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ATTITUDES OF POPULATION TOWARDS THEIR WELLBEING AND CLIMATE CHANGE INTERFACE: TERRITORIAL DIMENSION

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Abstract
This article discloses wellbeing and climate change interface issue that becomes a challenge in many countries of the world. Furthermore, attitudes of population about their wellbeing and how it is related with climate change is still developing topic in social sciences. Wellbeing of population is affected by various factors, both positive and negative, but impact of climate change is growing and affects various spheres of human life, despite where they live. Accordingly, the research problem was formulated – how wellbeing evaluations of Lithuanian population are related to climate change. This article aims to disclose wellbeing perception of the Lithuanian population in the context of climate change based on the territorial dimension. European Social survey (ESS) Round 8 and Round 9 data were used for the research, comparison method was applied. Findings showed that perception of wellbeing (happiness and satisfaction with life) and its evaluations in relation to climate change are mostly positive and vary on average between 5 and 7 scores, while correlation between wellbeing and climate change variables are very week. It should be pointed that wellbeing research at individual level can and should be as a keystone of climate change mitigation research as it shapes the state of all society wellbeing.
Key words: population, wellbeing, climate change, territorial differences.

Introduction

Climate change is understood as a challenge for today's society, its health and overall wellbeing. Furthermore, wellbeing, climate change and their interface are the biggest issues which are monitored and evaluated in sustainable development processes. Wellbeing of population in social sciences is analysed in various ways, but subjective wellbeing as non-income measure and the attitudes of the population itself towards both environmental change in general and climate change are still too little studied (Grün & Grunewald, 2010; Mkrtchyana *et al*., 2018; Healthy environment..., 2019). Wellbeing research has an important role in the discourse of climate change, as concepts of human need and quality of life naturally overlap with the everyday uses of energy and resources within society reflecting the 'demand-side' of climate mitigation (Lamb & Steinberger, 2017). Human wellbeing is a complex concept, because it involves separate, but often used interchangeably notions of what a good life is: happiness, quality of life, welfare, standards of living, etc. These various approaches of wellbeing lead to the idea that human wellbeing perceptions become a key phenomenon for measuring and promoting good lives and a good society. As emphasized by different authors (Grün & Grunewald, 2010; Corner, Markowitz, & Pidgeon, 2014; Mkrtchyana *et al*., 2018), background for assessment of wellbeing includes mostly subjective (individual) approach: happiness and satisfaction with life assessments, the presence of positive / negative mood, emotions. These elements are related to humans' different life domains as well as it reveals attitudes to climate change.

Questions concerning the interface among wellbeing, climate change and subjective health are deeply analysed by various scientists (Thomas *et al*., 2014; Lamb & Steinberger, 2017; Healthy…, 2019). Clean nature is a key factor in ensuring public health, reducing disease and promoting good health and wellbeing. Poorer communities often live in conditions of higher pollution, noise and high temperatures, and their vulnerability to environmental determinants of health is only increasing due to pre-existing health problems. The mentioned authors accept the twofold idea: on the one hand, climate change is caused by human influence and depends on climate change adaptation and mitigation strategies, on the other hand, human health and overall wellbeing in different ways are affected by environmental issues and climate change.

The spatial/territorial aspect is also important in assessing the state of wellbeing, as people in different areas may have different perceptions and assessments of climate change processes and their own responsibilities for climate change due to the characteristics of the living environment. Some literature explores the importance of territorial dimension related to wellbeing and climate change, emphasizing that some regions are more vulnerable than others (Mendelsohn, Dinar, & Williams, 2006; Grün & Grunewald, 2010; Thomas *et al*., 2014). In addition, the deepening environmental awareness and concerns show that today's society is increasingly interested in environmental changes, which show their desire to take more care of the environment, conserve resources and thus contribute to their higher wellbeing. People's knowledge about the climate change issue is also very important, because it shows their way of thinking and discloses potential actions (Lamb & Steinberger, 2017; Taddicken, Reif, & Hoppe, 2018).

Moreover, this means that subjective knowledge and subjective perception of wellbeing and climate change issue can be central in analysing their interface.

Regarding the idea of the article, it is very obvious that various questions can be formed which relate to individual wellbeing and climate change: how much I think about the issue; how I can contribute to save environment and reduce climate change; what the best activities or tools to mitigate the climate change are; how I can put together and influence others to reduce climate change. As IPCC (2014) and Lamb & Steinberger (2017) explored, wellbeing concept is highly related to questions of inter-generational justice, including the equalization of life prospects between current and future generations which is a major topic of sustainable development including climate justice and ethics. On the other hand, some people already believe in what they do and that they do right things, act to protect environment and contribute little by little to climate change mitigation. The climate change belief reflects personal norms, which can be quite different concerning social-demographic profile of residents (like internal factors) and what attitude is shaped by external factors (e.g. national policy role, economic and environmental factors) or even it is strongly related to individual engagement with climate change (Corner, Markowitz, & Pidgeon, 2014; Thomas *et al*., 2014). This idea was strongly justified in ESS Round 8 module "Public Attitudes to Climate Change, Energy Security, and Energy Preferences" (European Social Survey, 2016), and there was mentioned that more a person is thinking he/she has done on climate change, stronger the relationships appear between his/her believes, expectations, actions.

According to mentioned above, there was formulated *research problem of the article* – how wellbeing evaluations of Lithuanian population are related to climate change. *The research object* – perception of population wellbeing in relation to climate change. *The research aim* – to disclose wellbeing perception of the Lithuanian population in the context of climate change based on the territorial dimension. The structure of the article is as follows: *firstly*, research materials and methods are detailed, *secondly*, research results based on ESS Round 8 data are presented, finally, conclusions are presented.

Materials and Methods

Methods. As Taddicken, Reif & Hoppe (2018) emphasized, it is not easy to determine what to measure and how, because the topic climate change in correlation with wellbeing is not easy to analyse and methods depend mostly on researchers. Common research methods were used: literature analysis and synthesis, descriptive analysis, comparative method, statistical methods (Pearson Correlation coefficient), graphic representation. These methods are interrelated and supplement each other.

Materials. In order to evaluate the wellbeing interface with climate change issue, the data from European Social Survey (ESS) the Round 8 (2016 year) and Round 9 (2018 year) were used. ESS is an international survey that has been conducted across Europe since its establishment in 2001, implemented every two years; face-to-face interviews are conducted with newly selected, cross-sectional samples (About…, 2020). It must be noted that the issue about climate change was the rotating module in ESS Round 8, and in Round 9 only one question related to care for nature and environment was left. Such situation does not allow to compare the data from a different year, but still shows how respondents value the environmental issues. This research is based on the respondents' attitudes towards several questions:

1) *Questions used in both ESS Rounds.* Subjective perception of respondents' wellbeing, e.g., how they themselves value / perceive the wellbeing, happiness, or satisfaction with their lives; the focus is on issues related to the concept of a good life (*evaluation is scores, in 0-10 scale*):
   - *In general, are you satisfied with your current life?*
   - *In general, are you happy?*
2) *Questions related to climate change in ESS Round 8 (2016 year):*
   - *How worried are you about climate change?*
   - *To what extent do you feel personal responsibility to reduce climate change?*
3) *Question/statement related to nature and environment in ESS Round 9 (2018 year):*
   - *Important to care for nature and environment.*

Sample. Sampling in ESS is described following the country level patterns. General requirements for the sample are given in ESS national page with the sampling principles (Sampling…, 2020). The sample for Lithuania was 2122 respondents in ESS Round 8 (in 2016) and 1835 respondents in Round 9 (2018). To have more detailed view of the topic concerning territorial dimension, the place of residence was used combining "A big city" + "Suburbs or outskirts of big city", Town or small city and combining "Country village" + "Farm or home in countryside" (Table 1).

It is seen from the table that structure of respondents in separate Rounds have changed. There was much bigger percentage of respondents from "Country village+Farm or home in countryside" and significantly less respondents' from "A big city+Suburbs or outskirts of big city" in Round 9 comparing to Round 8.

The novelty of this research is based on the fact that attention to territorial dimension is important, but there are not many international researches where you can

Table 1

Sample size in ESS Round 8 and Round 9

Place of residence	ESS Round 8		ESS Round 9	
	N	Structure, %	N	Structure, %
A big city+Suburbs or outskirts of big city	887	41.8	482	26.3
Town or small city	746	35.2	549	30.0
Country village+Farm or home in countryside	489	23.0	801	43.7
Total	*2122*	*100.0*	*1832**	*100.0*

* The total sample was 1835, excluding 3 respondents who were Missing.

focus on wellbeing and climate change interface. ESS data enable to analyse the formulated research problem and to make insights about the future of this field research. Furthermore, the issue and data analysed in this article can be easily applied in the cases of other countries which participate in ESS. As territorial dimension is not always taken in account in wellbeing research – these data enable to clarify this situation.

Results and Discussion

Following the discussions in science and specific research about wellbeing (Kozlova *et al*., 2015; Eurofound, 2019), it is observed that territorial dimension is often left aside. Such position challenges the need to turn attention to how wellbeing is evaluated by residents living in different places of residence. Following the methodology part, wellbeing in ESS is evaluated answering two questions based on satisfaction with life and evaluation of happiness (Figure 1 and Figure 2).

Data analysis revealed that both in Round 8 and in Round 9, there were more respondents who were more satisfied with life than dissatisfied. In both Rounds, more respondents rated their satisfaction with life at 7–9 scores. This suggests that due to various factors, people view their lives positively enough, no matter where they live.

The same is true for the respondents who live in rural areas although it is often emphasized that their attitude to wellbeing is lower. On the other hand, it is seen that in Round 8, quite a big number of respondents explored 5 scores – this shows their doubts, or no opinion about their wellbeing.

Data about the attitude to personal happiness are also more positive than negative. In both Rounds, we see that respondents indicated a high enough score of 7 or 8. Although happiness is more associated with emotions and positive events at some point in life, the results suggest that residents may feel happy living in city, town or rural areas. It should be noted that in Round 9 there were significantly more respondents from rural areas than in Round 8, so the assessments of rural respondents show, in a sense, that the rural population also becomes happier. It can be assumed

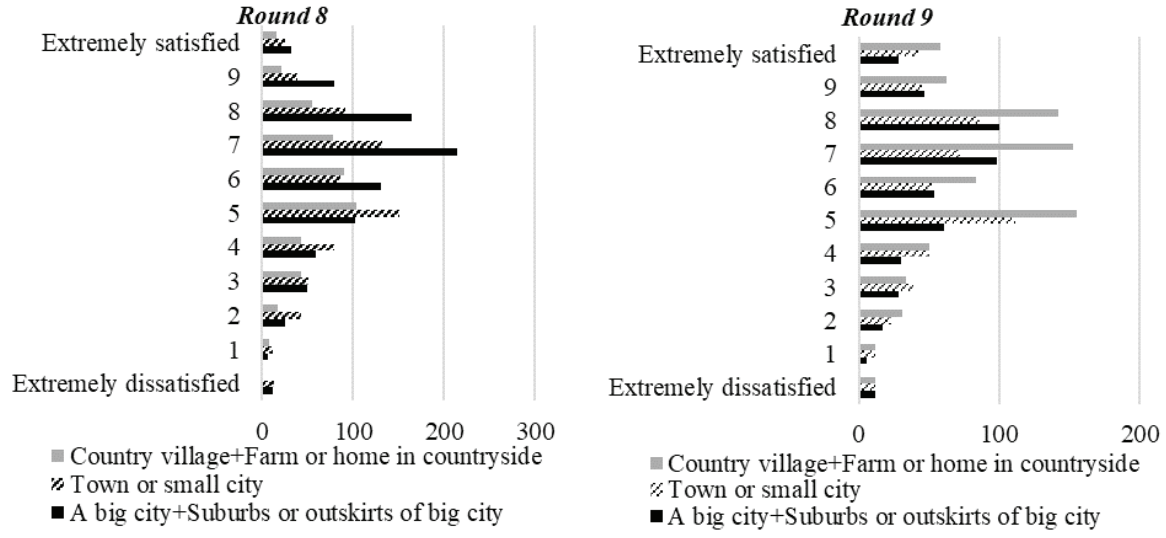

Figure 1. Respondents opinion about how they are satisfied with life as a whole according to place of residence (in scores).

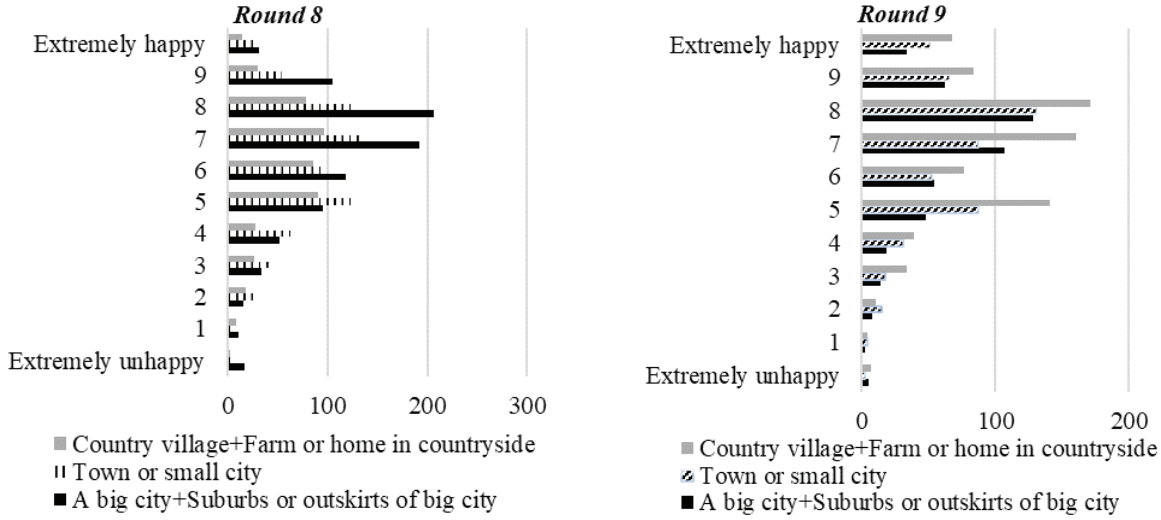

Figure 2. Respondents opinion about how they are happy according to place of residence (in scores).

that such positive evaluations of happiness are closely related to sufficiently high evaluations of satisfaction with life. Some close results connecting importance of place of residence and wellbeing were mentioned in the works of Mendelsohn, Dinar & Williams (2006), Grün & Grunewald (2010), Thomas *et al*. (2014).

Following the data from ESS Round 8 about respondents' feelings and personal responsibility to reduce climate change according to place of residence, some interesting results were found (Table 2).

The Table 2 shows that personal responsibility to reduce climate change according to the place of residence is indeed important for those who score higher, no matter where they live. In all residential areas, respondents mostly scored 5–8 points. Those who said "A great deal" when they feel personal responsibility to reduce climate change were mostly in Town and small city, and those who said "Not at all" were mostly in cities. However, it was also noticed that in most places of residence 0–4 points were indicated by a significant number of respondents. This allows to state that the place of residence and the environment are important for those respondents who tend to act in a way that seeks to mitigate climate change possibly due to their overall wellbeing.

Respondents (data from ESS Round 8) personal responsibility to reduce climate change is closely related to how they are worried about climate change.

Table 2

Respondents attitude to what extent they feel personal responsibility to reduce climate change according to place of residence (in scores)

Evaluation (scores)		**A big city+Suburbs or outskirts of big city**	**Town or small city**	**Country village+Farm or home in countryside**	*Total*
To what extent you feel personal responsibility to reduce climate change	Not at all	54	43	22	*119*
	1	59	34	25	*118*
	2	68	43	34	*145*
	3	78	48	47	*173*
	4	***84***	39	31	*154*
	5	***129***	***106***	***76***	*311*
	6	***102***	***80***	***57***	*239*
	7	***84***	***103***	***56***	*243*
	8	44	76	34	*154*
	9	15	34	7	*56*
	A great deal	29	38	17	*84*
Total		*746*	*644*	*406*	*1796*

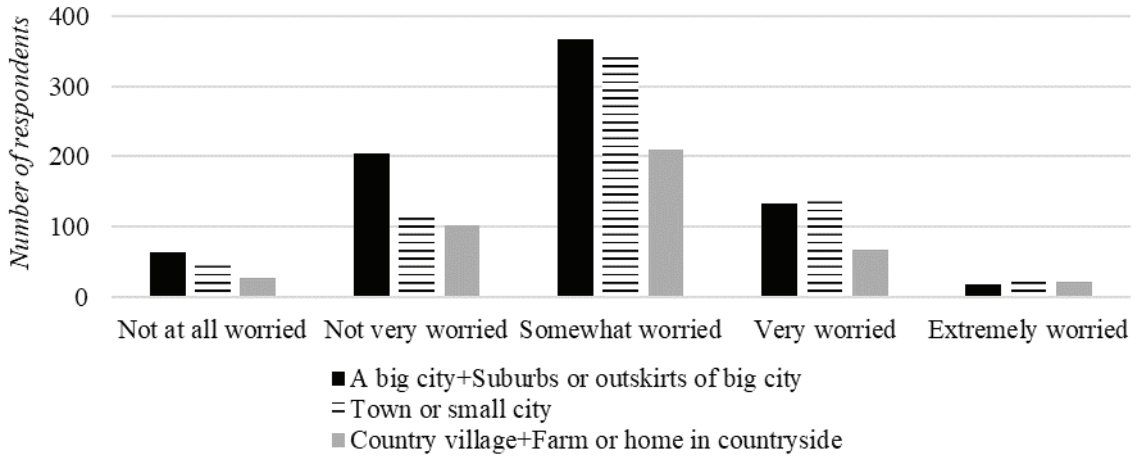

Figure 3. Respondents' attitude to how they are worried about climate change according to place of residence (own elaboration).

Accordingly, it was intended to establish the role of place of residence (Figure 3).

Distribution of respondents' attitude shows that there were more worried people than not worried about the climate change. Equally 27% of respondents living in cities and towns pointed that they tend to be more concerned about climate change. In rural areas, there were 16% of such respondents. So far, such assessments suggest that until a person personally feels the effects of climate change, their attitude towards climate change is indifferent, or he / she does not know what effect it is feeling. However, most who are aware of the impact of climate change on society realize that it is everyone's priority and responsibility to care for nature and the living environment. These insights are supported by previous research (Grün & Grunewald, 2010; Corner *et al*., 2014; Taddicken *et al*., 2018).

The data from ESS Round 9 disclosed that respondents who are more satisfied with life (their satisfaction with life is 6 and more scores) they tend to show they are more concerned about preserving the environment. Even 80 percent of respondents explored that their wellbeing is linked to a positive attitude towards nature and environment. The rest did not put much attention if their wellbeing and care for the environment are related. This suggests that the more respondents are conscious, the more their wellbeing and health are important to them, which directly concerns the protection of the environment. Moreover, the analysis revealed that respondents with good and fair health status care more about the nature and environment compared to others. These respondents pointed that this is "very much like me" or "like me" and nature seems to be an important factor for their life. It became clear that respondents with lower evaluations about their health also do not really focus deeply on caring for nature and environment. Such results mean that how much respondents care about their personal health and wellbeing determines their attitude to the surrounding environment.

Pearson Correlation coefficient in both Rounds for identifying the relations between wellbeing (satisfaction with life and happiness) and different variables like climate change, care for nature and environment, subjective general health as well as place of residence was calculated.

In both Rounds, correlation between place of residence and satisfaction with life and happiness was observed negative and very week. This implies that wellbeing variables are more affected by other factors than the place of residence. Correlation between worries and personal responsibility about the climate change revealed positive, but also very week relations. Such a situation can be explained by the fact that not all people are concerned about the problem of climate change in the same way, and this problem is more often exacerbated when it affects them personally or their well-being in general. Wellbeing and subjective health relations were identified like negative and week. This suggests that whether to feel happy or satisfied with life – subjective health is not the only factor, but if health status significantly worsens or improves – wellbeing evaluations will reflect this situation as well. Furthermore, as Thomas *et al*., (2014) explored, wellbeing and climate change are just beginning to be considered as closely inter-related issue, and there is a need to discuss it not only in subjective evaluations level, but also even in political agenda, because it concerns the whole society. There was observed positive and average correlation (r=0.512) between feeling of responsibility to reduce climate and worries about climate change. This can be assumed as positive change in respondents' mindsets and potential actions - as it shows the growing understanding that every person is individually responsible for the environment where they live.

Following the data in Round 9, it was observed that correlation between satisfaction with life and happiness was the same like in Round 8 – it was positive and strong (r=0.7). Such stable situation reveals that emotional level of a person is closely related to objective factors of current life or if a respondent feels happy so his/her satisfaction with life will also be valued higher. Correlation between wellbeing and subjective general health was identified like negative and week – the same like in Round 8. Observing the correlation between satisfaction with life and happiness and care for nature and environment, it was negative and very week. These results seem to be quite disappointing and strange, because personal feelings about happiness and responsibility to care for nature and environment were almost denied.

The findings from the research suggest that the analysed object still needs more attention and more various analysis based on interface between wellbeing and climate change. Moreover, it is important to examine not only the theoretical claims about wellbeing and climate change in general, but include more concrete factors affecting this interface. Controversary observation that territorial dimension is often neglected in research about wellbeing and climate change interface was found. On the other hand, territorial dimension is considered as not the most relevant factor affecting wellbeing and climate change directly. The former insights were supported by Thomas et al. (2014) and Healthy… (2019), who also stated that it is vital to recognise both positive and negative climate change adaptation and mitigation experiences that can be socially and spatially differentiated and can have serious implications for health and wellbeing.

Conclusions

1. The notion of wellbeing is diverse and broad in scope; therefore, it is clear that personally perceived wellbeing most often reflects not only subjective, but also objective factors. Climate change, effects by environment can be understood as objective factors of person wellbeing. On the other hand, this wellbeing interface with climate change becomes an object of human feelings and worries when it reflects particular positive or negative personal experiences.
2. The interface between human wellbeing, subjective health and climate change following territorial dimension is little studied, so this becomes an opportunity to learn more about these phenomena by focusing on a territorial approach and other human related factors.
3. Research results disclosed that perception of wellbeing (happiness and satisfaction with life) and its evaluations in relation to climate change were mostly positive in ESS Round 8 (more than 5 scores) and vary on average between 7 and 9 scores, while correlation between wellbeing and climate change variables is very week. The links between wellbeing and health were significant for respondents, regardless of where the respondents lived, but the aspects of health and wellbeing are still largely missing in big international research or assessed inconsistently as observed in the ESS case – this is the limitation of possibility to make comparison following time dimension. It was found that around 80 percent of respondents explored that their wellbeing is linked to a positive attitude towards nature and environment. These data showed that while respondents tend to care about the environment, it still seems difficult to link environmental change and its possible impact on climate change. This is largely due to the need to raise human environmental awareness.
4. As wellbeing is more than just personal happiness or satisfaction with life, so wellbeing research at individual level touching the attitudes of the population itself towards both environmental change in general and climate change are still too little studied. This implies that interface between wellbeing and environmentally friendly beliefs and solutions have to be the object not only in science level, but policy level as well.

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