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Cultural aspects of sustainable development

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Abstract: The main objective of this paper is to identify cultural aspects of sustainable development, by examining the interdependence of selected cultural characteristics and the index of sustainable development. Accordingly, the hypothesis of this article is that: Sustainable development achieves higher rates in countries that have a specific cultural profile, representing the values of western civilisation. The hypothesis was verified using Pearson's interdependence test. The arguments adopted in the tests described cultural features such as the distance to power, masculinity vs. femininity, individualism vs. collectivism, a degree of avoidance of uncertainty, long term orientation, indulgence and also materialism and postmaterialism syndromes in the context of the SDG index. Due to the specific nature of the data, the number of observations in individual tests ranges from 19 to 94. Data describing materialism and post-materialism are related to the period 2010-2014. other cultural data come from permanent indexes developed and made available within the Hofstede Insight project, Index SDG is given for 2016. The hypothesis has been verified. There is a positive correlation between values defining European culture and the SDG index. The conclusions resulting from this observation were formulated regarding the specificity of sustainable development in the cultural context.

Keywords: sustainable development, factors, culture, civilization

JEL codes: A13, Q01

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1. Introduction

Discussions of the concept of sustainable development have from the very outset fluctuated between optimistic visions of the future and accusations of utopianism, while others

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have pointed to internal contradictions within the very principle itself. Doubts have been – and continue to be – raised regarding the definition of 'sustainable development' and also the justification of whether humanity really needs sustainable development. And, while in the light of shrinking resources, the answer to the question of global population growth and the developing needs of that population seems clear, a significant part of the academic world and public opinion continue to be convinced that the free market is able to deal with the problem of resources by means of the price mechanism. Skeptics also level the accusation of a lack of clear impact in reality of actions taken to re-establish a sustainable balance in development. Problems are posed by issues, such as how to measure sustainability and a reality in which some developing (as well as developed) countries do not want to give up their share in material prosperity and set limits on growth. Perhaps when studying the problem of 'sustainable development' and the 'fluidity' of that notion, one should analyze the problem of understanding and deploying values, which are formed as part of a cultural process and are understood and interpreted through the prism of culture, and thus which are not universal in character.

At this point, it would be worth giving a definition of sustainable development, which is not an easy task given the wide range of views on the subject, because, despite detailed, descriptive definitions, the intuitive definition of 'sustainability', just like that of goodness or honesty, in any case in the main continues to be interpreted by all those individuals and entities, whose everyday decisions have an influence on the success or failure of deployment of the sustainable development concept. A common motif of many definitions is solidarity with future generations and guaranteeing that their needs can be met, whilst also meeting our current needs: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations General Assembly, 1987: 43) and, along with the question of solidarity with regard to resources and the survival of ecosystems, another issue raised is that of the prosperity of future generations and guaranteeing them a quality of life on the same level as now, which is also supposed to be the object of continuous efforts to seek improvement via CSR: "The continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as the local community and society at large" (Holme, Watts, 2000: 8). The British Government has declared that sustainable development can be achieved by working towards four goals simultaneously: "(a) social progress that recognizes the needs of everyone (b) effective protection of the environment (c) prudent use of natural resources (d) maintenance of high and stable levels of economic growth and employment" (DETR, 1999). Over the last

250 years, it has instead been possible to observe an increase in the material needs of a growing population. In the context of the above, being conservative in the management of natural resources in times of economic growth thus sounds like an internally contradictory task as difficult as the one set for 'The Peasant's Clever Daughter' in the fairytale by the Brothers Grimm.[1]

It is also difficult to define needs dependent on natural conditions, the external environment and individuals' own beliefs, and it is in principle impossible to make presumptions about the needs of future generations, since higher order needs are associated with professed values (Reigeluth, 2009: 430), and those are subject to change. The problem of defining and understanding sustainable development also seems to depend on the area in which there appears to be the greatest needs – whether it be in the economic, environmental or social sphere – or which needs the researcher considers to be most urgent. "The major reason is that there are disagreements between different groups of people as to how to strike a balance between the economy, the environment and society. The chosen perspective is critical here, and as soon as more than one person is included then, by definition interpretations multiply. What is one person's definition of SD is another's despoliation, degradation and exploitation, as is the case for natural resource extraction at the global level" (Dahl, 1997). The concept of sustainable development is a product of European culture, and, though the goal is to achieve sustainability on a global scale, the conditions of sustainability are set out from the Western point of view. At the same time, the perception of the importance of environmental issues in the context of economic growth differs between individual countries and areas of civilization. Figure 1 shows data collected regarding the importance of environmental issues in relation to purely economic issues in the opinion of respondents from 8 cultural groups.[2]

Although on the basis of Figure 1, it is not possible to draw any conclusions about the relationship between culture and the approach to sustainable development, it is worth noting that the countries whose inhabitants declare environmental issues to have priority over economic issues include all the Latin American countries in the survey. The data used is based on declarations relating to one value that is significant from the point of view of sustainable

[1] The King summoned the peasant's daughter and set her a riddle: *Come to me not clothed, not naked, not riding, not walking, not in the road, and not out of the road, and if thou canst do that I will marry thee* (J. & W. Grimm, The Peasant's Clever Daughter, (16/06/2017): http://www.surlalunefairytales.com/authors/grimms/94peasantcleverdaughter.html.)

[2] In addition to Poland, 5 countries were selected from each of the following areas of civilization: North Africa, Latin America, the Middle East, and Europe, plus the USA, India, China and Japan.

development, where such declarations are intentional in nature, but still indicate the existence of differences in value hierarchy.

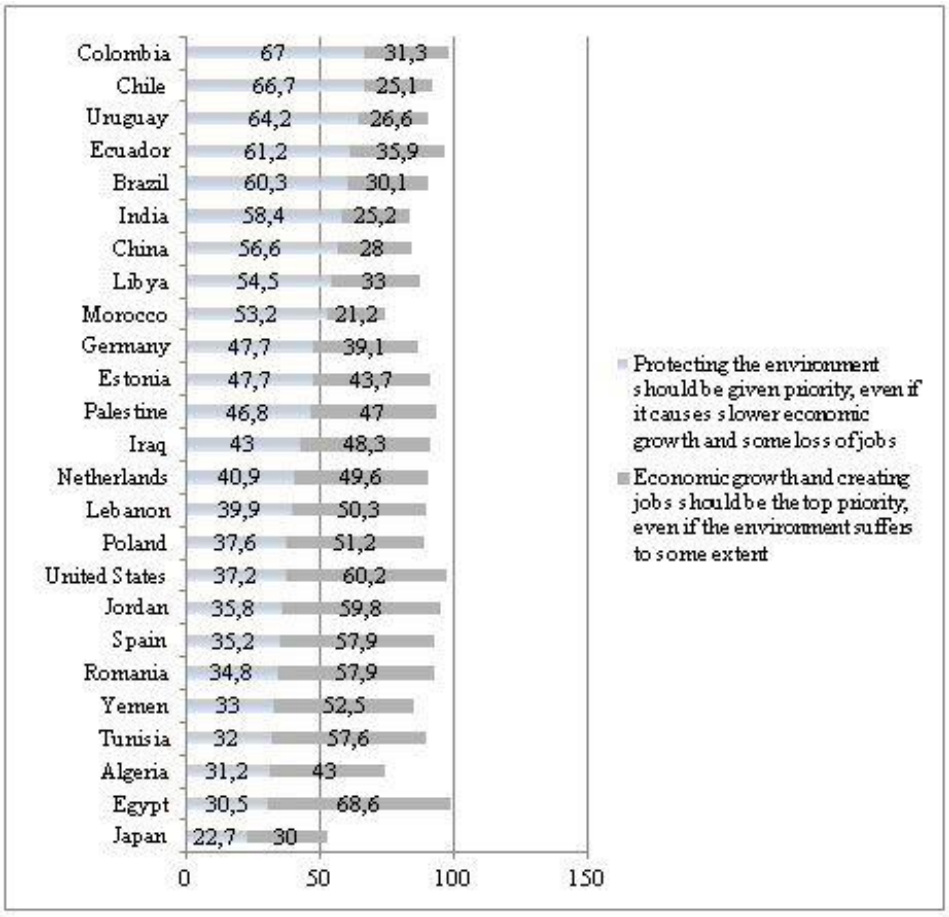

Figure 1. Protecting the Environment vs. Economic growth

Source: Author's own elaboration based on data: World Values Survey, 2010-2014.

2. Objectives and method

The main objective of this article is to identify cultural aspects of sustainable development, by examining the interdependence of selected cultural characteristics and the index of sustainable development. Accordingly, the hypothesis of this article is that: "Sustainable development achieves higher rates in countries that have a specific cultural profile, representing the values of western civilization". This hypothesis was tested using the Pearson correlation coefficient. It is a measure of strength of the association between the two variables. The coefficient is ranging from -1 to +1. A value of +1 is the result of a perfect positive relationship between the variables. Conversely, a value of -1 represents a perfect negative relationship. A zero indicates no correlation. The arguments tested in this paper describe the

level of sustainability and the cultural profile of selected countries and are expressed respectively by parameters from the sustainable development index and Geert Hofstede's cultural indexes, as well as indicators of materialism and post-materialism. These indexes will be discussed below. The study was based on a cross-section of data from single periods:

- SDG: 2016
- Hofstede indexes, permanently fixed data available on the website www.hofstede-insight.com,
- indexes of post-materialism and materialism, the 2010-2014 wave of the World Values Survey.

The sample size in the individual tests has been highlighted in the tables of results, as depending on the indicators, the number of sample entities was variable. The Pearson test was run in three perspectives:

- For the general tests, countries from throughout the world, representing all areas of civilization, were taken into account.
- The pool of countries was then divided up into groups based on the level of economic growth.[3] The Pearson test was then used again to check the level of correlation between cultural indexes and the level of SD in specific groups.
- Lastly, the level was also tested for countries in the European cultural area.

3. How to measure the level of sustainable development?

According to Olson et al. (2004), "A sustainable development indicator (SDI) can generally be understood as a quantitative tool that analyzes changes, while measuring and communicating progress towards the sustainable use and management of economic, social, institutional and environmental resources. An indicator is something that points to an issue or condition. Its purpose is to show how well a system is working towards the defined goals." The methodology of creating indicators is based either on summing up the values of phenomena, in which case we are dealing with an indicator of the current state of affairs at a given moment in time or by formulating the ideal goal, in which case the index determines the distance which separates the given subject of analysis from perfection. According to Hametner and Steurer, one feature of indicators is to summarize the factors involved and capture the complexity of

[3] The countries were broken down into highly developed, developed, less developed and developing countries, according to the HDI Index.

phenomena (2007); to put it more simply: "a compromise between scientific accuracy and the demand for concise information" (Verbruggen, Kuik, 1991: 5).

Traditional measures of economic progress, focusing on the size of production and income, do not take account of the values and prices of free goods, externalities, quality of life, or the equitable distribution of wealth, which is why there started to be a rise in the popularity of measures of progress, based on growth indicators but modified, such as the Measure of Economic Welfare, an index which takes into account not only GDP, but also the value of leisure time, unpaid work and damage to the natural environment (Nordhaus, Tobin, 1972); or the Index of Sustainable Economic Welfare created by Daly and Cobb, or the Genuine Progress Indicator which was developed from it. In the case of both of these indicators, they "begin, not with GDP as their base, but with the extraction from national accounts of the transactions deemed directly relevant to human well-being, while also including social and environmental benefits and costs"[4] (Lawn, 2003). The indicators which fall into the second category are multidimensional indexes, based on taxonomical methods, which set out an ideal model towards which one is to progress, and where the resulting indicator determines the level to which this model has been attained. The most popular measure in this category is the Human Development Index, developed by the UN, and development according to the United Nations is understood as a process of "enlarging people's choices, most importantly to lead a long and healthy life, to be educated and to enjoy a decent standard of living" (UNDP, 1990: 10). Numerous subsequent measures have been developed based on the HDI, taking account of specific dimensions of social life – poverty, gender inequalities and sustainable development (UNDP).

The indexes mentioned above (and others, cf. Kubiczek, 2014) subscribe to the idea of sustainable development, by respecting the multidimensional context of development. The indicator proposed at the UN Summit held in New York in 2015 however refers to a set of 17 Sustainable Development Goals (SDGs) formulated during the summit, which are as follows: 1) No Poverty 2) Zero Hunger 3) Good Health and Well-Being 4) Quality Education 5) Gender

[4] For example, to compile the GPI index for the USA for 1950-1995, the following phenomena were taken into account: Personal consumption expenditure (+), Index of distributional inequality (+/−), Weighted personal consumption expenditure (+), Cost of consumer durables (−), Services yielded by consumer durables (+), Services yielded by roads and highways (+), Services provided by volunteer work (+), Services provided by non-paid household work (+), Cost of noise pollution (−), Cost of commuting (−), Cost of crime (−), Cost of underemployment (−), Cost of lost leisure time (−), The cost of household pollution abatement (−), The cost of vehicle accidents (−), The cost of family breakdown (−), Net capital investment (+/−), Net foreign lending/borrowing (+/−), Loss of farmland (−), Cost of resource depletion (−), Cost of ozone depletion (−), Cost of air pollution (−), Cost of water pollution (−), Cost of long-term environmental damage (−), Loss of wetlands (−), Loss of old-growth forests (−) (Lawn P.A. 2003).

Equality 6) Clean Water and Sanitation 7) Affordable and Clean Energy 8) Decent Work and Economic Growth 9) Industry, Innovation and Infrastructure 10) Reduced Inequalities 11) Sustainable Cities and Communities 12) Responsible Consumption and Production 13) Climate Action 14) Life below Water 15) Life on Land 16) Peace, Justice and Strong Institutions 17) Partnership for the Goals. Only publicly available data was used to build the index, creating sets of indicators relating to each of the 17 areas mentioned. The index was calculated for 80% of the world's countries with over 1 million inhabitants or 149 out of 193 UN member states. Currently,[5] the index is made up of 77 variables, 14 of which are only available for OECD countries, however in principle the composition of the index is intended to be dynamic and the number and type of variables may evolve (SDG Index and Dashboards, 2016). All the variables have been standardized and specific values are classified on a scale from 'the best to the worst'. For the purposes of this study, it is this index that will be used, due to the wide range of data on the phenomena of which it is made up and the availability of results for nearly 150 countries.

4. How to measure culture?

The problem of how to quantify cultural characteristics is significantly more problematic than the study of countable values of economic growth, physical phenomena or demographic data. It is not however an impossible undertaking, although the number of phenomena, values or attitudes taken into account by cultural indexes cannot cover the full diversity of global cultures. It should be noted that the economics sciences, including management studies, have made a fundamental contribution to the measurement of culture, as the identification of corporate culture was already an important concept in business management in the 1970s. At that time, tools and methods of classifying corporate culture began to emerge, for example those proposed by Harrison (1972), Handy (1976), Deal and Kennedy (1982), Cameron and Quinn (1999), McGuire (2003) et al. Many credit Hofstede for expanding on the problem of the measurability of culture. As of 1965, he started to conduct research into cultural differences and problems in cross-cultural communication within the IBM Corporation, where he was able to compare the cultural profiles of 177,000 employees from different countries worldwide. This project then evolved into a venture that went beyond the scope of the corporation, with research being conducted into cultural dimensions in nearly 80 countries, quantifying them in indexes describing: Power Distance, Individualism vs. Collectivism,

[5] Version for 2015.

Uncertainty Avoidance, Masculinity vs. Femininity, Long-term vs. Short-term Orientation and Indulgence vs. Restraint. The World Values Survey research program also plays a key role in research into culture and its quantification. Since 1981, data concerning the values and attitudes of respondents have been gathered in almost 100 countries within the framework of this program. For the purposes of this article, both cultural indexes created and adopted by Hofstede, as well as selected cultural indexes created within the framework of the World Values Survey program will be taken into account. The first cultural index to be examined is that of power distance, which Hofstede defines as "the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally" (2010: 67). In other words, power distance is concerned with the degree to which individuals identify with the social hierarchy in the institutions around them, and the importance and comfort (or discomfort) that they associate with it. Table 1 presents the features characteristic of cultures with a high or low distance to power, in the context of the four most important institutions in forming social relations.

Table 1 Power Distance (PD)

	Institution	Small power distance	Large power distance
1.	Family	Parents and children treat each other as equals.	Parents teach children obedience, children treat parents with respect
2.	School	Teacher and students treat each other as equals. It is important for students to take initiatives. Teachers transfer impersonal truths.	Teachers are expected to take initiatives. They are gurus who transfer personal wisdom. Students treat teachers with respect.
3.	Workplace	Narrow salary range between top and bottom of organization. Subordinates expect to be consulted. The ideal boss is a resourceful democrat.	Wide salary range between top and bottom of organization. Subordinates expect to be told what to do. The ideal boss is a benevolent autocrat or good father.
4.	State	Equal rights for all people, large middle class, pluralist governments, use of power is legitimate and subject to criteria of good and evil.	The powerful have privileges, small middle class, might prevails over right, whoever holds the power is right and good.
5.	General values	Decentralization is popular, inequalities among people minimized, privileges and status symbols frowned upon.	Centralization is popular. Inequalities between people are both expected and desired, privileges and status symbols are both expected and popular.

Source: Author's own elaboration basing on Hofstede G., *Cultures and Organizations*, McGraw Hill, New York, 2010: 72-82.

The level of power distance is dependent on several factors, including geographic latitude – the greater the latitude, the lower the power distance; population size – the larger the number of inhabitants, the higher the power distance; and wealth – the more wealthy the country, the lower the distance to power (p. 84).

The next index to analyze determines the level of individualism. "Individualism pertains to societies in which the ties between individuals are loose: everyone is expected to look after

him- or herself and his or her immediate family. Collectivism, as its opposite, pertains to societies in which people from birth onward are integrated into strong, cohesive in-groups, which [...] continue to protect them in exchange for unquestioning loyalty" (p. 92). Most countries with a high power distance at the same time show a high degree of collectivism (the countries of Southern Europe are an exception to this rule) and both these dimensions are correlated with each other. The cultural features characteristic of representatives of individualism and collectivism are presented below.

Table 2 Individualism vs. Collectivism (IDV)

	Institution	Individualist	Collectivist
1.	Family	Children learn to think in terms of 'we'. People are born into extended families or other in-groups that continue protecting them in exchange for loyalty.	Children learn to think in terms of 'I'. People live to look after their closest family only.
2.	School	The purpose of education is learning how to do, diplomas provide entry to higher status groups.	The purpose of education is learning how to learn. Diplomas increase economic worth and/or self-respect.
3.	Workplace	Hiring and promotion decisions take employee's in-group into account. The employer-employee relationship is like a family link.	Hiring and promotion decisions are supposed to be based on skills and rules only. The employer-employee relationship is a contract supposed to be based on mutual advantage.
4.	State	Collective interests prevail over individual interests. Political power exercised by interest groups, ideologies of equality prevail over ideologies of individual freedom, state has dominant role in the economic system.	Individual interests prevail over collective interests. Political power exercised by voters, ideologies of individual freedom prevail over ideologies of equality, state has restrained role in the economic system.
5.	General values	Social bonds form the basis for identity, seeking to maintain harmony and avoid direct confrontations, interpersonal relationships more important than achieving goals, high-context communication.	Individual forms the basis for identity, opinions expressed openly, achieving goals is more important than interpersonal relationships, low-context communication.

Source: Author's own elaboration basing on: Hofstede G., *Cultures and Organizations*, McGraw Hill, New York, 2010: 113-130.

Urbanized and industrialized societies are generally more individualistic (except for the countries of East Asia). Geographic latitude is also of significance – countries with moderate and cold climates are generally characterized by a higher degree of individualism.

Another cultural feature taken into account in the index is the masculinity or femininity of a culture.

A society is called masculine when emotional gender roles are clearly distinct: men are supposed to be assertive, tough, and focused on material success, whereas women are supposed to be more modest, tender, and concerned with the quality of life. A society is called feminine when emotional gender roles overlap (p. 140).

Table 3 presents the basic differences between the profile of a masculine and a feminine culture.

Table 3 Masculinity vs. Femininity (MAS)

	Institution	Feminine	Masculine
1.	Family	Men and women can be tender and focus on relationships. Parents share earning and caring roles. Both boys and girls are allowed to cry.	Men should be assertive and ambitious, women are supposed to be tender and caring. In the family, fathers deal with facts, and mothers deal with feelings. Boys don't cry.
2.	School	Average student is the norm. Failing in school is a minor incident, teachers should be friendly. Boys and girls study the same subjects.	Best student is the norm. Failing in school is a disaster, teachers have to be competent, boys and girls study different subjects.
3.	Workplace	Work in order to live. Important to use intuition and strive for consensus at work.	Live in order to work, important to be decisive and assertive at work.
4.	State	Welfare society ideal, preservation of the environment as a priority, equality, including gender equality.	Performance society ideal, economic growth as the priority, the male prerogative stressed as a general rule, resulting in a lower number of women present in the public sphere.
5.	General values	Caring for others and preservation, people and relationships are important , modesty, quality of life, equality, compromise.	Material success and progress, money and things are important, as well as equity, competition among colleagues, performance, conflicts can be resolved by confrontation

Source: Author's own elaboration basing on: Hofstede G., *Cultures and Organizations*, McGraw Hill, New York, 2010: 155 - 180.

According to Hofstede, the most feminine countries are concentrated in Northwestern Europe and parts of South America. In both cases, the feminine model has been shaped by historical factors – in the case of Europe, the elites in Scandinavian countries and the Netherlands consisted of seafarers and traders. In these professions, it was essential to maintain good interpersonal relationships and care for ships and merchandise. Women had to fulfill these obligations while men were away for long periods. Similarly, the small countries of South America, such as Peru and Chile, are strongly feminine (more than Mexico, Venezuela or Ecuador), which may be connected with the domination of pre-Columbian cultures – in Mexico, it was the Aztec culture that was dominant, while the now more feminine South inherited the less militant Maya and Inca cultures (p. 183).

The fourth dimension of culture refers to the degree of avoidance of uncertainty. This term refers to the problem of how people handle themselves in situations of uncertainty and the acceptance of uncertainty as a part of reality. Table 4 presents cultural features associated with a low and high degree of uncertainty avoidance.

Table 4 Uncertainty Avoidance (UNA)

	Institution	Low degree of uncertainty avoidance	High degree of uncertainty avoidance
1.	Family	Lenient rules for children on what is dirty and taboo.	Tight rules for children on what is dirty and taboo.
2.	School	Students comfortable with open-ended learning situations and concerned with good discussions. Teachers may say 'I don't know'.	Students comfortable in structured learning situations and concerned with the right answers. Teachers supposed to have all the answers.
3.	Workplace	Comfortable feeling when lazy; hardworking only when needed. Precision and punctuality have to be learned.	Emotional need to be busy; inner urge to work hard. Precision and punctuality come naturally.
4.	State	Few and general laws and rules. Tolerance, moderation, positive attitudes toward young people. Citizens are competent toward authorities.	Many and precise laws or unwritten rules. Conservatism, extremism, law and order. Negative attitudes towards young people, belief in experts and specialization. Citizens are incompetent toward authorities.
5.	General values	Comfortable in ambiguous situations. What is different is curious. Tolerance of otherness and innovative ideas and behavior.	Fear of the ambiguous and unknown. What is different is dangerous. Suppression of deviant ideas and behavior; resistance to innovation.

Source: Author's own elaboration basing on: Hofstede G., *Cultures and Organizations*, McGraw Hill, New York, 2010: 203-223.

As a rule, countries with weak uncertainty avoidance are wealthier than those which strongly avoid uncertainty. For developed countries, a strong correlation can be found between this index and economic growth[6] after 1960 (Hofstede, 1997: 136).

Cultures also differ in terms of the approach they adopt to time (LTO / time orientation) – a Long-Term Orientation is associated with a tendency to focus on the future, while a Short-Term Orientation focuses more on the past and the present (Hofstede Insight) and the degree of indulgence and restraint, which are defined as follows: "Indulgence (IND) stands for a society that allows relatively free gratification of basic and natural human drives related to enjoying life and having fun. Restraint stands for a society that suppresses gratification of needs and regulates it by means of strict social norms" (Hofstede Insight).

Another index used to describe the cultural profile of countries is the index of post-materialism,[7] a social phenomenon described by R. Inglehart as consisting of a re-evaluation of reality and a shift away from values associated with economic and physical security in favor of quality of life, as presented in his book *The Silent Revolution: Changing Values and Political Styles Among Western Publics*, originally published in 1977. Societies characterized by post-

[6] In the edition of 2010, this correlation was not confirmed.

[7] Similarly, materialism is understood here as being related to material values – economic growth, the maintaining of order.

materialism assign a greater value to issues of the environment, personal freedom, and equality (including gender equality) in society.

5. Correlation between cultural indexes and the level of sustainable development based on the example of selected countries of the world

The Pearson linear correlation coefficient was used to examine the correlation between the cultural profile of respondents and the level of sustainable development in 94 countries of the world, representing all cultural areas and levels of sustainable development. The results of the cross-correlation test for the global sample are presented in Table 5.

Table 5 Correlation between the SDG Index and Culture Indexes

Correlation between SDG and selected culture indexes - global perspective			
	Correlation coefficient	Number of observations	Level of trust
PD	-0.57356	**94**	p<0.001 !
IDV	0.669838	**94**	p<0.001 !
MAS	-0.04552	94	p=0.663
UNA	0.171685	94	p=0.098
LTO	0.472446	79	p<0.001
IND	0.025458	74	p=0.830
Post-materialism	0.418477	56	p=0.001
Materialism	-0.39924	56	p=0.002

Source: Author's own elaboration.

On a global scale, significant correlations were observed between the level of sustainable development and two of the tested cultural indexes. There was found to be a positive correlation for the level of individualism, where growth in the individualism index was accompanied by an increase in the level of sustainable development. However, there was a negative correlation in the case of the power distance index. It is worth noting that individualism is a cultural feature of the countries of European and Western civilization more generally, as is low distance to power.

Table 6 presents the results of the correlation tests, with a breakdown by level of development:

Table 6 Correlation between the SDG Index and Culture Indexes according to the level of economic development

Correlation between SDG and selected culture indexes - countries by the level of development												
	Highly developed countries			Developed countries			Less developed countries			Developing countries		
	Correlation coefficient	Number of observa-tions	Level of trust	Correlation coefficient	Number of observa-tions	Level of trust	Correlation coefficient	Number of observa-tions	Level of trust	Correlation coefficient	Number of observa-tions	Level of trust
PD	-0.66606	42	**p<0.001!**	0.138489	26	p=0.500	-0.28401	14	p=0.325	-0.19905	12	p>0.999
IDV	0.607482	42	**p<0.001!**	0.087869	26	p=0.669	0.161609	14	p=0.581	0.156699	12	p=0.627
MAS	-0.1421	42	p=0.369	-0.25202	26	p=0.214	-0.12813	14	p=0.662	-0.15408	12	p=0.633
UNA	-0.43531	42	p=0.004	**0.596402**	26	**p=0.001!**	-0.03517	14	p=0.905	-0.31886	12	p=0.312
LTO	0.261717	40	p=0.103	0.474226	21	p=0.030	0.055541	12	p=0.864	0.172903	7	p=0.711
IND	0.279164	39	p=0.085	-0.34332	20	p=0.138	0.202176	11	p=0.551	0.163194	6	p=0.757
Materialism	-0.61601	24	**p=0.001!**	0.254925	18	p=0.307	0.169993	10	p=0.639	-0.82636	4	p=0.085
Post-materialism	0.600399	24	**p=0.002**!	-0.21728	18	p=0.386	-0.36466	10	p=0.300	**0.947949**	**4**	**p=0.014!**

Source: Own research data.

Among highly developed countries, as many as four values were found to be significantly correlated with the level of SD. Individualism and post-materialism are positively correlated with sustainable development, while for power distance and materialism the correlation is negative. In the case of developed countries, one significant correlation was found with the uncertainty avoidance index. A correlation was also seen with the post-materialism index for developing countries. As the most significant correlations were observed among highly developed countries, the majority of which are Western countries, the next step was to examine the correlations on a sample of European countries. The results are shown in Table 7.

Table 7 Correlation between the SDG Index and Culture Indexes in 34 European Countries

Correlation between SDG and selected culture indexes in European countries			
	Correlation coefficient	Number of observations	Level of trust
PD	-0.79169	**33**	p < 0.001 !
IDV	0.726	**33**	p < 0.001 !
MAS	-0.22307	33	p = 0.212
UNA	-0.64088	**33**	p < 0.001 !
LTO	-0.12646	33	p = 0.483
IND	0.728456	**33**	p < 0.001 !
Materialism	-0.79415	**19**	p < 0.001 !
Post-materialism	0.834306	**19**	p < 0.001 !

Source: Author's own elaboration.

Looking exclusively at the European cultural area, it turns out that here as many as six out of eight cultural values are correlated with sustainable development. The values for which there is a significant positive correlation include individualism, indulgence and post-materialism. The negatively correlated values include power distance, a high degree of uncertainty avoidance and materialism.

Analyzing the relationships shown, it is possible to offer a picture of the characteristics of a citizen that pursues a model of sustainable development. Such a citizen would be an individualist, focused on themselves and their closest family, with a high degree of indulgence that "stands for a society that allows relatively free gratification of basic and natural human drives related to enjoying life and having fun" (Hofstede Insight), who subscribes to post-materialist values and is focused on quality of life; and who is uncomfortable with strong hierarchies in society, open to new ideas and accepts the unfamiliar without fear. This brief characterization has a great deal in common (especially) with the inhabitants of Northwestern Europe.

6. Conclusions

In the context of the above, the hypothesis put forward at the outset that 'Sustainable development achieves higher rates in countries that have a specific cultural profile' can be considered to be verified. The countries with the highest level of sustainable development include the countries of Northwestern Europe: the top ten countries were as follows: Sweden, Denmark, Norway, Finland, Switzerland, Germany, Austria, Netherlands, Iceland and the United Kingdom (SDG Index and Dashboards. A Global Report, 2016: 16). Sustainable development is correlated with the guiding values of these societies and is at the same time a result of the re-evaluation of social and economic realities from which the concept of sustainability emerged. The countries of Europe are at the same time also the most economically privileged area, which means that the basic needs of the people of that continent have already been met for several generations now, leaving room for the emergence of higher order needs. Sustainable development, understood in the context of Western standards, may not become (or may not yet have become) a global goal, due to the differing needs expressed by representatives of countries at a lower level of development and different values that are not significantly correlated with sustainable development as understood in terms of what it means to Western societies. Socio-economic reality and the ecological environment will be considered to have attained a sustainable balance in the Eurocentric sense when the world adopts European values. This provocative statement is absolutely not meant to be a call for these values to be forced upon other cultures and does not imply that less developed and developing countries cannot achieve a higher level of sustainability until they start copying Europe and more highly developed countries. The true center of gravity of sustainable development lies elsewhere, depending on the level of development of individual communities, as achieving balance on a global scale requires local action that is adapted to local needs, based on values that can fuel real change.

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KULTUROWE UWARUNKOWANIA ROZWOJU ZRÓWNOWAŻONEGO

Streszczenie

Głównym celem artykułu jest zdefiniowanie współzależności występujących pomiędzy cechami kulturowymi charakterystycznymi dla poszczególnych narodów i obszarów kulturowych, a indeksem rozwoju zrównoważonego. Hipoteza badawcza brzmi: Rozwój zrównoważony, wyrażony wskaźnikiem SDG osiąga wyższy poziom w krajach o specyficznym profilu kulturowym, reprezentujących wartości typowe dla zachodniego kręgu kulturowego. Hipotezę poddano weryfikacji przy pomocy testu współzależności Pearsona. Przyjęte w testach argumenty opisywały cechy kulturowe, takie jak dystans do władzy, męskość vs kobiecość kultury, indywidualizm vs kolektywizm, stopień unikania niepewności, orientację czasową oraz poziom pobłażliwości oraz syndromy materializmu i postmaterializmu w kontekście indeksu SDG. Ze względu na specyficzny charakter danych, ilość obserwacji w poszczególnych testach mieści się w przedziale od 19 do 94. Dane opisujące materializm i postmaterializm dotyczą okresu 2010-2014. pozostałe dane kulturowe pochodzą ze stałych indeksów opracowanych i udostępnionych w ramach projektu Hofstede Insight, Index SDG podano za rok 2016. Hipoteza została zweryfikowana, wykazano dodatnią współzależność wartości definiujących cechy kulturowe przypisywane cywilizacji europejskiej z indeksem SDG. Sformułowano także wynikające z tego postrzeżenia wnioski odnośnie specyfiki rozwoju zrównoważonego w kontekście kulturowym.

Słowa kluczowe: rozwój zrównoważony, czynniki, kultura, cywilizacja.

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