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Petrová Kafková, Marcela; kafkov

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ENVIRONMENTAL ATTITUDES IN AN INTERGENERATIONAL PERSPECTIVE[1]

MARCELA PETROVÁ KAFKOVÁ

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Mgr. et Mgr. Marcela Petrová Kafková, Ph.D., Office for Population Studies at the Faculty of Social Studies, Masaryk University, Joštova 218/10, 602 00, Brno, Czech Republic; e-mail: kafkova@fss.muni.cz

Environmentally oriented attitudes and values can be one of the sources of intergenerational tension or consent. Considering that climate change has become one of the major societal themes today, the issue of intergenerational tension or consent in approach to the environment is crucial. This issue could bring about a generational gap. Questions about intergenerational tensions bring us to age influence on environmental values. The influence of age on environmental values has been researched using the European Values Study (EVS) 1991 – 2017 in six countries. The cohort/age period effect is differentiated using cross-country comparison, comparison of age groups and cohorts. The results showed that the differences in environmental values are not affected by the cohort effect; age has only a weak influence. The period effect, the change in societies seems to be the major explaining factor. Great differences among European countries were found and this diversity is much higher than the effect of age.

Keywords: environmental attitudes; EVS; ageing; intergenerational relations; cohort effect

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INTRODUCTION

There was once a little girl. Her grandmother picked her up from kindergarten and as they were going home, they stopped on a bridge to watch the river and swans. The girl ate sweets and her grandmother showed her how to use the plastic tray from the sweets

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as a boat. She invited the girl to throw the boat into the river. Although the girl felt guilty putting rubbish in the river, the boat – plastic tray floated beautifully. This story happened in the 1980s in a small town in Czechoslovakia. Environmental protection was scarce. The young girl knew that "rubbish goes in the rubbish bin" and had some essential awareness that plastic took an extremely long time to disintegrate. The old woman was from a frugal generation used to war shortages in her childhood but she didn't have any knowledge about the characteristic of plastic materials and their impacts on the environment.

This story shows different experiences, knowledge, and attention to environmental protection of particular generations. In former socialist states, the awareness of the public of environmental issues has turned cautiously since the 1980s as a consequence of massive contamination and pollution. Typically the vehicle of new attitudes and behaviour are young people. In western countries, the first generations of environmentally active people were connected with movements in the 1960s and 1970s and these generations are in old age now. It is a question whether they preserved their environmental orientation or changed it in the course of time and their personal ageing. In western and eastern European countries the generation perceptiveness to environmental issues differs. The social and cultural differences may affect environmental attitudes and behaviour too; it is evident that age and sociocultural background seem to be influential factors in environmental issues and their influence is the subject of this paper.

The importance of attitudes to environmental issues for future development became apparent in recent months. A few months ago scientists warned that global warming is quicker than previous predictions supposed and only fundamental changes in all spheres of society could reverse this trend. The report of The Intergovernmental Panel on Climate Change UN from October 2018 (*Global Warming of 1,5 °C*, 2018) turned the attention of the public as well as many politicians to climate change and environmental protection. The public attention was supported by the extremely hot and dry summer of 2018. Still, we can assume that environmentally friendly values, attitudes, and behaviour are generationally and socio-culturally conditioned due to different experiences and interest. There are a large number of studies examining environmentally friendly behaviour of citizens, but there is scare knowledge of permanency and change of the attitudes and behaviour in time. There is a consensus that younger people are a little more environmentally aware than the older, but little is known whether these attitudes are stable in time or change with individual ageing. In other words, there is no consensus on whether the different attitudes of particular generations are due to the ageing effect or cohort effect. This paper explores this question using the European Values Study (EVS). The inter-cohort as well as intra-cohort differences are followed using cohort comparison in time and country comparison.

ENVIRONMENTALLY FRIENDLY ATTITUDES AND AGE

The connection of age, sociocultural factors, and environmental issues could be looked at from many different perspectives. Population ageing is underway together with climate change and these two processes are changing the world around us. There is no consensus on whether population ageing is a threat to the environment or not. Older adults are sometimes considered as agents of positive change as more thrifty consumers than younger generations (Wahl, Iwarsson, Oswald, 2012). The other view sees

population ageing as a possible driver of climate change due to their high energy consumption, typical living in single households, and higher usage of pharmaceuticals and increasing long-distance holiday traveling. According to the study made for the European Commission (*Environment and Ageing Final Report*, 2008) the population ageing itself does not lead to significant environmental pressures. The consumption of gas and heat and other fuels represents an important exception. The older adults are less mobile and have more thrifty consumption patterns, although they are gradually taking up the same behaviour as the younger generations. So it is difficult to predict the impacts of population ageing in the future when new generations achieve old age.

Environmental protection represents a crucial value in the lives of European citizens. The environmentally friendly attitudes are regularly surveyed by Eurobarometer. Almost all Europeans say that protecting the environment is important to them personally, and over half say it is very important (*Special Eurobarometer 416 "Attitudes of European citizens towards the environment"*, 2014). Over three-quarters of respondents feel that environmental problems have a direct effect on their daily lives. 85% of people believe they can play role in protecting the environment. Europeans consider the priorities for protecting the environment as mainly the sorting of waste for recycling, reduction of home energy consumption, using public transport and reduction of food waste (*Special Eurobarometer 416 "Attitudes of European citizens towards the environment"*, 2014).

When combining the results for the single most serious problem and other serious problems, the following socio-demographic groups are comparatively more likely to mention climate change as one of the most serious problems facing the world today: Respondents aged between 15 and 39 (47%), particularly when compared with respondents aged 55 or over (40%) (*Special Eurobarometer 459 "Climate Change*", 2017: 17). At the level of environmental values, the pro-environmental orientation of European citizens is high. The other question is the willingness to behave environmentally friendly in their everyday lives. Any action to fight climate change over the past six months personally has been taken by more respondents aged 40 to 54 (54%), particularly compared with respondents in the 15 to 24 age group (41%) (*Special Eurobarometer 459 "Climate Change*", 2017: 34). According to Eurobarometer the youngest age group (15–24 years old) is less personally active in pro-environmental behaviour in their lives than older people. Particularly they less often try to reduce waste, cut down consumption, buy local and seasonal products and have energy consumption as an important factor in chosen products (*Special Eurobarometer 459 "Climate Change*", 2017: 44). There was one exception, younger people chose more environmentally friendly ways of transport (*Special Eurobarometer 416 "Attitudes of European citizens towards the environment"*, 2014).

On the other hand, respondents 55+ years old are less convinced about the possible impacts of the reduction of fossil fuel import from non-EU countries. Older respondents (aged 60–80) as well as those without a university education and males were the least concerned about environmental issues and have less environmentally friendly consumer patterns (Iversen, Rundmo, 2002). The young express the greatest concern and middle-aged are the most politically active (Mohai, Twight, 1987). Older people were more likely to perform certain food-related environmental behaviours, such as composting (Lea, Worsley, 2008).

In general young are more environmentally concerned due to their lesser integration in major social order (Jones, Dunlap, 1992). The 'age hypothesis' which states that younger people are more concerned than older people about environmental issues is supported in the literature (Wright, Caserta, Lund, 2003), although the differences

between younger and older people may have decreased over the last two decades (Fransson, Gärling, 1999). So there is a discrepancy between attitudes and real action of particular age groups. And this finding is in conflict with the suggestion that pro-environmental values and attitudes may be 'erased' from everyday life by the pressure of social norms (Librová, 2016).

Values tend to be stable in time, they are representative of individual cognitive needs and manage our behaviour (Rokeach, 1973). Values represent disposition and preference for a particular behaviour (Ball-Rokeach, Loges, 1992). Values are interconnected with attitudes (Verplanken, Holland, 2002). Shared values are a typical feature of social groups and change in values is typically based on the intergenerational change (Inglehart, 1990). Having these theories in mind, older adults as the participants of environmental movements in their youth should remain highly pro-environmentally aware. Important change like global warming could fundamentally change the culture, but according to Ronald Inglehart (1990) these changes occur among the younger and increase intergenerational differences.

According to available studies, the consensus is that age represents an influential factor affecting environmental attitudes (Buttel, 1979; Fransson, Gärling, 1999; Mohai, Twight, 1987; Wright, Caserta, Lund, 2003). This important position has, in spite of environmentally friendly values, been recognized as a post material value (Inglehart, 1971, 1977). Some studies deny the influence of age on environmental attitudes. Michael Tarrant and Ken H. Cordell (1997) in their study did not find differences according to age, but they only compare people 44years old+ with younger. According to their results female, highly educated, low income and liberal respondents are more pro-environmentally oriented. Of sociodemographic factors only age, education, urban residence, and political ideology have consistently been found to have statistically significant although moderate associations with environmental attitude (Arcury, 1990).

It is questioned, whether the cohorts share the same attitudes as they age. Young environmentalists had tended to be recruited from the left-leaning youth ideologically involved in civil rights and anti-war movements (Buttel, 1979). In his model, Frederick H. Buttel (1979) found that age has a direct effect on environmental concerns, which means that the differences are based on age, not on cohorts. The other factors that have a smaller influence on environmental concern are education, past and current residence and political liberalism. Buttel (1979) described in his model both direct and indirect effects and found age to be the major influence with direct effect. Paul Mohai and Ben W. Twight (1987) found that after age the second most influential is the effect of political liberalism. Years later Chris Lakhan, Placido D. Lavalle (2002) concluded, based on a survey made in Guyana, that the most influential factor of environmental values was education. They found that age has interaction with education but was less influential. Thomas Dietz, Paul C. Stern and Gregory A. Guagnano (1998) doubt the main effect of age. Eero Olli, Gunnar Grenstad, Dag Wollebaek (2001), based on a survey in Norway, concluded that age differences in environmental behaviour are due to cohort effect rather than age effect. This result is in direct opposition to Buttle's model. To sum up, there is no consensus on what the basis for age differences in environmental values is.

In addition to attitudes, pro-environmental orientation can be expressed through membership in an organization dealing with environmental issues, i.e. acting as a volunteer. In general, older adults are as active volunteers as are younger generations (Petrová Kafková, 2013). And most of the volunteers in older age have experience with volunteering from earlier life stages (Atchley, 1997). Voluntary work is most likely to

require that an individual is asked to do so (Dekker, Halman, 2003). People living in large cities (Choi, 2003) and the more educated become volunteers more often. Although, as John Wilson (2000) points out, the importance of education for volunteering differs according to the type of required activity. For older adults, environmental volunteerism is seen as beneficial. Environmental volunteerism creates opportunities for social integration in later life, offering meaningful civic engagement in productive activities while providing volunteer resources to promote environmental stewardship (Pillemer, Wells, Wagenet, Meador, Parise, 2011: 435).

To conclude age probably represents an influential sociodemographic factor affecting environmental attitudes. Only knowledge about the change of environmentally friendly orientation in the course of time is scarce. Young people tend to be more environmentally friendly oriented but the first generation of environmental activists has attained the old age. The impacts of the generational change are not well known and its understanding could be an important source of intergeneration equity. Sustainable development and preservation of sufficient resources to younger and future generations is a matter of intergenerational equity (Howarth, Norgaard, 1992; Weiss, 1992). From this point of view, environmental protection could be seen as a trait of intergenerational equity because the preservation of the environment for future generations is the aim of this endeavour. Thinking about this aspect of environmentally friendly values, age doesn't have to decrease the pro-environmental orientation, although the very opposite is true according to previous studies. Due to these discrepancies, the environmentally friendly orientation is researched in a life-long perspective in this paper.

METHODOLOGY

The ambiguity of previous studies about the influence of age on environmental values brings about questions: Do attitudes towards the environment change according to age? Is this change affected by age effect or by cohort effect? In other words, whether each cohort carries its specific attitudes or whether these attitudes change with ageing. This paper is focused on cohort transformations and uses the terms cohort and generation as synonyms. It does not observe generations in its specific meaning (Mannheim, 1970), because together with John Wilson (1965), we consider the cohort as an analytical unit easier to grasp. Individuals of one cohort are born in the same time span and experience specific events at the same age. Matilda White Riley and John W. Riley, Jr. (2000) pointed out that the differences found in the age categories can be caused by a combination of the effects and differences of both the life stages and the cohorts. Moreover, they are conditioned by the social context. Therefore, identifying the influence of age, cohorts and periods can be practically impossible (Dannefer, Uhlenber, 2005; Vidovićová, 2008). Longitudinal data with a long time series is required for resolution (Riley, Kahn, Foner, 1994) instead of crosscutting collecting for example in Eurobarometer surveys. For this reason, the range of possible data sources is very limited. Data from different international surveys do not provide long time series. The European Value Study[2] seems

2 More longitudinal international surveys contain the environmental module. European Values Study (EVS) seemed to be the most appropriate for us because the International Social Survey Program (ISSP) has the latest wave of environmental module collected in year 2010, the European Social Survey (ESS) does not contain the environmental module at all.

to be the best possible data source, although only a few questions from the environmental topic were asked repeatedly. Due to the poor availability of longitudinal data devoted to environmental issues a country comparison is a possible solution. We can assume that if the difference in attitudes is caused by life course, i.e. age, it should be independent of social conditions and universal across countries.

The paper is based on data from the European Values Study (EVS). The EVS is a large-scale, cross-national, repeated cross-sectional survey research programme on basic human values. The data are representative for adult (18+ years) populations of particular countries. For the purpose of international comparison, six countries were selected – Austria, the Czech Republic, Germany, the Netherlands, the Slovak Republic and Spain. The country selection was based on two criteria: country variety and data availability. Only countries participating in second to five waves of EVS were eligible. The selection was based on different cultural backgrounds, different traditions in volunteering and NGOs (IWO, 2011; Petrová Kafková, 2013) and data availability. All included countries have participated in EVS no later than since the second wave and the fourth-wave of data is available, i.e. data from 1991, 1999, 2008 and 2017 are available. For the fifth wave (year 2017) only a pre-release data set is available and we are aware that using such a data set brings some risk.[3] Checking of correctness of unweighted results was done by comparison of results for the Czech Republic with officially published results (Rabušic, Chromková Manea, 2012; Rabušic, Hamanová, 2009). Our analyses omit the first wave of the survey carried out in 1981 because only a few countries participated in it, the post-socialist countries did not participate, and only data from the western part of Germany was available for Germany. From our country selection only data for Spain and the Netherlands are available since the first wave.

When analysing longitudinal data sets in cross-country comparison, several types of differences are observed. The one is the change in the course of time and the aim is to distinguish age/ cohort/ period effects. In other words, the change in time is observed, i.e. the impact of various events and changes in society, the development of the cohort in time and the transformation caused by aging. The other view is looking at the differences between countries and their development in the course of time. These different views of the same data allow distinguishing whether the environmental values of individuals are influenced by their age, as most of the available studies claim, and its change during the life course. For the purposes of cohort analysis, eight-year cohorts were established. The cohorts were selected to make the most of the data file options. The oldest cohort A is based on respondents born in the years 1940–1947. The middle cohort B was born in years 1955–1962 and the youngest cohort C was born in the years 1966–1973. In the year 2017, cohort A was 70–77 years old and cohort C was 18–25 years old in the year 1991. For the exact passage of selected cohorts through particular waves of survey see Table 1.

3 The published dataset does not include weight. Although weights are typically used in big international surveys, their usage is not simple. European Values Study typically includes weights adjusting socio-structural characteristics, specifically age and gender. Using weight based on age and gender for comparison among age groups is disputable due to overestimation of numbers in particular age groups (Soukup, Rabušic, 2007).

Table 1: Cohort consecution

Year of birth	Cohort label	Age in survey wave			
		1991 (2nd wave)	1999 (3rd wave)	2008 (4th wave)	2017 (5th wave)
1940–1947	A	44–51	52–59	61–68	70–77
1955–1962	B	29–36	37–44	46–53	55–62
1966–1973	C	18–25	26–33	35–42	44–51

Source: European Values Study 1991, 1999, 2008 and 2017.

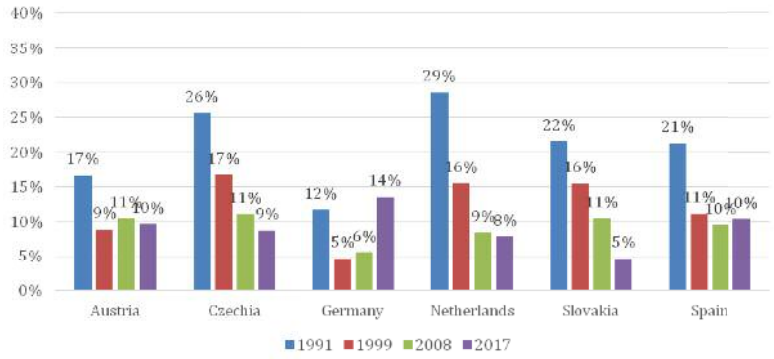
EVS contains a set of questions focused on the environmental values of citizens; unfortunately, this set is completely different in particular waves. Only two common environmental questions were used in all four survey waves. Specifically, the statement: *I would give part of my income if I were certain that the money would be used to prevent environmental pollution*. To which the respondent could express no/consent using a four-point scale with the categories *strongly agree, agree, disagree and strongly disagree*. In the newest fifth wave a change in possible answers was made, and the category "nor agree nor disagree" was added. For the maximum validity of the time comparison, only the answer strongly agree was followed. We can assume that this is a socially desirable attitude and that a higher proportion of respondents will tend to agree. The unequivocal consent of "strongly agree" thus helps to capture uniquely environmentally oriented values. The second is a question about participation in environmentally oriented voluntary organizations. The question is exactly posed: *Please look carefully at the following list of voluntary organizations and activities and say which, if any, do you belong to*? With categories *Conservation, the environment, ecology, animal rights being given*. These two questions are used to verify the influence of age on environmental values.

RESULTS

First, let's look at whether the respondent devoted part of his income to being used to prevent environmental pollution. A glance at the data (see Figure 1) shows the considerable variability between the countries that remain stable in time and, above all, the marked drop in willingness to give part of the respondent's income to protect the environment since the year 1991. While in the Czech Republic, Germany and Slovakia we can talk about a steady decline in this willingness, on the contrary, in Germany, a strong increase of 14% was achieved in 2017, which can be seen as a return to values from the year 1991 (strongly agree 12%). The most substantial decline occurred in the Netherlands (by 21 % from 1991 to 2017). In Austria and Spain, the approval remained stable from the year 1999 and is around 10%. For Spain, the value dropped from 21% in 1991 and in Austria from 17 %. Slovakia is now the country with the lowest level of support, only 5% of the population would be willing to pay for environmental protection. In the other surveyed countries, it is around 10%. (Figure 1)

Now let's see if there are any differences based on age in the selected countries, i.e. whether the view of the young and the older ones are different at the same moment. Generally, we can simplify the results that the youngest age group of 18–24-year-olds is slightly more willing than the older groups to give part of their income to environmental protection (see Table 2). This has been the case since 1999. The year 1991 is not only distinctive from the point of view of the time course, but also about the effect of age. In Germany and Spain, there are no differences between the different

Figure 1: Part of income be used to prevent environmental pollution – strongly agree (%)



Source: European Values Study 1991, 1999, 2008 and 2017.

age groups. In the Netherlands, 25–34 years and 55–64 years of age are the most environmentally oriented, while the oldest (75+ years old) and the youngest are lukewarm in their agreement. In other countries, we can see a somewhat stronger environmental orientation in the middle age.

Table 2: Part of income be used to prevent environmental pollution – strongly agree (%)

		18-24 year	25-34 year	35-44 year	45-54 year	55-64 year	65-74 year	75+ year	Difference youngest-oldest
1991	Austria	17	16	22	19	14	13	13	4
	Czechia	20	25	30	27	23	28	27	-7
	Germany	14	12	13	13	9	9	8	6
	Netherlands	21	34	27	29	33	31	15	7
	Slovakia	15	23	23	28	21	18	9	6
	Spain	22	24	20	22	19	19	19	3
2017	Austria	23	8	8	13	11	7	5	19
	Czechia	10	9	8	9	11	7	9	2
	Germany	21	17	14	13	13	10	10	12
	Netherlands	15	9	7	4	9	10	6	9
	Slovakia	7	4	4	3	7	5	3	4
	Spain	12	14	17	8	11	7	3	9

Source: European Values Study 1991, 1999, 2008 and 2017.

The crucial question is how these changes are carried by cohorts. In all countries, with the exception of Germany, the oldest observed cohort A changed the most. However, we cannot confirm that this decline is a consequence of ageing. In each country, this decline occurred in another year. In Spain, Germany, and Austria, there was a decrease from 1999, in Slovakia in 2008. In the Czech Republic and the Netherlands, there was a gradual decline between data waves. If we compare the observed cohorts mutually, we find that they are going through similar developments at the same time point, not

at the same age. So it seems that we can exclude cohort influence and the difference is affected by ageing, by the ageing effect.

Table 3: Cohort change in willingness to give Part of income be used to prevent environmental pollution – strongly agree (%)

		1991	1999	2008	2017	change 1991–2017
Austria	cohort A – born 1940–47	17	9	10	7	10
	cohort B – born 1955–62	17	10	8	11	7
	cohort C – born 1966–73	17	5	12	14	3
Czechia	cohort A – born 1940–47	27	19	16	6	21
	cohort B – born 1955–62	29	13	12	10	19
	cohort C – born 1966–73	19	17	10	8	12
Germany	cohort A – born 1940–47	13	6	6	9	4
	cohort B – born 1955–62	12	5	7	12	0
	cohort C – born 1966–73	14	4	5	17	-3
Netherlands	cohort A – born 1940–47	34	21	10	8	26
	cohort B – born 1955–62	33	16	10	11	22
	cohort C – born 1966–73	23	9	6	6	17
Slovakia	cohort A – born 1940–47	26	21	9	4	22
	cohort B – born 1955–62	18	15	12	7	12
	cohort C – born 1966–73	17	15	13	6	11
Spain	cohort A – born 1940–47	22	7	11	2	20
	cohort B – born 1955–62	22	13	10	11	11
	cohort C – born 1966–73	22	14	11	10	12

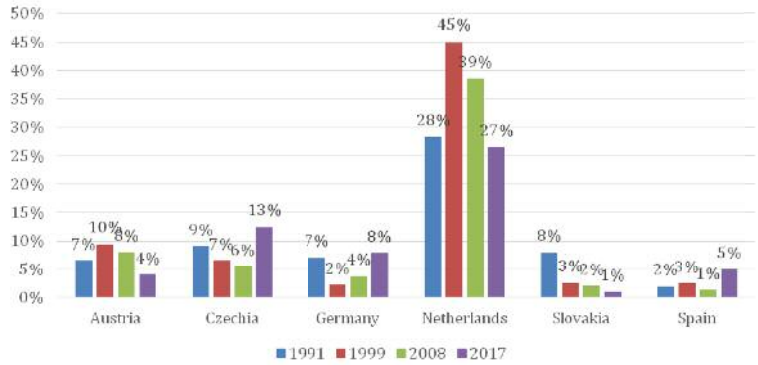
Source: European Values Study 1991, 1999, 2008 and 2017.

The second issue is membership in environmental organizations, an environmental movement, or an animal rights organization. Overall, membership in this type of organizations is not too high in the European countries and typically ranges from 1–10%.[4] An exception is the Netherlands with 27% of respondents being members in 2017. Moreover, in the Netherlands, membership in environmentally-oriented organizations has gone through a considerable transformation. In 1991, 28% of the population declared membership and 45% in 1999. In the following years, the share of members fell again. In 2008, 39% of the Dutch were members.

Such large differences in the share of members among the different waves of the survey are not seen in other countries. The data do not indicate a common trend for all countries. In Austria, membership seems to be similar to that of the Netherlands, but the differences are within statistical error. We have to say that the share of members has not changed over time. In the Czech Republic and Germany, there was a slight decrease in the share of members in 1999 and 2008, while the year 2017 the membership again increased. In Spain, the share of members is stable and very low. In Slovakia, membership accounted for 8% in 1991, in the following years the share fell below three percent.

4 This brings us to low numbers of cases, even though the data files from each country are relatively large (all sample sizes are larger than 1000 respondents). Therefore, the interpretation of results must be very cautious, but overall, rather than the values themselves, we follow their trend and comparison.

Figure 2: Belonging to environmental organisation (%)



Source: European Values Study 1991, 1999, 2008 and 2017.

Let's look at whether membership in environmental organizations is influenced by age and whether there has been any change in this connection in the course of time. Differences in the proportions of members of each age group are the largest in the Netherlands. In 2017, the difference between the youngest and the oldest age group was 26 %. Among the youngest, the share of members was significantly lower (7%), with gradually rising membership to 36% for 55–64-year-olds and gradually declining in older age categories. The lower proportion of members among the youngest is a change compared to 1991. In 1991, the youngest age group was also less active in membership (20%), but the lowest share of members was in the oldest age category (75 + years – 14%). Among these side age categories, the proportion of members increased in the year 1991, with most members of the age 35–44.

While in the Netherlands membership of environmental organizations is age-dependent, in other monitored countries membership in organizations is not affected by age. More precisely, the differences between the groups are so small that we have to attribute them to a statistical error. To conclude membership in environmental organizations is not influenced by age.

Table 4: Membership in environmental organisations (year 1991 and 2017, %)

		18–24 year	25–34 year	35–44 year	45–54 year	55–64 year	65–74 year	75+ year	Difference youngest-oldest
1991	Austria	6	6	9	7	4	9	3	3
	Czechia	8	7	9	12	12	7	5	3
	Germany	8	9	7	6	7	6	6	2
	Netherlands	20	31	32	30	29	28	14	6
	Slovakia	7	7	9	6	10	11	3	3
	Spain	3	2	2	2	1	2		3
2017	Austria	3	6	4	3	4	3	4	-1
	Czechia	9	14	14	14	11	10	11	-3
	Germany	5	7	7	10	9	9	5	0
	Netherlands	7	17	22	34	36	31	32	-26
	Slovakia	2		1	2	1	1	1	1
	Spain	9	5	4	4	6	6	3	6

Source: European Values Study 1991, 1999, 2008 and 2017.

The cohort view (see Table 5) shows the stability of membership over time. And again, the exception is the Netherlands, where slight inter-cohort change is apparent. In the youngest cohort C, the proportion of members is lower than in cohorts A and B. Differences seem to be partially evened out in 2017 but it should be taken into account that cohort A is 70–77 years old and a part of this withdrawal could be due to some disabilities arising connected with old age. In the other countries, the differences in particular waves of the survey are common to all cohorts and coincide with data valid for the country as a whole, as was presented in Figure 2. The cohort analysis, therefore, confirmed that differences in memberships are not due to the cohort effect. The results support the persuasion that the changes in environmental values are not affected by age itself but by the period effect, i.e. by social changes occurring in particular countries.

Table 5: Cohort change in environmental organisation membership (% of members)

		1991	1999	2008	2017	change 1991-2007
Austria	cohort A – born 1940–47	6	11	7	4	3
	cohort B – born 1955–62	6	8	9	5	2
	cohort C – born 1966–73	8	12	11	4	5
Czechia	cohort A – born 1940–47	11	8	4	13	-2
	cohort B – born 1955–62	9	6	5	12	-4
	cohort C – born 1966–73	8	6	5	13	-5
Germany	cohort A – born 1940–47	6	4	5	11	-4
	cohort B – born 1955–62	9	3	3	10	-1
	cohort C – born 1966–73	7	2	6	10	-3
Netherlands	cohort A – born 1940–47	35	53	40	29	7
	cohort B – born 1955–62	32	46	42	38	-7
	cohort C – born 1966–73	21	39	39	32	-11
Slovakia	cohort A – born 1940–47	6	8	3	1	5
	cohort B – born 1955–62	7	2	2	1	6
	cohort C – born 1966–73	6	2	3	1	5
Spain	cohort A – born 1940–47	2	1	1	3	-1
	cohort B – born 1955–62	2	3	1	5	-3
	cohort C – born 1966–73	3	4	2	4	-2

Source: European Values Study 1991, 1999, 2008 and 2017.

It is a question of the extent to which the two variables are related, i.e. whether members of environmental organizations are more likely to give part of their income to environmental protection, or whether people who are more willing to give part of their income for environmental protection are also more often members of environmental organizations.

The analysis of the correlations for the whole data set as well as for particular countries does not confirm this connection. If we are to understand as a dependent variable the willingness to give part of our income to environmental protection, then we can state that membership in environmental organizations is very slightly influenced by this attitude (Somer's d = 0.261). People who are willing to devote part of their income to environmental protection are therefore more often members of environmental organizations. However, this link is really weak. If we look at individual countries, this

weak link is true for all countries in 1991, but only in Austria, the Czech Republic, Germany, and the Netherlands in 2017. Therefore, it seems that the two followed variables do not correlate to each other and measure different dimensions of the environmental orientation.

CONCLUSION

Environmental issues have become important in recent years. According to the report of The Intergovernmental Panel on Climate Change UN from the year 2018, only essential change in all spheres of society could reverse the trend of accelerating global warming. As a consequence of this development, the knowledge and the willingness of citizens to make such changes became an important question. The new values and attitudes are typically carried by young generations therefore the intergeneration conflict in environmental values are predictable. For that reason, the influences of individual age and environmental values are the subject matter of this paper. Using the EVS survey two types of environmental attitudes were observed using cross-country analysis and comparison of cohorts and age groups.

According to the available literature, age is considered as the most important sociodemographic factor affecting environmental orientation (Buttel, 1979; Fransson, Gärling, 1999; Mohai, Twight, 1987; Wright, Caserta, Lund, 2003). Although Niklas Fransson and Tommy Gärling (1999) point out that differences between younger and older people have been decreasing in the past decades. Michael Tarrant and Ken Cordell (1997) call into question the conviction of sociodemographic factors being the main influencer of environmental behaviour and attitudes. They found two types of results. In one, the sociodemographic factors are not influential whilst other pro-environmental behaviour and attitudes are associated with being young, female, liberal, highly educated, wealthy and from urban residence (Tarrant, Cordell, 1997: 622).

In our paper, we focused only on the influence of age. The effects of age and cross-country differences on environmental values were studied here. The results showed that the differences in environmental values are not affected by the cohort effect; the major effect seems to be the period, the change in the whole society of a particular country. This holds true for the membership in environmental organizations. The membership in environmental organizations is not affected by age. There is a change among particular survey waves, but this change can't be explained as the influence of age. This result is in accordance with the previous result, that membership in voluntary organizations of any type is not based on age (Petrová Kafková, 2013). The second variable, willingness to pay for environmental protection is different according to age and the youngest age group is a bit more willing to pay. Neither in this variable are the age differences influenced by the cohort effect.

Large cross-country differences were found. The six included countries have different traditions in formal volunteering and seem to differ in ardour for environmental protection. The Netherlands could be seen as an outlier in our results. The Netherlands is a country with a strong formal volunteering tradition, but this anomaly needs more thorough explanation based on precise knowledge of the Netherlands. To sum up, the cross-country differences and the change in time based on changes in societies are the major influencers of environmental values.

Other factors that may influence the attitudes to the environment have been

completely omitted in this paper. The low values of Slovakia indicate that a more positive approach to the environment could be conditioned by higher GDP per capita or greater overall wellbeing of citizens. Environmental concern is often claimed as a post-materialistic value, which emerges with economic development and socioeconomic security (Inglehart, 1971, 1977). On the other hand citizens of richer countries are less willing to pay for environmental protection than citizens from poorer regions (Halman, Sieben, Zundert, 2011). For volunteering of any kind the trust in society is an essential condition (Petrová Kafková, 2013; Putnam, 1995) and we should be aware of the cultural tradition of formal volunteering or informal help in particular countries (IWO, 2011). The cultural differences could be the main explaining factor in country differences. The other influences could be level of education, level of income as the preconditions of post-materialistic orientation. Belief could have an important influence too. For example a higher pro-environmental orientation was found in the Netherlands, i.e. a highly developed country with a strong tradition in formal volunteering and protestant orientation. These factors seem to be more important than age.

REFERENCES

Arcury, T. (1990). Environmental Attitude and Environmental Knowledge. *Human Organization*, *49*(4), 300–304.

Atchley, R. C. (1997). *Social forces and aging: an introduction to social gerontology*. Wadsworth Publishing Co.

Ball-Rokeach, S. J., Loges, W. E. (1992). Value theory and research. *Encyclopaedia of Sociology*, *4*, 2222–2228.

Buttel, F. H. (1979). Age and Environmental Concern: A Multivariate Analysis. *Youth & Society*, *10*(3), 237–256, https://doi.org/10.1177/0044118X7901000302.

Dannefer, D., Uhlenber, P. (2005). On the Shoulders of a Giant: The Legacy of Matilda White Riley for Gerontology. *The Journal of Gerontology: Series B, Social Sciences*, *60b*(6), 296–304.

Dekker, P., Halman, L. (2003). *The values of volunteering: cross-cultural perspectives*. Springer.

Dietz, T., Stern, P. C., Guagnano, G. A. (1998). Social Structural and Social Psychological Bases of Environmental Concern. *Environment and Behaviour*, *30*(4), 450–471. https://doi.org/10.1177/001391659803000402.

Choi, L. H. (2003). Factors affecting volunteerism among older adults. *Journal of Applied Gerontology*, *22*(2), 179–196.

Environment and Ageing Final Report (2008, October). European Commission. Retrieved from http://projects.cowiportal.com/ps/A001879/Documents/3 Project documents/Environment and Ageing_final2.doc.

European Values Study, https://europeanvaluesstudy.eu/, accessed (10. 2. 2019).

Fransson, N., Gärling, T. (1999). Environmental concern: Conceptual definitions, measurement methods, and research findings. *Journal of Environmental Psychology*, *19*(4), 369–382.

Global Warming of 1,5 °C (2018). Special report of The Intergovernmental Panel on Climate Change UN, https://www.ipcc.ch/sr15), accessed (15 .2. 2019).

Halman, L., Sieben, I., Zundert, M. V. (2011). *Atlas of European Values: Trends and Traditions at the Turn of the Century*. Brill Academic Pub.

Howarth, R. B., Norgaard, R. B. (1992). Environmental Valuation under Sustainable Development. *The American Economic Review*, *82*(2), 473–477.

Inglehart, R. (1971). The Silent Revolution in Europe: Intergenerational Change in Post-Industrial Societies. *The American Political Science Review*, *65*(4), 991–1017, https://doi.org/10.2307/1953494.

Inglehart, R. (1977). *The silent revolution:*

changing values and political styles among Western publics. Princeton University Press.
Inglehart, R. (1990). *Culture shift in advanced industrial society*. Princeton University Press.
Iversen, H., Rundmo, T. (2002). Environmental concern and environmental behaviour among the Norwegian public. *Journal of Risk Research*, *5*(3), 265–279, https://doi.org/10.1080/13669870110115434.
IWO (2011). Manual on the Measurement of Volunteer Work. Final approved pre-publication version. Retrieved from http://www.ilo.org/wcmsp5/groups/public/greports/documents/meetingdocument/wcms_100574.pdf.
Jones, R. E., Dunlap, R. E. (1992). The social bases of environmental concern: Have they changed over time? 1. *Rural Sociology*, *57*(1), 28–47.
Lakhan, V. C., Lavalle, P. D. (2002). Use of Loglinear Models to Assess Factors Influencing Concern for the Natural Environment. *Environmental Management*, *30*(1), 77–87, https://doi.org/10.1007/s00267-002-2473-5.
Lea, E., Worsley, A. (2008). Australian consumers' food-related environmental beliefs and behaviours. *Appetite*, *50*(2), 207–214, https://doi.org/10.1016/j.appet.2005.07.012.
Librová, H. (2016). *Věrní a rozumní: kapitoly o ekologické zpozdilosti*. Masarykova univerzita.
Mannheim, K. (1970). The problem of generations. *Psychoanalytic Review*, *57*(3), 378–404.
Mohai, P., Twight, B. W. (1987). Age and environmentalism: An elaboration of the Buttel model using national survey evidence. *Social Science Quarterly*, *68*(4), 798.
Olli, E., Grendstad, G., Wollebaek, D. (2001). Correlates of Environmental Behaviours: Bringing Back Social Context. *Environment and Behaviour*, *33*(2), 181–208, https://doi.org/10.1177/0013916501332002.
Petrová Kafková, M. (2013). *Šedivějící hodnoty? Aktivita jako dominantní způsob stárnutí.* (EDIS). Brno: Munipress.
Pillemer, K., Wells, N. M., Wagenet, L. P., Meador, R. H., Parise, J. T. (2011). Environmental sustainability in an aging society: a research agenda. *Journal of Aging and Health*, *23*(3), 433–453.
Putnam, R. D. (1995). Bowling Alone: America's Declining Social Capital. *Journal of Democracy, 6*(1), 65–78.
Rabušic, L., Chromková Manea, B. (2012). Postoje, hodnoty a demografické chování v České a Slovenské republice v období transformace (1991–2008). *Data a Výzkum-SDA Info*, *6*(1), 27–49.
Rabušic, L., Hamanová, J. (2009). *Hodnoty a postoje v ČR 1991-2008: (pramenná publikace European Values Study)*. Masarykova univerzita.
Riley, M. W., Kahn, R. L., Foner, A. (1994). *Age and structural lag: society's failure to provide meaningful opportunities in work, family, and leisure*. J. Wiley.
Riley, M. W., Riley, J. W. (2000). Age Integration Conceptual and Historical Background. *The Gerontologist*, *40*(3), 266–270.
Rokeach, M. (1973). *The nature of human values.* Free press.
Ryder, N. B. (1965). The Cohort as a Concept in the Study of Social Change. *American Sociological Review*, *30*(6), 843–861, https://doi.org/10.2307/2090964.
Special Eurobarometer 416 "Attitudes of European citizens towards the environment" (2014). European Commission. Retrieved from 10.2779/25662.
Special Eurobarometer 459 "Climate Change" (2017). European Commission.
Soukup, P., Rabušic, L. (2007). Několik poznámek K jedné obsesi českých sociálních věd – statistické významnosti / Some Notes on the Obsession of the Czech Social Sciences with Statistical Significance. *Sociologický Časopis / Czech Sociological Review*, *43*(2), 379–395.
Tarrant, M. A., Cordell, H. K. (1997). The Effect of Respondent Characteristics on General Environmental Attitude-Behaviour Correspondence. *Environment and Behavior*, *29*(5), 618–637, https://doi.org/10.1177/ 0013916597295002.
Verplanken, B., Holland, R. W. (2002). Motivated decision making: Effects of activation and self-centrality of values on choices and behaviour. *Journal of Personality and Social Psychology*, *82*(3), 434.
Vidovićová, L. (2008). *Stárnutí, věk a diskriminace: nové souvislosti*. Masarykova univerzita Mezinárodní politologický ústav.
Wahl, H.-W., Iwarsson, S., Oswald, F. (2012).

Aging Well and the Environment: Toward an Integrative Model and Research Agenda for the Future. *The Gerontologist*, *52*(3), 306–316, https://doi.org/10.1093/geront/gnr154.

Weiss, E. B. (1992). In Fairness to Future Generations and Sustainable Development. *American University Journal of International Law and Policy*, *8*, 19.

Wilson, J. (2000). Volunteering. *Annual Review of Sociology*, *26*, 215–240.

Wright, S. D., Caserta, M., Lund, D. A. (2003). Older adults' attitudes, concerns, and support for environmental issues in the "new West". *The International Journal of Aging and Human Development*, *57*(2), 151–179.

ABOUT THE AUTHOR

MARCELA PETROVÁ KAFKOVÁ – is a sociologist and researcher at the Office for Population Studies at the Faculty of Social Studies, Masaryk University. Her long-term research interests are in the sociology of ageing and social gerontology. Her research concentrates on the issues of active ageing, intergenerational relations, ageing with disabilities, and the environmental determinants of ageing. She has published many scientific articles on this topic. More details at https://www.muni.cz/lide/55250-marcela-petrova-kafkova/publikace.