endeavour, which is based on a number of secondary literary sources, seeks to address the first two; environmental and social sustainability. Although all three areas are under researched, the topic of environmental sustainability, focusing on the amount of stress an ecosystem can tolerate and the need to preserve threatened plant and animal species (Navarro, 2010), is a primary focal point within sustainability discourses. Some businesses have realised the importance of this and have appointed eco-managers (e.g., Hsu, 2010; Pfeffer, 2010) to oversee corporate efforts to become more energy efficient and environmentally conscious. While the true merit of such eco-managers remains to be tested in relation to actual benefits derived to the environment, it at least indicates awareness that companies cannot ignore environmental concerns entirely. However, it is still largely unknown how much of an eco-manager's job pivots around public relations campaigns versus actual environmental concern. A further aspect of environmental sustainability that is recognised as key is the active curbing of carbon emissions (Kaufman, 2009). However, as the unfortunate outcome of the Copenhagen Climate Summit at the conclusion of 2009 illustrated, it is difficult to achieve consensus on the methods and the limitations that should be set in regards to carbon emissions. Themes such as these are demonstrative of the importance of the field and, accordingly, environmental sustainability receives attention in this mini-study. To elucidate this field, data from the 2005 environmental sustainability index are used and displayed in the left part of Table 1. The overall score represented next to each country is a composite score uniting values pertaining to a wide variety of environmental factors such as air quality, water quality, reducing air pollution, reducing waste and consumption stress, natural resource management, eco-efficiency, greenhouse gas emissions, and reducing trans-boundary environmental pressures, just to mention a few.

Social sustainability, dealing with the intrinsic wellbeing of people [Gakidou et al., (2000), p.42] either through better healthcare or favourable working and living conditions, is equally an important topic within the sphere of sustainability discourses and is thus also considered in this article. While aspects relating to human motivation at work has received due attention, most notably through Herzberg's theories of motivation which many consider the foundation for making the link between what makes employees work hard and just work (Herzberg et al., 1993), aspects relating to the well-being of people, including their levels of happiness and how this might reflect upon their work, remains mostly unstudied. To elucidate the field of social sustainability, values from the 2006 HDI are utilised and displayed in the right part of Table 1. This index was deemed optimal as it successfully combines indicators of life expectancy, educational attainment and income [all indicators that commonly get positively linked with the wellbeing of people as proposed by Gakidou et al. (2000)] into a composite human development score which can be used for cross country comparisons. While these two indexes measure performance at the country level, it is important to note that they do not measure human behaviour directly. Hence, the results are to be interpreted as aggregate outcomes that may be influenced by other factors than just behaviour of people within the respective countries. Nonetheless, their cumulative indication and comparative rank value provide a fair indication of how people behave within the 22 countries. The sphere of economic sustainability also has important repercussions on the overarching theme of sustainable behaviour; however, it is omitted in the current article in order to grant deeper scrutiny of the two former sustainability avenues.

Table 1 Environmental sustainability and HDI country scores

<i>Environmental sustainability index</i>			<i>HDI value</i>		
	<i>Score</i>	<i>Rank</i>		<i>Score</i>	<i>Rank</i>
Finland	75.1	1	Ireland	0.960	1
Sweden	71.7	2	Sweden	0.958	2
Austria	62.7	3	Netherlands	0.958	3
Ireland	59.2	4	France	0.955	4
Denmark	58.2	5	Finland	0.954	5
Estonia	58.2	6	Denmark	0.952	6
Slovenia	57.5	7	Austria	0.951	7
Germany	57.0	8	Spain	0.949	8
Russia	56.1	9	Belgium	0.948	9
France	55.2	10	Greece	0.947	10
Portugal	54.2	11	Italy	0.945	11
Netherlands	53.7	12	Great Britain	0.942	12
Slovakia	52.8	13	Germany	0.940	13
Hungary	52.0	14	Slovenia	0.923	14
Great Britain	50.2	15	Portugal	0.900	15
Greece	50.1	16	Czech Republic	0.897	16
Italy	50.1	17	Hungary	0.877	17
Spain	48.8	18	Poland	0.875	18
Czech Republic	46.6	19	Slovakia	0.872	19
Romania	46.2	20	Estonia	0.871	20
Poland	45.0	21	Romania	0.825	21
Belgium	44.4	22	Russia	0.806	22

Source: Environmental Sustainability Index (2005) and Human Development Index (2006)

3 Exploring potential origins of sustainable behaviour

Upon the enlargement of the EU with ten new members in 2004, the multitude of cultural variances within the union increased by roughly the same amount, with each new country bringing its own specific set of cultural and business intricacies that further extended the cultural variance spectrum within the common market. Zver et al. (2004) propose that there exists a significant economic culture gap between Central and Eastern European Countries (CEECs) that have recently joined the EU and longstanding EU members.

In an effort to explore the variances in culture between all EU members and especially the new and longstanding EU members, cultural dimensions have been compiled that are suspected to have either a direct or latent connection with sustainable behaviour along the two dimensions discussed above. The rationale is to understand how these variances manifest themselves and to probe to which extent sustainable behaviour is impacted by these variances. To work towards these goals the following cultural

dimensions have been selected from the *World Competitiveness Yearbook* (International Institute for Management Development, 2005) and the European Value Study (2005).

Table 2 Variances in attitudes towards sustainable business practices

Country	A	B	C	D	E	F	G	Avg.
Denmark	1	1	1	1	2	2	4	1.71
Finland	2	2	4	3	1	1	3	2.29
Austria	8	3	3	2	5	3	2	3.71
Sweden	3	6	8	4	3	6	1	4.43
Netherlands	16	7	2	5	4	4	6	6.29
Ireland	7	5	5	9	7	5	8	6.57
France	9	12	7	7	9	13	10	9.57
Germany	21	4	6	8	6	19	5	9.86
Belgium	22	10	10	6	8	9	7	10.29
Czech Republic	5	13	9	10	16	17	11	11.57
Great Britain	17	14	13	11	10	10	9	12.00
Hungary	6	11	14	19	14	7	17	12.57
Slovakia	4	8	17	14	17	14	15	12.71
Greece	14	15	11	15	13	12	13	13.29
Spain	11	16	12	13	12	18	14	13.71
Estonia	12	9	20	16	18	15	19	15.57
Slovenia	20	17	16	12	11	22	12	15.71
Portugal	13	21	15	18	15	16	18	16.57
Russia	10	18	21	22	19	8	22	17.14
Romania	15	19	19	20	22	11	21	18.14
Italy	18	20	18	17	20	20	16	18.43
Poland	19	22	22	21	21	21	20	20.86

Notes: Countries represented in decreasing rank order according to the average of the seven attitudes towards sustainability practices.

A: environmental laws and compliance should not hinder the competitiveness of businesses, B: sustainable development should be a priority, C: social cohesion should be a priority for the government, D: social responsibility of business leaders should be high towards society, E: ethical practices should be implemented in companies, F: corporate boards should supervise the management of companies effectively, G: health, safety and environmental concerns should be adequately addressed by management.

Source: Adapted from *World Competitiveness Yearbook* (International Institute for Management Development, 2005)

The results displayed above are to be observed carefully in order to avoid misunderstanding the intent and point of the table. The countries are presented in decreasing rank order only so as to guide the reader in visualising rough approximations of how these countries compare against each other according to the seven attitudes included in the first part of this research endeavour. It is important to note that these attitudes are not exhaustive and if other dimensions had been included, alternative rank orders would have emerged. Accordingly, Table 1 is best understood by coupling

countries at one extreme, e.g., countries at the top of the table, with the notion that in these countries a higher frequency of positive attitudes towards sustainable practices are observed in comparison to the group of countries towards the bottom of the table. Any further degree of precession would be unwarranted.

Table 3 Variance in cultural values suspected of fostering positive inclinations towards sustainable behaviour

Country	A	B	C	D	E	F	G	H	I	J	Avg.
Ireland	3	1	8	7	13	6	5	7	13	10	7.30
Italy	4	12	2	4	7	10	10	10	5	11	7.50
Belgium	9	8	3	6	11	17	4	12	7	5	8.20
Slovenia	7	6	7	12	3	8	8	18	3	15	8.70
Spain	22	10	12	1	12	11	2	5	4	8	8.70
Sweden	10	5	17	8	4	21	14	2	11	1	9.30
Greece	12	15	1	2	2	9	13	19	2	21	9.60
France	5	16	10	3	21	18	7	16	1	4	10.10
Netherlands	11	4	11	15	6	16	16	3	21	2	10.50
Denmark	2	18	21	5	1	22	18	1	16	3	10.70
Portugal	6	17	6	16	10	13	3	6	17	17	11.10
Poland	18	9	14	14	9	1	9	20	9	9	11.20
Great Britain	1	19	19	10	17	12	6	11	19	6	12.00
Finland	14	14	9	9	15	20	12	4	18	7	12.20
Slovakia	16	2	22	13	14	2	17	21	6	20	13.30
Hungary	13	13	4	22	19	5	15	17	12	18	13.80
Romania	20	20	13	11	16	3	1	22	10	22	13.80
Czech Republic	8	11	18	20	5	15	19	13	14	19	14.20
Austria	21	3	15	19	20	19	11	9	15	12	14.40
Russia	15	22	5	21	8	4	22	14	22	16	14.90
Estonia	17	21	16	17	18	7	21	15	8	14	15.40
Germany	19	7	20	18	22	14	20	8	20	13	16.10

Notes: Countries represented in decreasing rank order according to the average of the ten cultural values suspected to possess a latent link with sustainability behaviour.

A: being unselfish is an important quality to encourage, B: being prepared to do something to improve the conditions in your community, C: equality for everyone should be prioritised ahead of freedom of development, D: less emphasis on money and material possessions would be good, E: being prepared to sacrifice personal income for the prevention of environmental pollution, F: the extent to which good pay is important to you, G: parents of the current generation should sacrifice for the well-being of children of the next generation, H: the extent to which most people can be trusted, I: a simple and more natural life style would be good, J: tolerance and respect are important qualities to learn.

Source: Rank values based on European Value Study (2005) data

As with Table 2, it is entirely important to understand that the exact rank order of the countries in the above table is not indicative of much. It is the broad contrasts between the top grouped countries and lower grouped countries that yield meaning. However, even when interpreting the results along such a bipolar spectrum, it is important to note that the high and low ranked countries rank high and low only according to the average rank values of these particular ten dimensions. Thus, meaning to these results is greatly increased if the dimensions A–J are fully understood opposed to believing that, e.g., Russia, Estonia and Germany will always rank low on cultural values suspected to be linked with sustainable behaviour. An assortment of different cultural dimensions, assembled by other researchers, might very well yield dissimilar country clusters.

4 Methodological aspects of the study

The data taken from the four cardinal sources for this study (World Competitiveness Study, European Value Study, Environmental Sustainability Index and HDI) are differentiated along an important dimension. The data from the WCY, HDI and Environmental Sustainability were pre-processed and were thus taken directly from their respective sources and given a corresponding rank order, without having to rework the data. This increased their ease of use; e.g., if Germany received a higher HDI score than France, it was allocated a higher rank order. This simple methodology for country ranking was kept uniform for all the countries. However, the data extracted from the European Value Survey are weighted results taken from multiple sources based on unprocessed EVS data. This occurs because the EVS does not provide ultimate scores, but leaves the data in its raw form. Accordingly, the data had to be transformed into useable scores that are compatible with the former three sets of data. For each EVS dataset, this was accomplished by measuring the EVS ordinal datasets on weighted bipolar scales; the more one set of results gravitated towards one extreme, the less it could consequently gravitate towards the other. This method was homogenised for all the EVS datasets and resulted in ten separate indicators, each encompassing all the focus countries of this study.

The use of bipolar cultural descriptions is a controversial method of depicting cultural variances. On the one hand, its linearity nicely represents diversity in cultures and, by viewing contrasting characteristics, amplifies the significance and meaning of each culture. Yet, on the other hand, its typology constrains the outcomes to the scale's two-dimensional extremities and operates under the implied assumption that the more a culture is biased towards one extreme, the less it may gravitate towards the other [Trompenaars and Woolliams, (2003), p.5]. Although, the latter is true and its ramifications must be respected, the current research lends support to the methodology of bipolarising cultures, as it allows for cultural discrepancies to emerge between countries in a panoramic and controllable manner, albeit noted, at the risk of encouraging potentially stereotypical generalisations. Furthermore, the ten culture indicators are innately contrasting. Therefore, a bipolar scale is a logical instrument to use as an indication towards one extremity necessitates a departure from the other extremity.

To test the strength of the correlations between our cultural determinants, taken from the European Value Survey and *World Competitiveness Yearbook*, and our sustainability indicators, taken from our Environmental Sustainability Index and HDI, we conducted cross-lateral Spearman rank correlation tests fitted with confidence intervals for

22 dataset samples to verify if significant correlations existed. These involved 34 tests (the results of which are shown in the following section) that were conducted through a statistical correlation machine that calculated the Spearman rank correlation coefficient (ρ) as:

$$\rho = 1 - \frac{6 \sum d_i^2}{n(n^2 - 1)}$$

where d = the difference in the rank values x_i and y_i , expressed as i above, for n (22) observations.

5 Results

In order to obtain insight into potential links between cultural manifestations and sustainable behaviour, Spearman rank correlation tests were conducted on the relevant datasets. Rank correlation tests were deemed the optimal testing instrument for this analysis as rank values were ultimately produced from the two sources of values and attitudes that the IMD and EVS yielded. These were subsequently fitted with confidence intervals at the 95% level (represented with singular annotations ‘*’ in the table below) and 99% level (represented with dual annotations ‘**’ in Table 4).

Observing Table 4, it is apparent that the majority of positive correlations exist between attitudes towards business practices and sustainable behaviour along both environmental and social sustainability. That is, countries with populaces that express concerns towards, e.g., high social cohesion and, e.g., high ethical practices also score highly with regards to environmental and social sustainability (this strong conglomeration of positive correlations is observed by viewing the first 14 correlations in Table 4). The sole exception is ‘Environmental laws and compliance should not hinder the competitiveness of businesses’ which, albeit being a positive correlation, did not achieve a significant correlation with the HDI. Especially in countries where populaces expressed a desire for greater emphasis on social cohesion being a priority for the government (0.826), social responsibility of leaders being high towards society (0.796), ethical practices being implemented in companies (0.828) and health, safety and environmental concerns being addressed adequately by management (0.811) we notice strong positive correlations. Overwhelmingly positive correlations such as these certainly support the notion that the greater a populaces’ inclination is to have businesses pursue such practices, the more likely it is that environmental sustainability and social sustainability are priorities for domestic businesses.

Less overwhelming was the evidence attempting to link cultural values to environmental and social sustainability. In fact, a few of the proposed cultural values even emerged negatively, although at an insignificant level. Of the significant correlations, emerging at the 0.05 confidence level (the results are 95% reliable; there is only a 5% chance that the results are random), that bore fruit, ‘Being prepared to do something to improve the conditions in your community’ (0.440), ‘Less emphasis on money and material possessions would be good’ (0.556) and ‘Tolerance and respect are important qualities to learn’ (0.738) were values that positively correlated to social sustainability but failed when correlated against environmental sustainability.

Table 4 Spearman rank correlation test outcomes

		<i>2005 Environmental Sustainability Index</i>	<i>2006 HDI value</i>
Attitudes toward business practices (WCY data)	Environmental laws and compliance should not hinder the competitiveness of businesses	0.505*	0.237
	Sustainable development should be a priority	0.661**	0.556*
	Social cohesion should be a priority for the government	0.469*	0.826**
	Social responsibility of business leaders should be high towards society	0.517*	0.796**
	Ethical practices should be implemented in companies	0.621**	0.828**
	Corporate boards should supervise the management of companies effectively	0.488*	0.487*
	Health, safety and environmental concerns should be adequately addressed by management	0.522*	0.811**
Cultural values (EVS data)	Being unselfish is an important quality to encourage	0.095	0.373
	Being prepared to do something to improve the conditions in your community	0.141	0.440*
	Equality for everyone should be prioritised ahead of freedom of development	-0.205	0.047
	Less emphasis on money and material possessions would be good	-0.111	0.556*
	Being prepared to sacrifice personal income for the prevention of environmental pollution	-0.095	0.126
	The extent to which good pay is important to you	-0.428*	-0.712**
	Parents of the current generation should sacrifice for the well-being of children of the next generation	-0.337	0.219
	The extent to which most people can be trusted	0.494*	0.695**
	A simple and more natural life style would be good	-0.324	-0.004
	Tolerance and respect are important qualities to learn	0.279	0.738**

Notes: N = 22; **p < 0.01; *p < 0.05

Further noteworthy findings related to 'The extent to which good pay is important' which correlated negatively to both environmental and social sustainability (-0.428 and -0.712, respectively) and 'The extent to which most people can be trusted' which conversely correlated positively for both environmental and social sustainability (0.494 and 0.695, respectively). For the former, this implies that the less pivotal role money has for the individual, the more likely both environmental and social concerns are embraced. For the latter, it appears that trust acts as a facilitator towards both forms of sustainability, albeit more so for social sustainability (0.695) than environmental sustainability (0.494).

Surprisingly, some of the cultural values that were suspected to be most strongly connected with sustainable behaviour scored insignificantly, and in some cases, even reversely of the predicted direction. Most notably, 'Being prepared to sacrifice personal

income for the prevention of environmental pollution' correlated negatively with environmental sustainability (-0.095), albeit at an entirely insignificant level, 'Parents of the current generation should sacrifice for the well-being of children of the next generation' also correlated negatively (-0.337) and 'A simple and more natural life style would be good' correlated at (-0.324) with environmental sustainability. As these cultural values increased, we unexpectedly noticed a decrease in the compliance with environmental sustainable behaviour. The implications of this and the other results will be addressed in the discussion below.

6 Discussion

At first glance, the positive correlation between attitudes toward business practices and sustainable behaviour may not seem surprising. After all, businesses adopting practices that act in accordance with the priorities of the local populations is frequently observed. However, the strength of these correlations suggests that there might be more to this than straightforward business-to-populace compliance. It is possible that adopting sustainable practices can have reinforcing repercussions on the attitudes that originally prompted the original initiative towards greater sustainable behaviour in the first place. As such, having attitudes that make a small shift towards promoting greater sustainable business practices may be the starting initiative towards greater sustainability agendas. If this thought line holds, one key to encouraging greater sustainable practices is to promote initiatives that spark the sustainability debate. Once the ball is rolling, this might imply that businesses would act more pro-sustainability, which hence would cause a further shift towards greater sustainable attitudes in the populace, and so on. The overwhelmingly strong positive correlations evidenced between attitudes and practices certainly seem to support this theory of reinforcement.

However, in contrast to this thought line, the vague results pertaining to some cultural values and sustainability seems to suggest that it is in fact not reinforcing. The negative correlations for 'Parents of the current generation should sacrifice for the well-being of children of the next generation' (-0.337) and 'A simple and more natural life style would be good' (-0.324) both correlated negatively with environmental sustainability, admittedly at an insignificant level; however, the inconsistency is still apparent – why did we not observe strong positive correlations for these values? From this, initially, it is tempting to speculate that in countries where people feel they are already sacrificing for environmental sustainability a lot, wish to do less so, hence contradicting the reinforcement theory. However, this would be misinterpreting the results and we believe alternative explanations pertaining to the individuality of each negative correlation come closer to elucidating the truth.

First, for the negative correlation relating to parents of the current generation being prepared to sacrifice for the children of the next generation, it is entirely possible that other cultural values trump the influence on environmental sustainability that the researchers suspected people within these countries might express. The countries that rank high on the environmental sustainability index (e.g., Finland, Sweden – ranked first and second, respectively) are also marked by being highly individualistic and equalitarian societies (e.g., Hofstede and Hofstede, 2005; Gulev, 2009). Within such societies, the collective sacrifices for upcoming generations, not the parents, yet, the individual must

apply her/himself in order to tap into the accumulated wealth sacrificed by previous generations. For example, parents of students in the Nordic countries do not personally save for their children's tuition fees. This is funded collectively through taxes which the students must make themselves individually capable of receiving. Hence, parents do not sacrifice directly for their children to the same extent as observed in many other countries.

Second, for the negative correlation relating to a simple and natural life style being viewed positively, it is possible that different perceptions on the influence of technological advancement lead to this disparity. While simplicity and a natural life style may be viewed as complementary to environmentalism by some, the reverse is argued by others. For these people, technological advancement is the key to environmental sustainability; better utilisation of current resources and machines (e.g., windmills and solar panels) will ultimately place a smaller strain on environmental assets. It is very likely that respondents in the countries that rank high on the Environmental Sustainability Index share this view and hence, depart from the notion that simplicity and naturalism will lead to greater environmental sustainability.

Finally, it is possible that there exist discrepancies between the cultural values that people express and the practices undertaken. Such discrepancies have been well documented in other cultural studies, most notably, the GLOBE research endeavour edited by House et al. (2005). Hence, it is possible that all respondents from the focus countries express values that connect with sustainable behaviour, however, their actions as measured by the Environmental Sustainability Index and the HDI value, do not always coincide with those values. Such disparity would help explain the very weak correlations observed along many of the cultural values.

When turning the discussion towards cultural values that correlate with social sustainability, we notice a higher frequency of significant positive correlations, and the sole significant negative correlation is to be interpreted inversely; when good pay is not a priority, social sustainability increases. In particular, we observe that in countries where importance is attached to teach tolerance and respect (0.738), where people feel others can be trusted (0.695) and where people are prepared to improve their communities (0.440) HDI values increase. Further, where less emphasis is placed on money and material possessions (0.556) we also notice higher HDI values which nicely complements the negative correlation pertaining to how pivotal good pay is (−0.712) in relation to HDI values. Hence, the above appear to be cultural values that, when fostered, would seek to boost levels of social sustainability, as defined by HDI terms. As with attitudes towards business practices, it is entirely likely that these cultural values also are reinforcing; the more the above cultural values are endorsed, the higher HDI values will emerge which in turn provide fuel for further exhalation of such cultural values.

7 Conclusions

The results pertaining to this pilot study are brief and introductory. They act as an initial cautious footstep onto a large uncharted territory linking human values to sustainable behaviour. Although buoyant results are obtained in relation to the slim selection of cultural values depicted in this study, it must be noted that the results are not all encompassing and conclusive of the cultural values – sustainability discourse at large. On

the contrary, and as such it is hoped that the current results open up for a discussion which will yield greater appetite for further exploration of this huge field.

Perhaps to some, the link that community concern positively correlates to actions favouring sustainability is obvious, however, very few research agendas provide usable results to support this. The current paper works towards remedying this shortcoming and provides valid correlations to support such a premonition. As such, the current research is among the first to link a synthesis of attitudes and cultural values with different aspects of sustainable behaviour.

Attitudes towards business practices yielded the most positive significant correlations with both environmental and social sustainability. When attitudes towards aspects such as social cohesion, social responsibility, ethical practices and better supervision were more prominently expressed, we noticed proportionate increases in environmental sustainability scores. This trend was even more visible for social sustainability. When the aforementioned attitudes towards business practices increased, HDI values increased dramatically. The correlations for this segment of the research were so convincing, that it suggests a theory of reinforcement; the attitudes of the populaces positively influence sustainability practices, which in turn further fuels attitudes that endorse environmental and social sustainability.

The results pertaining to cultural values were more ambiguous; only a small number of significant correlations emerged. Of them, being prepared to improve conditions in your community, placing less emphasis on money and good pay, having high trust in individuals and tolerance and respect being worthy qualities to learn, correlated positively with social sustainability. The cultural values suspected to have high positive correlations with environmental sustainability failed which actualises the question why. It is speculated that in some cases other cultural values present within the focus countries (e.g., individualism and a high urge for egalitarianism) as well as different perceptions on the influence that technologic advancements will have on society might trump some of the values pertaining to environmental expressionism. However, it is also likely that the values expressed by people and the practices undertaken by businesses are not coinciding. As such, it is likely that all respondent groups in the focus countries express values of concern for environmental and sustainable behaviour, but only some act on it. This would further explain the vague and insignificant correlations.

The current study suffers from a number of inherent weaknesses that are important to declare. First, the research scope has focused on a small selection of attitudes and cultural values. The researchers encourage continued studies of this nature to be conducted as it is not unlikely that variations in the correlations' strengths will emerge in complementary research endeavours that explore alternative attitudes and cultural values. Second, to measure sustainable behaviour, we use datasets from two sources only. Although we feel confident that the Environmental Sustainability Index and HDI values are credible and provide a valid foundation for the research, it must be acknowledged that other sources of sustainability indexes might have produced dissimilar correlation results. We do not however believe that our model is sample specific and we expect to find similar correlations from other sources in upcoming studies.

Finally, as with most cultural studies, the current paper suffers from some shortcomings inherent to the cultural debate. Taking national cultural portrayals as representative of all the people within a country is highly controversial; can we make fair representations of all the people of a country through country specific EVS data or are

sub-cultures and personal variances within countries such dominant influences that they cannot be discounted? Equally controversial is the method of bipolarisation of cultures; is it always true that the more one gravitates towards one extreme on a bipolar scale the less one can gravitate towards the other? Both of these typical shortcomings of cultural analyses are apparent in the current work with the obvious consequence that the results must be interpreted leniently. However, when acknowledging the existence and ramifications of these shortcomings the results do provide value on a more holistic level; a level relevant and appropriate to have as an outset to allow for deeper continuations of cultural research. As such, the results of this study provide further nourishment for researchers and practitioners who subscribe to the notion that variations in attitudes and cultural values have far reaching ramifications including on the ways we approach sustainable behaviour.

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