

THE PRO-ENVIRONMENTAL AWARENESS OF YOUNG PEOPLE IN SERBIA ABOUT CLIMATE CHANGE – A CASE STUDY

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Abstract: Although there is rising public awareness and discussion about climate change, which is primarily caused by human production and consumption habits, there is a noticeable lack of study on the attitudes and behaviors of young people toward climate change in the Serbian social environment. Despite the fact that young people are the future of every society and the carriers of progress, their understanding and opinions about climate change and pro-environmental conduct, such as minimizing the detrimental effects of humans on the environment, have not been clearly examined in detail. The focus of this study was on analyzing the correlation between young people's understanding of climate change and their conduct in Serbia, specifically in terms of reducing their detrimental effects on the environment. The survey, which was a component of the "Youth and Climate Change" initiative, served as the foundation for the research. With the intention of learning about the attitudes and opinions of students at the Faculty of Occupational Safety in Niš regarding climate change, we conducted a survey to determine the behaviors they are willing to take in order to help mitigate the effects of climate change on Serbian society.

Keywords: youth, climate change, youth awareness of climate change, pro-environmental behaviour

Field: Humanities

1. INTRODUCTION

The main actors in both the existing and future challenges related to climate change, one of the key challenges of humanity, are young people (Steffen et al., 2015). Humanity is already facing the negative consequences of climate change, which is why scientists point to the need for urgent action (e.g., Ripple et al., 2021). Therefore, it is precisely today's generations of young people, as witnesses of the increasing dangers but also as future decision-makers and bearers of agreed-upon changes, who are in the best position to define a long-term collective response to climate change.

On the other hand, young people are also the most sensitive to the inherited decisions and approaches of older generations. Recently, there has been collective action by young people in Serbia, who have engaged in the fight for environmental preservation through various associations. A review of the literature on the subject of ecology and human-induced climate change reveals a paucity of studies on the environmental attitudes and behavior of young people, notably in Serbia, despite increasing public awareness and debate.

There is no significant amount of research on the attitudes of young people in Serbia regarding the impact of climate change. Therefore, in this study, we started from the results of the research conducted in the region. According to the obtained results (Šimac et al., 2021), the biggest increase in support for environmental protection was recorded among the Central European countries considered (Czech Republic, Hungary, Poland, Slovakia, and Slovenia) over a ten-year period (2008 vs. 2018). Previous research shows that sociodemographic characteristics (except for the level of education in some cases) are generally not relevant sources of differences in environmental attitudes and behaviour (Ančić et al., 2016; Landau et al., 2008; Šimac et al., 2021; Maglić et al., 2022). Thus, Ančić et al. (2016), based on data from the International Social Survey Programme (ISSP) from 2011 and 2013, confirmed that a higher level of concern and willingness to act in the form of environmental protection, as well as recognition that the increase in temperature is caused by climate change, are important determinants of citizens' willingness to make material sacrifices for the sake of environmental protection. The findings indicate the importance of awareness and information about the negative consequences of climate change as potentially important determinants of pro-environmental behaviour. Of course, it should be noted that attitudes and behaviour regarding climate change and environmental care are intertwined with many other attitudes and dispositions, i.e., contextual characteristics such as values or worldviews at the individual or societal level, which is confirmed by previous results (Brajdić Vuković, 2014; Brajdić Vuković, Ančić & Domazet, 2020; Kufirin, 2014).

The few studies to date on the environmental and climate attitudes and/or behaviours of young

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people have mostly been conducted on small convenience samples (Dolenec and Pejnović, 2014; Hadžiselimović, 2015; Lukšić et al., 2019) or as part of bachelor's theses (Cvetković, 2017; Toljan, 2020). Overall, the results show that young people are more or less informed and relatively aware of environmental problems and generally express a willingness to preserve the environment and natural resources (Gvozdanić et al., 2019; Lukšić et al., 2019; Stanić and Buzov, 2009). At the same time, they express a greater preference for simpler and more concrete activities for environmental protection (Hadžiselimović, 2015; Toljan, 2020).

Surveys show that young Europeans are equally or more interested in and concerned about climate change than older people. Data from surveys of young people in countries such as Australia, Germany, and the United States (Borgstedt, Christ, and Reusswig, 2010; Thielking et al., 2002; Stevenson et al., 2014) show that women are more concerned about climate change than men. Thus, in some countries, female students assess themselves as more aware, while in others, male students do. According to individual research findings in the region, among secondary school students, female students express a more positive attitude towards environmental topics compared to male students (Dolenec and Pejnović, 2014), and female students are somewhat more environmentally aware and inclined toward environmentally friendly behaviour than male students (Cvetković, 2017). Similarly, Henn, Sloam, and Nunes (2022), in a more comprehensive analysis of data from the 2017 European Values Study (EVS), found that among young people (aged 18–25) from ten countries, women are more likely to be environmentally active than men. Their findings also confirm the level of education of young people as an important source of differences in environmental activism, pointing to the importance of education for empowering and more intensively involving young people in environmental policies. We can assume that school, as an instrument of socialization, teaching, and upbringing, as in many other spheres of life, plays an important role in encouraging young people to act towards contributing to the fight against climate change.

In Serbian educational programs, climate education does not exist as a separate subject. Also, knowledge about environmental protection in primary school is studied as part of the content of other specialized subjects (e.g., The World Around Us; Nature and Society; Biology). Unlike research on the representation of environmental topics, no research has been conducted in Serbia that would examine in more detail the role of school in the formation of environmental attitudes and behaviour of young people. Thus far, the individual findings indicate that young people believe that they do not have enough opportunities to learn about environmental protection issues in educational institutions (Gvozdanić et al., 2019; Gvozdanić et al., 2022).

2. MATERIALS AND METHODS

The research aimed to survey 90 young people aged 15 to 29. All respondents were students at the Faculty of Occupational Safety in Niš. The majority of respondents were from urban areas (Figure 4). The research was conducted using a simple random sample to ensure reliable data analysis and objective conclusions. More precisely, an online survey was available to all students at the Faculty of Occupational Safety, but only some completed it. The survey was conducted via Google Surveys. Data was collected in May 2024. A questionnaire with open-ended and closed questions was created for the respondents. The respondents included in the research were guaranteed anonymity, which contributed to obtaining more honest and accurate data. Software called SPSS (Statistical Package for Social Sciences) was used for data entry and processing, it has the required logical control and is utilized for data processing and analysis.

The goal of this of the quantitative study is to evaluate how well young individuals in Serbia understand climate change, the release of harmful gases, their effects on health and the environment, and the risks linked to climate change in their local area and the country as a whole. The findings from this study will help to set priorities in this field, ensuring that the views of young people will be considered in future planning and decision-making regarding climate change. The study was carried out on a group of 90 students, mostly categorized as young people aged 29 and under.

Table 1. Demographic structure of the sample

Gender structure	Male 31.11%
	Female 68.89%
Age structure	(15-19) 6.67%
	(20-24) 57.78%
	(25-29) 35.56%
Educational structure	High school 58.89%
	Academic studies 32.22%
	Master studies 7.78%
	Doctoral studies 1.11%
Place of residence	Village 23.33%
	City 76.67%

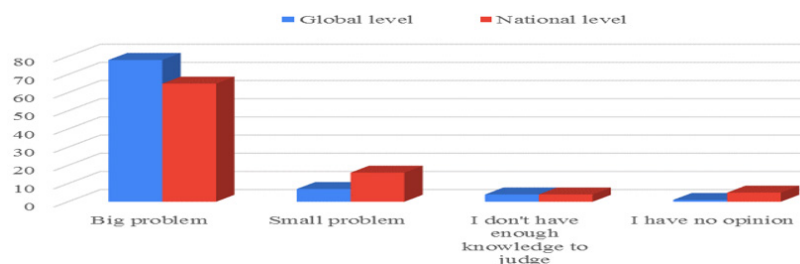
Source: Authors' research

Regarding the demographic characteristics of the research sample, specifically its gender structure, slightly more than two-thirds of the respondents are female. More precisely, the sample comprises 68.99% women and 31.11% men. This indicates that there is a higher representation of female students compared to male students in the surveyed sample (Table 1). The most represented age category is from 20 to 24 years old (57.78%) (Table 1). The largest percentage of respondents completed secondary school (58.89%) (Table 1), while 76.67% of respondents are city residents (Table 1).

3. RESULTS

The research entitled 'Attitudes of Youth in Serbia on the Impact of Climate Change' was carried out by a team of researchers from the Faculty of Occupational Safety in Niš, based on the research conducted globally and in southeastern Europe by the United Nations Development Programme (UNDP). The aim of the research was to assess the extent to which the topic of climate change is prevalent among young people in Serbia. In addition, a preliminary assessment was made of key perceptions and awareness of young people of the topic of climate change, emissions of harmful gases, their impact on human health and the environment, the recognition of risk factors associated with climate change in the local environment and the country, the future development of Serbia regarding climate change. Young people in Serbia believe that the impact of climate change is a major problem, especially at the global level (87%). The research showed that young people from urban areas aged 25 to 29 are more aware of the impact of climate change at the national and global levels, as shown in Figure 1.

Figure 1. Evaluation of the effects of climate change on the national and global level (%)

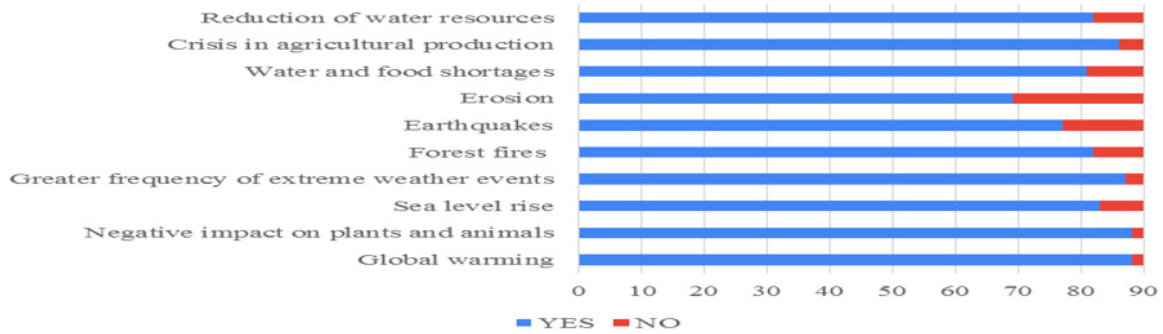


Source: Authors' research

The level of awareness of young people regarding the consequences of climate change can be assessed as high (more than 70%). They are most familiar with the negative consequences of climate change on plants and animals (97.77%) and the impact on the frequency of extreme weather events (96.66%), but they are least familiar with the negative consequences of erosion (76.66%). Women are more familiar with the consequences of climate change than men, Greater awareness is observed among young people aged 25 to 29 compared to those aged 15 to 19 or 20 to 24. Young people from urban areas are more familiar with the consequences of climate change than those from rural areas, as observed by

type of settlement (Figure 2).

Figure 2. Respondents' knowledge about the consequences of climate change (%)



Source: Authors' research

Statistics show that a third of young people are concerned about climate change (32.22%). Responsibility for environmental protection was shown by 18.89% of young people. Ten percent of young people feel scared, and 12.22% feel powerless to change anything (Table 2).

Table 2. How do you feel about climate change? (%)

Confused	6.67%
Interested	18.89%
Concerned	32.22%
Scared	10.00%
Responsible (protect the environment)	18.89%
Disinterested	1.11%
Powerless to change anything	12.22%

Source: Authors' research

Two-thirds of young people identified industry/ factories (88.80%) and traffic and air pollution (82.50%) as the main causes of climate change, but uncontrolled waste generation and disposal (62.50%) is not far behind. A small percentage of young people stated that climate change is a natural process (3.80%). Unlike young people from urban areas who recognized uncontrolled waste generation and disposal as the biggest cause of climate change, young people from rural areas believe that industry and factories are some of the main activities contributing to the occurrence of climate change (Table 2).

Table 3. What contributes most to climate change on scale of 1 to 100 (%)?

Natural process	3.80%
Agricultural production	21.30%
Waste	62.50%
Devastation of natural habitats	41.33%
Traffic and air pollution	82.50%
Households	15.00%
Energy industry	28.70%
Industry	88.80%

Source: Authors' research

More than half of the respondents (68.89%) believe that most young people are unaware that their behaviour can affect climate change, while 11.11% of the respondents believe that young people are not aware of this at all (Table 3).

Table 4. Are young people in Serbia aware that they can influence climate change through their behaviour? (%)

I can not estimate	31.11%
I believe they are not aware of it at all	11.11%
I believe most are aware of it	12.22%
I believe most are not aware of it	68.89%

Source: Authors' research

Slightly more than half of the respondents indicated that they were familiar with the UN Framework Convention on Climate Change (UNFCCC) and the Paris Agreement, as well as with Serbia's commitments to reduce greenhouse gas emissions (58.89%). In terms of the respondents' age, older respondents (25 to 29) are more familiar with the UN Convention and the Paris Agreement than younger ones. On the other hand, young people from rural areas are less familiar with the UN Convention and the Paris Agreement, as well as Serbia's commitments, than young people from urban areas (Table 5 and Table 6).

Table 5. Are you familiar with the UN Framework Convention on Climate Change (UNFCCC) and the Paris Agreement (%)?

No	41.11%
Yes	58.89%

Source: Authors' research

Table 6. Are you aware of the commitments that Serbia has made (as well as other countries that are signatories to the Paris Agreement) to reduce greenhouse gas emissions (%)?

No	40.00%
Yes	60.00%

Source: Authors' research

Of the total number of respondents, as many as 26.67% cannot assess how informed they are about climate change. On the other hand, 58.89% of the respondents believe that they are well informed, while 13.33% believe that they are poorly informed about climate change. More women believe that they are well informed about climate change compared to men, while a greater number of men cannot assess their level of informed Ness (Table 7).

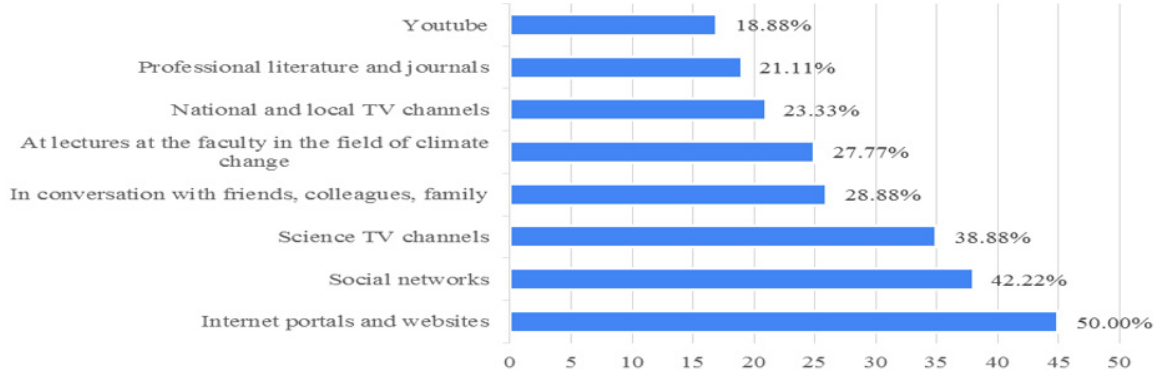
Table 7. Level of informedness about climate change (%)

I can not estimate	26.67%
It is not a topic that interests me	1.11%
Poorly informed	13.33%
Well informed	58.89%

Source: Authors' research

Around half of the respondents (51.11%) learned about climate change at university; considering that we surveyed the student population, such results are expected. In addition, 50% of the respondents learned about it through internet portals and websites, while 42.22% of the respondents learned about it through social networks. It was noted that young people listen to the radio or read the daily press very little, so they receive very little information in this way, and there is also a small percentage of those who attend lectures, round tables, and panels on this topic (Figure 3).

Figure 3. How do you get information about climate change? (%)



Source: Authors' research

Interest in the topic of climate change was expressed by 33.33% of the respondents, as it is very important for them to learn more about this topic. Almost half of the sample (46.67%) stated that they would learn more if they knew that they could contribute to reducing harmful impacts. Interest in this topic is equally represented among young people in both urban and rural areas, while young people aged 15 to 19 showed less interest in receiving more information about climate change compared to older respondents (Table 8).

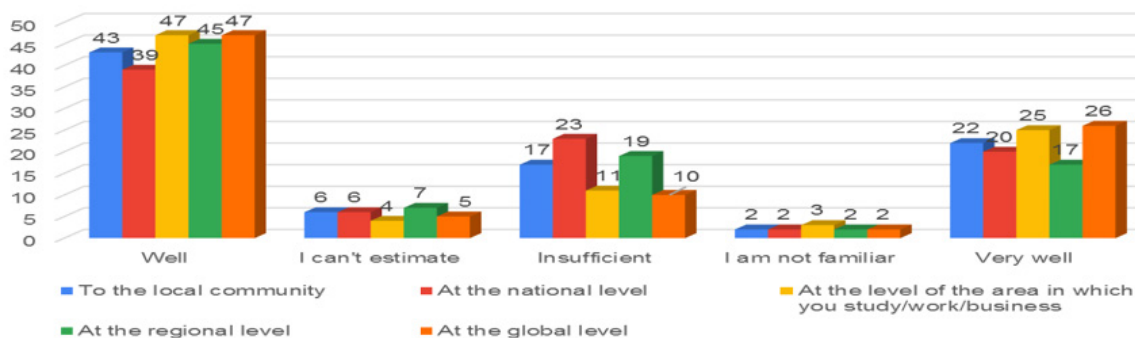
Table 8. Do you want to learn more about climate change? (%)

Yes, that is very important to me	33.33%
Yes, if you knew beforehand that it was important to me	8.89%
Yes, if I knew that I could contribute to the reduction harmful impacts	46.67%
I can not estimate	6.67%
No	4.44%

Source: Authors' research

Almost one in two respondents rates their awareness of the impacts of climate change as "sufficient" at all levels. Around 20% of the respondents state that they do not have enough knowledge about the impacts of climate change at all levels (Figure 4).

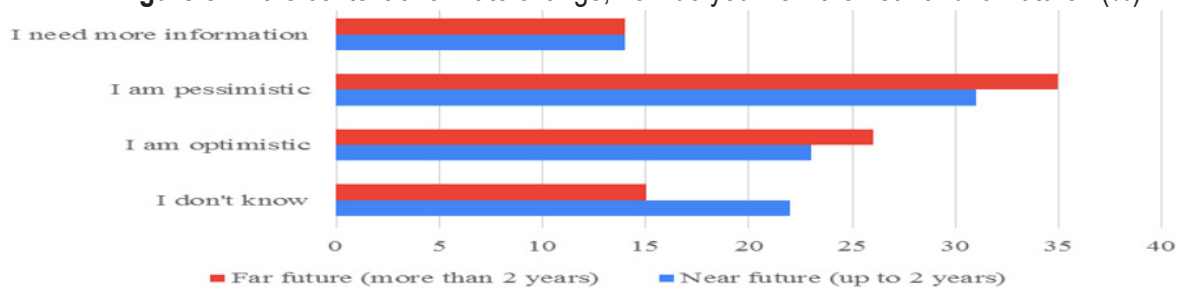
Figure 4. Are you aware of the impact of climate change? (%)



Source: Authors' research

Young people are generally equally pessimistic about climate change in the near and distant future, but they are more concerned about the far future (Figure 5).

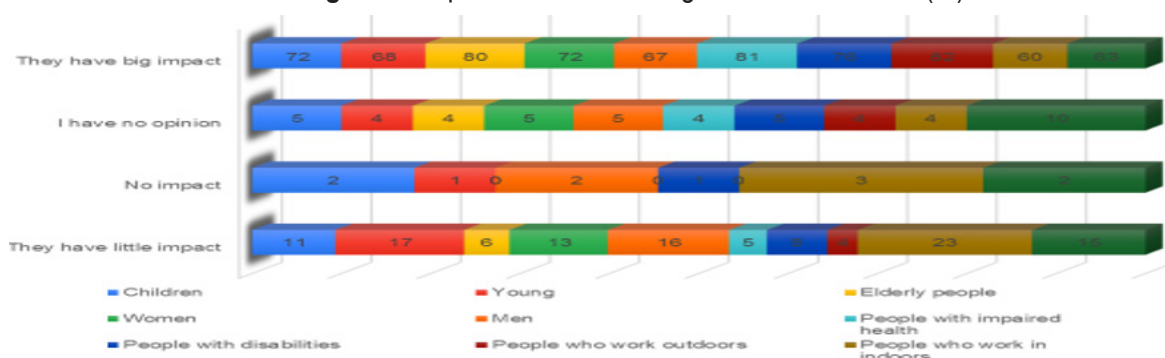
Figure 5. In the context of climate change, how do you view the near and far future? (%)



Source: Authors' research

Young people in Serbia believe that climate change has a significant impact on the health and lives of people in general (over 75%) (Figure 6). The largest number of respondents, more precisely 80 out of 90 respondents, said that climate change has a significant impact on the health and lives of older people.

Figure 6. Impact of climate change on health and life (%)



Source: Authors' research

The largest percentage of respondents (88.66%) believe that the state is responsible for the problems arising as a result of climate change, followed by the local community (68.88%) (Table 9).

Table 9. Do you want to learn more about climate change? (%)

Scientists	7.77%
Young people	15.55%
Non-governmental organizations, associations	18.88%
International community	24.44%
Private sector (companies, enterprises)	50.00%
Society and local community	68.88%
A country with laws and regulations	88.66%

Source: Authors' research

Among the respondents of all ages, there is a great willingness to change their lifestyle habits in order to protect the environment or reduce human impact on climate change (Table 10).

Table 10. Are you willing to change your lifestyle to reduce the negative impact of humans on the environment? (%)

Yes	88.89%
I have no opinion	7.78%
No	3.33%

Source: Authors' research

4. DISCUSSIONS

Research on young people's attitudes and behavior regarding climate change in the context of Serbian society is conspicuously lacking, despite the public's growing interest in and conversations about the topic of climate change brought on by human activity. The relationship between their awareness of climate change changes and behavioral intentions in the form of reducing the negative human impact on the environment was not sufficiently investigated, despite the fact that young people are the future of every society and the bearers of development. In this paper, we examined the relationship between young people's awareness of climate change and their intention to take actions that will lessen its detrimental effects on the environment. It is important to note that this research is not a nationally representative sample when interpreting the findings, particularly the descriptive ones. All young people in Serbia cannot be said to be represented by the average values of awareness, behavioral intention, and assessment of the likelihood of learning about climate change. However, the results clearly show that young people are aware of the detrimental influence of climate change on the local and global community, understand the most important global pollutants that contribute to the degree of environmental degradation and, as a result, the development of climate change. Furthermore, they recognize climate change as a societal phenomenon, want to learn more about its roots and implications, use current media to get information, and are willing to change their own behavior to mitigate its negative impacts.

5. CONCLUSIONS

Based on the results of the research *Attitudes of Youth in Serbia on the Impact of Climate Change*, it can be concluded that young people have some knowledge about climate change and its impacts. Based on the research conducted and the analysis of the results obtained, several relevant conclusions can be drawn. The prevailing opinion among young people is that climate change is a very serious problem on a global level. Likewise, in Serbia, more than two-thirds of the respondents believe that climate change is a problem. Young people's awareness of the consequences of climate change is at a high level. They most often cited negative impacts on plants and animals, frequent weather-induced disasters, rising sea levels, and forest fires as possible effects or consequences of climate change. Young people of all age categories share the opinion that industries/factories, traffic, and uncontrolled waste generation and disposal are the main causes of climate change. More than half of young people are unaware that their behaviour can affect climate change. Young people in Serbia are familiar with the UN Framework Convention on Climate Change (UNFCCC) and the Paris Agreement, as well as with Serbia's obligations to reduce greenhouse gas emissions. More than half of young people believe that they are informed about climate change. The most suitable way to acquire new knowledge and information about climate change is the Internet, social networks, and scientific TV channels, as well as educational institutions. Women are more interested in learning about climate change than men, especially if they know in advance that they can contribute to reducing its harmful effects. The dominant view is that climate change has a significant impact on people's health and lives, which is especially pronounced among older people. Young people believe that the state is most responsible for solving problems arising as a result of climate change. The contribution of young people to environmental protection is reflected in daily walking instead of using motor vehicle transport, reducing waste, and using environmentally friendly products. Young people believe that it is very important for Serbia to choose its priorities regarding climate change, the most prominent of which are the following: nature protection and integration of climate change issues into all sectoral policies, investment in renewable energy sources, improvement of energy efficiency, and better management of biodiversity.

The results of this research should be taken with caution, given the type and size of the sample. However, despite these methodological shortcomings, the research provided a wealth of information about the attitudes and values of young people in determining their attitude towards the most significant problem of the 21st century – climate change.

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