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Climate Change, Sustainability and Socio-ecological Practices

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Bilbao, Spain

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Cross-Generational Perceptions on Climate Change: Resolutive Insights from Youth and Elder

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Abstract: *In a world increasingly dominated by conversations about climate change, this research delves deeper, exploring the disconnect between widespread awareness and the implementation of concrete actions to mitigate global warming and adapt to the energy transition. The study investigates this gap by focusing on the concerns of two distinct demographic groups: teenagers and adults.*

Conceived during the Zientzia Azoka event and developed through other events and sessions, the project actively engaged over 131 participants in a series of workshops. These participants spanned various age groups: 16 individuals under the age of 18, 110 adults between 18 and 65 years old, and 5 adults over 65 years old. The workshops employed qualitative methods, presenting participants with a range of potential climate crisis scenarios encompassing environmental challenges, energy shortages, and mobility restrictions. These scenarios explored situations such as insufficient renewable energy development leading to electricity shortages, extreme weather events causing food scarcity, and disruptions to travel due to fuel shortages. Participants' responses to these scenarios were then subjected to a process of semi-quantification, enabling a more nuanced analysis of their concerns.

The analysis revealed not only a clear awareness of these impending challenges among both teenagers and adults, but also a recognition of the substantial barriers hindering proactive solutions. These barriers encompassed economic constraints, a perceived lack of general awareness about the gravity of the situation, and the ever-evolving social landscape shaped by recent global events like the COVID-19 pandemic and the war in Ukraine. However, amidst these anxieties, a glimmer of hope emerged. Participants identified a potential shift in societal behavior, possibly driven by these very crises. Thematic analysis of their responses revealed a strong emphasis on the crucial role of sufficiency in mitigating climate change. This highlights the importance of reducing consumption and waste rather than solely relying on technological advancements as the

solution. Additionally, peer influence was recognized as a significant force in shaping attitudes and behaviors, suggesting a powerful avenue for promoting positive change. The political dimension of climate action also came into sharp focus. Participants demonstrated a sophisticated understanding of the complexities surrounding political processes and the challenges they present. They emphasized the need for clear and effective communication from political leaders, while acknowledging concerns about political motivations and the influence of special interest groups. This underscores the intricate relationship between politics, media, and public perception, highlighting the need for a multi-faceted approach to climate communication.

Keywords: *Climate change, participatory sessions, policy making, societal awareness*

1 Introduction

The present study is framed within a social context marked by a growing public awareness of climate change. Discussions, news, and scientific information regarding this matter have become ubiquitous (IPCC, 2022). However, this awareness does not always translate into concrete actions to mitigate global warming and adapt to the energy transition.

This research focuses precisely on that disconnect between widespread awareness and the implementation of solutions. It analyzes the concerns of two key demographic groups: teenagers and adults.

In the context of the growing discourse on sustainable consumption, recent decades have seen a notable shift towards acknowledging the environmental impacts of global consumption patterns. The notion of sustainable consumption has gained traction alongside unprecedented growth in consumption levels, prompting a reevaluation of generational attitudes towards consumption practices and their environmental implications (Nursey-Bray, 2020). Contrary to prevailing generational narratives that often depict younger generations as increasingly consumer-driven and environmentally destructive, a cross-generational study in Sheffield, UK, involving participants from diverse age groups ranging from 16 to 96 years, offers a more nuanced perspective on sustainable consumption (Diprose, 2019).

This research underscores the importance of exploring cross-generational touchstones and the evolving emphasis on sustainable consumption over time, rather than solely focusing on generational differences in consumption practices

(Diprose, 2019). While common tropes such as thrift and the throwaway society have traditionally characterized generational differences, the study highlights the cross-generational appeal of various sustainability concerns and the reworking of thrift by younger generations into an ethical lifestyle choice rooted in deeper notions of frugality and environmental consciousness (Diprose, 2019).

Moreover, the study emphasizes that generational differences in sustainable consumption practices are often overstated or influenced by changes in life circumstances and societal trends (Diprose, 2019). For instance, considerations such as "generational geographies" play a role in shaping sustainable consumption practices, including how having children influences shopping habits or the extent to which individuals prioritize health in consumption choices (Diprose, 2019).

In terms of policy implications, the research suggests that campaigns and policy initiatives aimed at promoting sustainable consumption should adopt a cross-generational approach rather than segmentation (Diprose, 2019). Emphasizing intrinsic values associated with economic stability, wellbeing benefits, and environmental protection can serve as effective communication strategies to engage individuals across generations in sustainable practices (Diprose, 2019).

Furthermore, the study underscores the importance of framing sustainable consumption as a collective practice that transcends individual consumer choices, highlighting the significance of appeals to citizenship and collective action in fostering sustainable consumption behaviors (Diprose, 2019). However, the challenge lies in framing sustainability concerns, such as health, localism, and protectionism, in a manner that aligns with intrinsic values without inadvertently undermining broader appeals to sustainable consumption (Diprose, 2019).

This proves, once again, the importance of highlighting the active participation of the public in formulating the research question. The following project emerged from the Zientzia Azoka, an event that promotes scientific exploration and citizen participation and was developed next month over several sessions and data-gathering methods. This initiative involved over 130 people of different ages in a series of workshops, allowing for a representative view of society to be collected.

The workshops were based on qualitative methods, presenting participants with different potential scenarios of climate crisis. These scenarios encompassed environmental challenges, energy shortages, and mobility restrictions. Situations such as insufficient development of renewable energies, extreme weather events leading to food shortages, and disruptions in travel due to fuel shortages were explored.

The analysis of participants' responses to these scenarios reveals a clear awareness of the impending challenges, both among teenagers and adults. However, it also highlights the existence of significant barriers hindering the implementation of proactive solutions. These barriers include economic limitations, the perception of a lack of general awareness about the severity of the situation, and the changing social landscape shaped by recent global events such as the COVID-19 pandemic and the war in Ukraine.

2 Results

Following the activity described in the methodology section, a total of 131 responses were obtained, of which 16 came from young people under 18 years of age, 110 from adults between 18 and 65 and 5 from adults over 65. These qualitative responses were semi-quantified as expressed in the following tables.

Table I. Clustered Answers (5 Groups) In Response To The Question #1.

		Youngs	Middle age	Retirement	
Q1: What actions would you be willing to do to avoid this scenario?	**Sufficiency**	70%	59%	57%	Change habits, reduce consumption, spend less
	Efficiency	17%	26%	14%	Be more efficient, buy a hybrid car, PV panels
	Policy Making	9%	13%	29%	Regulate prices/ consumption
	Nothing	0%	1%	0%	I don't know
	Others	4%	2%	0%	

By transferring the values from the tables to a more graphical model, we obtain the following Figureures, allowing us to better understand the relationships between generations and interests on a larger scale.

Table II. Clustered Answers (8 Groups) In Response To The Question #2.

		Youngs	Middle age	Retirement	
Q2: Why do you think you are not taking these actions right now?	**Regulatory**	13%	2%	0%	Economic/governmental interests
	Economic	13%	6%	0%	Low salaries, high prices
	Old-patterns	13%	4%	20%	Customs, traditions, habits, peer-pressure
	Unawareness	30%	6%	20%	I am not aware of it, it is far from happening
	Pretexts/ Excuses	13%	25%	20%	It's difficult, I don't want to, I can't, I don't believe it
	Unknowledge	9%	0%	40%	I have no problem now
	Comfort	9%	13%	0%	Laziness, convenience
	Others	0%	44%	0%	

3 Conclusions

Closely examining the collected data reveals an interesting dynamic among different age groups regarding the perception of sustainability-related actions. Younger individuals, when evaluating the actions of those outside their age bracket, tend to believe that others could be doing more than they actually are, which could explain the pessimistic outlook that some exhibit. In contrast, older individuals tend to place less importance on others' actions and focus more on their own.

This discrepancy highlights a significant generational gap in the definition and evaluation of actions promoting sustainability. Young people, raised in an environment where ecological practices are more prevalent, perceive similar actions by older individuals as less valuable contributions. Furthermore, young people often use role models as references to follow, while older individuals may admire these role models but not necessarily aspire to emulate them.

It is also notable that a significant number of respondents do not have a negative view of high-involvement sustainability actions. This suggests that the presence of role models in this area encourages the transition to a more sustainable model.

Regarding mandates, young people show a greater tendency to oppose, while older individuals tend to have more trust in Figureures who have made decisions in this regard. This correlation between age and trust in institutions is a notable trend that emerges from the analyzed data.

Table III. Clustered Answers (6 Groups) In Response To The Question #3.

		Youngs	Middle age	Retirement
Q3: What do you think others (e.g. your family or friends) would do in this situation?	**Hoard resources**	10%	2%	0%
	Do nothing	35%	9%	0%
	Do whatever is possible	15%	38%	40%
	Change gradually	10%	32%	40%
	Protest	5%	3%	0%
	Actively participate / contribute / solve problems	25%	17%	20%

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Diprose, K., Valentine, G., Vanderbeck, R. M., Liu, C., and McQuaid, K. (2019). Building common cause towards sustainable consumption: A cross-generational perspective. Environment and Planning E: Nature and Space, 2(2), 203-228. https://doi.org/10.1177/2514848619834845

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Nursey-Bray, M., Palmer, R., Stuart, A., Arbon, V., and Rigney, L.-I. (2020). Scale, colonisation and adapting to climate change: Insights from the Arabana people, South Australia. Geoforum, 114, 138-150.

Methodological Appendix

To better understand their needs, desires and barriers to Figureht global warming and adapt to energy transition, a series of workshops were organised in the context of the Zientzia Azoka outdoor science fair held in Bilbao, Spain, in June 2022, and lately extended through a series of survey. In these workshops, some researchers from the University of Deusto, who lead the EU-funded H2020 project WHY, designed a set of futuristic scenarios and asked the young attendees questions related to the individual or collective actions they would be willing to take to avoid the scenarios of collapse. Six catastrophic scenarios were designed, all sharing the view that the economy cannot continue to grow in a world of finite resources:

1. **Electricity shortage.** Renewable energy deployment has been insufficient and there are global electricity supply problems due to the depletion of fossil fuels.
2. **Reduced food production.** Due to a series of disastrous events, some everyday foods become very expensive whereas others cannot be found anywhere.
3. **Reduced fuel for travel.** Frequent cuts in the supply of fuel appear. Many petrol stations close and the few that remain open have kilometres-long queues to fill up. Transport by road becomes complicated and by plane impossible.
4. **Energy shortage for heating the home.** Climate change has generated an atypical winter of extreme cold and energy sources for heating homes become scarcer and more expensive. Most families cannot afford to heat their homes.

Table IV. Clustered Answers (5 Groups) In Response To The Question #4.

		Youngs	Middle age	Retirement	
Q4: If a friend of yours was already doing these actions, what would you think of him/her?	**Reluctance**	9%	6%	0%	Disapproval, bad perception
	Unawareness	4%	0%	0%	Others would also be unaware
	Admiration	43%	41%	40%	Intelligent, supportive, responsible, collaborative
	Exemplarity	22%	12%	0%	My idol, I would support him/her
	Approval	22%	41%	60%	It's OK, I'm fine with that

5. **Drought.** Climate change causes a very long period of drought that reduces the amount of water available for food and industry. Many companies stop production, crops are at risk and often no water comes out of the tap.
6. **Raw material shortage.** A scarcity of raw materials leads to the collapse of supply chains, resulting in shortages of some commodities, higher prices for others, as well as widespread delays in providing services.

Upon arrival at the fair stand, the young people (aged around 14) were seated in small groups of 3 or 4 people and given information sheets on one of the topics above, written in Spanish and Basque so that they could choose according to their mother tongue. On one side of the sheet was brief and easily readable information about climate change (current situation, causes, impact on our lives, etc.) and on the other side was one of the six scenarios above (see Figure. 1). They were then asked to read the sheet, discuss among themselves and write on different Post-it notes the answers to the five following questions, which were common to all the scenarios:

1. What actions would you be willing to take to avoid this scenario?
2. Why do you think you are not taking these actions right now?
3. What do you think others (e.g. your family or friends) would do in this situation?
4. If a friend of yours was already doing these actions, what would you think of him/her?
5. How would you feel if someone imposed these actions on you instead of you making the decision voluntarily?

Around twenty young people took part in the workshop. Once all their answers were collected, they were analysed by two researchers from the University of Deusto. All answers to the same question, regardless of the scenario provided, were either grouped and labelled by similarity (questions #1, #2 and #4) or ordered according to a scale of values (questions #3 and #5) (see Figure. 2).

This same methodology was replicated over the following months in various

sessions with other demographic groups, including a broader age range, thus enabling a comparison across different generations. By extending the scope to include a wider demographic spectrum, the study aimed to capture a more comprehensive understanding of attitudes and perceptions towards climate change and the challenges it presents. This expanded approach not only allowed for a more nuanced analysis of the diverse perspectives held by individuals across different age groups but also facilitated a deeper exploration of potential solutions that could resonate with various segments of society. Furthermore, by examining how attitudes and awareness vary across generations, the study sought to identify potential patterns and trends that could inform more targeted and effective interventions aimed at addressing climate-related issues.

Table V. Clustered Answers (5 Groups) in Response to the Question #5.

		Youngs	Middle age	Retirement	
Q5: How would you feel if someone imposed these actions on you instead of you making the decision voluntarily?	**Oppression**	33%	10%	0%	Manipulated, enslaved, oppressed
	Irritation	42%	52%	40%	Bad, angry, sad
	Expectance	4%	19%	40%	Depends on the kind of imposition
	Rationalism	17%	18%	0%	It is understandable
	Confidence	4%	1%	20%	Very well

Figure. 1. Distribution of Responses to Question #1 Across Generational Groups.

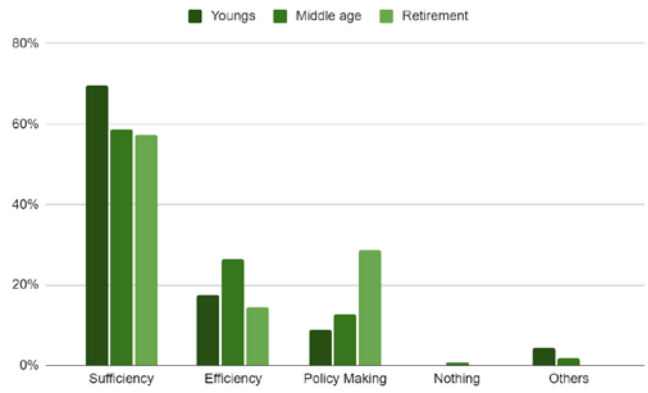


Figure. 2. Distribution of Responses to Question #2 Across Generational Groups.

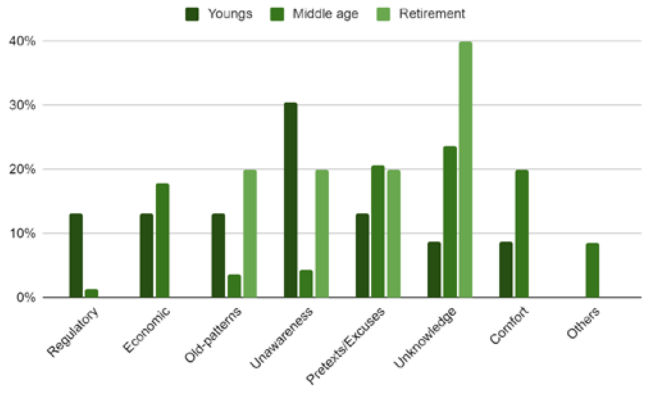


Figure 3. Distribution of Responses to Question #3 Across Generational Groups.

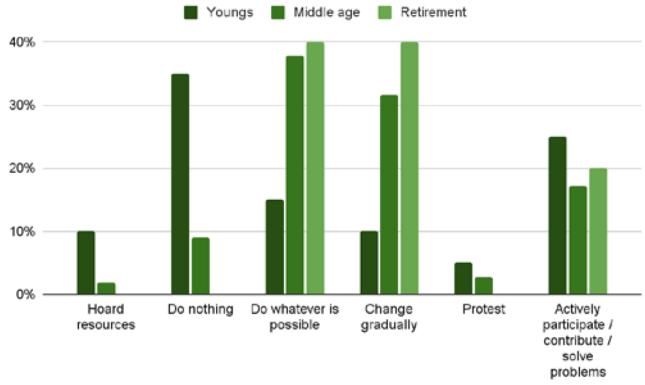


Figure. 4. Distribution of Responses to Question #4 Across Generational Groups.

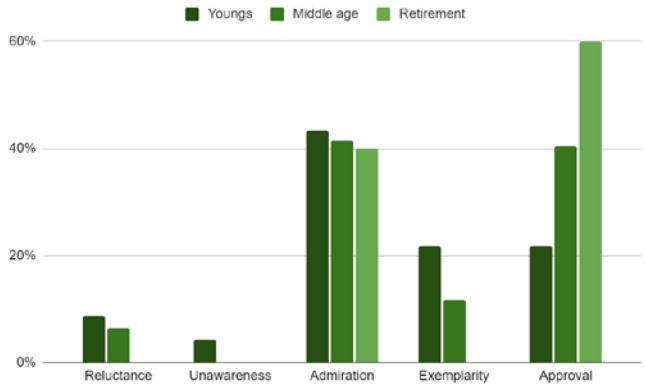


Figure. 5. Distribution of Responses to Question #5 Across Generational Groups.

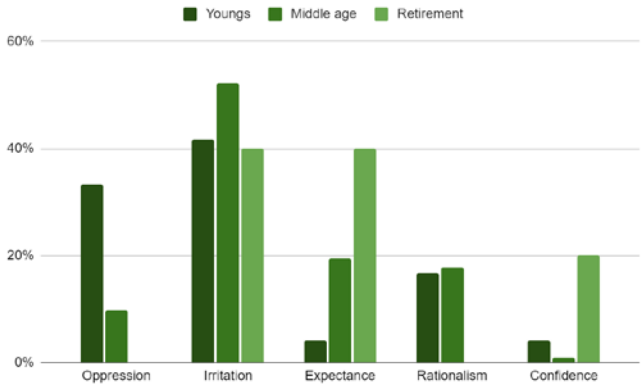


Figure. 6: Information Sheets Handed Out to Attendees:
On the Left, Front in Spanish with Common Information on Climate Change;
on the Right, Back in Basque with an Outline Of Scenario #3.

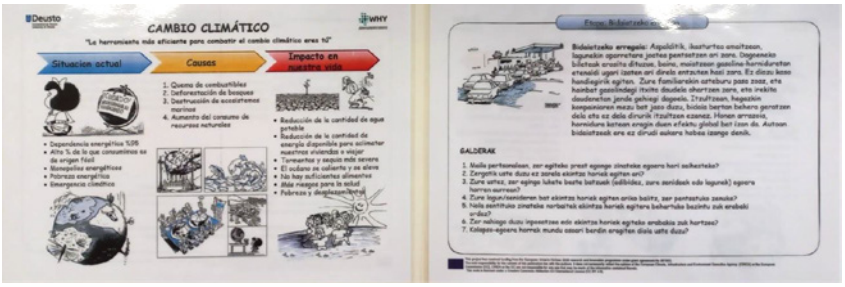
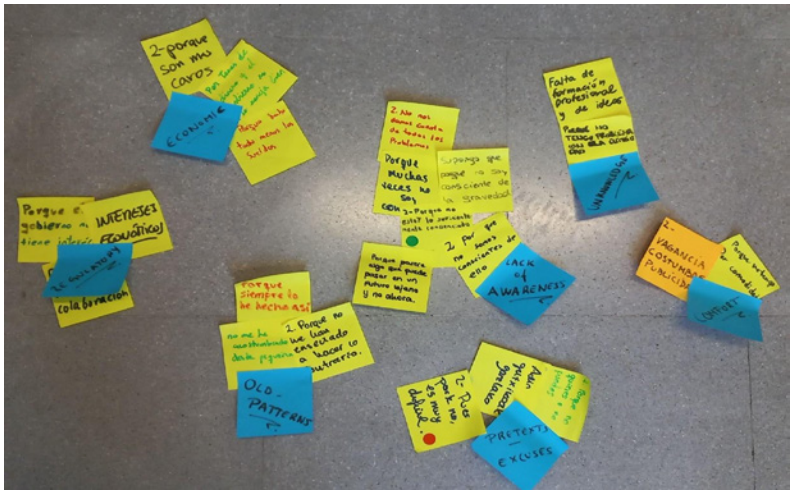


Figure. 7: Process Of Grouping and Labelling Participants' Answers To Question #2.



Notes

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