Green Generation(s): the Generational Peculiarities of the Environmental Attitude

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Making consumption sustainable has become indispensable nowadays and is a necessary step in development. Several studies are dealing with the environmental attitude of consumers. Scientists are interested in the generational differences as well. However, there is still a gap that proves the difference between generations. More studies have examined how age affects environmental values. For example, this topic was examined in 6 countries between 1991 and 2017 in the framework of the European Values Study (EVS). Nowadays, generation Z may be regarded as the most environment-conscious. On the other hand, different results also came to light, which proves that however apparent the environmental efforts of generations Z and Y are, they still do not occupy the first rank in reducing the ecological footprint. The aim of the study is that based on a sample consisting of 2224 Hungarian people, an answer can be given to the question of whether age can really determine environmental attitude and whether generational differences occur in „thinking green". The focus of the study is the wide-range examination of the environmental attitude. The basis of the study is, for example, socially conscious consumer behaviour and ecologically conscious consumer behaviour. Besides this, such background factors also appear in the study, which may affect the attitude and behaviour, such as optimism, pessimism, motives and other influencing factors.

1. Introduction

1.1 Consumers and the environment

Environmental problems turn up as undeniable facts which have got into focus in global forums as well. The most significant environmental problems include pollution, global warming, energy crises, the imbalance of the ecosystem, ozone depletion (Saleem et al., 2018) and climate change (Shah et al., 2021). Sustainability objectives can be supported in every walk of life. For instance, rethinking the full life cycle of various materials is also necessary (Montanari et al., 2023). Consumer behaviour, attitude and willingness are the keys to all of this. Ecologically-conscious consumer behaviour is getting paid more and more attention to in marketing- and consumer behaviour-related literature (Taufique et al., 2016). A significant part of previous research has been devoted to explaining various green consumer behaviours (McCarthy et al., 2016) and consumer profile-making (Tanford and Malek, 2015) based on a number of observed variables (Lopez et al., 2016). In the current study, the primary basis for segmentation is the ecological- and social consumer behavioural intention and responsibility (ERC, SRC) in the everyday life of consumers. Ecologically Responsible Consumption (ERC) and Socially Responsible Consumption (SRC) explain consumers' ecological- and social orientation towards pro-environmental behavioural intentions in their actions (Saleem et al., 2018). Researchers have used a variety of methods and measures to study consumers' environmental concerns. The differences (Grohmann et al., 2012) are not uncommon in the number of items applied in studies using the same scale (Ishaswini, Datta, 2011). A scale often used to examine sustainable consumption practices is the Ecologically Conscious Consumer Behaviour (ECCB) scale recommended by Straughan and Roberts (1999), which was also investigated by Freire et al. (2021). The ERC scale involved in the research is related to the ECCB. According to Roberts (1996), ecologically conscious consumers are the ones who buy products and services which they believe have a positive (or less negative) impact on the environment. It should include both environmentally-conscious

purchasing behaviour and environmentally-friendly post-purchasing behaviour. The concept of socially responsible consumption (SRC) appeared in the 1970s. Socially responsible consumer behaviour (SRCB) is characterised by focusing on social welfare (Pristl et al., 2021) and environmental protection (Huang et al., 2023). Proving the results (Bergquist et al., 2019), which support the impact of social norms on behavioural change (Farrow et al., 2017), has particularly facilitated emphasising the intervention into social norms (Cialdini, Jacobson, 2021).

In the course of the examinations, the researchers did not make a difference according to the age of the respondents. As a basis thereof, the following research question was established in this study: Can age really determine the environmental attitude, and is there a difference between generations related to "green thinking"? The purpose of this study is to answer the mentioned gap. The presented ERC and SRC scales are used to examine this gap.

1.2 Generational theories

The members of a particular generation were influenced by the same social-, economic-, political- or technological factors. As a result of this, obvious similarities can be determined between the individuals (Bancsu, 2020). A generation can be defined as a group of people who were born in the same era, shaped by the same period, and were impacted by the same social markers – that is, a generation is a group of people connected by the same age and life phase, living conditions and technology, events and experience (Szabó-Szentgróti et al., 2019). Considering the geographical characteristics of the sample (the territory of Hungary), Komár's (2022) division was chosen out of the generational theories, and consumers were classified by age group based on his division. The members of the "Silent Generation" (-1942) are characterised by cautious, reserved behaviour, just watching the events from the sidelines and striving for security. "Baby Boomers" (1943-1960) were born after the war, and their youth was defined by civil movements. The members of Generation "X" (1961-1981) are the children of the awakening, the "revolution of conscience" cycle: the herald generation / transitional generation spent their youth in an era of relative peace and prosperity. The members of Generation "Y" (1982-1995, Millenials) were born in the postmodern world. They grew up together with the development of modern technology. They are characterised by "multitasking" (Komár, 2022). Based on the forecasts of Statista (2023), in 2027, the sustainable market will be dominated by Generation Y and Generation Z. The members of Generation "Z" (1996-2010) were born during the crisis period of terrorism, the global crisis and climate change. According to Firstinsight (2020), the majority of the shoppers belonging to Generation Z prefer buying sustainable brands and are willing to spend more money on sustainable products. Another establishment the report found is that Generation Z is the most receptive and most likely to make their purchases based on hedonic (personal, social and environmental) principles and values (Gomes, 2023). In several places, the "Alpha" (2011-) generation is referred to as the "new quiet" generation since their family and nursery school behaviour is quieter and more reserved compared to the previous ones, but at the same time, an increase in aggression can be observed at some of its members (Komár, 2022).

2. Methodology

There are no clear results on generational differences, so the research can be considered novel. By getting to know the factors influencing the consumer, one can control their consumption and environmental and social behaviour. Consumers can be guided towards a sustainable future through corporate or state measures. The research is based on a quantitative questionnaire survey. The data was collected from November 2022 to April 2023. During this period, 2,224 consumers answered the questions using the random sampling method and the snowball method. The research covered the entire territory of Hungary. The questionnaire contains 74 questions, out of which 65 questions made up the content of the survey as 5-point Likert scale type questions, 6 multiple-choice questions assessed the demographic characteristics of the respondents, and 2 questions were open questions. In this study, two groups of questions were examined, namely Ecologically Responsible Consumption and Socially Responsible Consumption. The statements in the question groups can be traced back to validated scales, the source of which is Roberts (1996). The original groups of questions are called Ecologically Conscious Consumer Behaviour and Socially Conscious Consumer Behaviour. The type of scale is a 5-point Likert scale, in which case 1- completely disagree, 2-rather disagree, 3-neutral, 4-rather agree, 5-completely agree. A typical analysis method for Likert scales is mean calculation. In the current study, a value of 3 or below is considered a negative value. 3.01-3.49 moves the scale towards the response of "rather disagree". The range between the values 3.50-4.49 already moves the scale towards the response „more likely to agree", and the value between 4.50-5.00 suggests strong agreement.

Table 1: Factors examined during the research

Code	Attitude Statement	Mean	Median	Mode	Std. Dev.
SRC1	I do not buy products from companies who discriminate against minorities.	3.12	3.00	3.00	1.26
SRC2	I do not buy products from companies that employ child labour	3.45	4.00	5.00	1.31
SRC3	I will not buy a product that uses deceptive advertising	3.64	4.00	5.00	1.19
SRC4	I try to purchase products from companies that make donations to charity	3.43	4.00	4.00	1.19
SRC5	When I have a choice between two equal products, I always purchase the one which is less harmful to other people	3.55	4.00	4.00	1.20
ERC1	I usually purchase the lowest-priced product, regardless of its impact on the environment.	2.82	3.00	3.00	1.27
ERC2	If I understand the potential damage to the environment that some products can cause, I do not purchase these products	3.62	4.00	4.00	1.12
ERC3	I am willing to pay a little more for products and food that are free of chemical elements and that do not harm the environment.	3.63	4.00	4.00	1.14
ERC4	When I purchase products, I always make a conscious effort to buy those products that are low in pollutants.	3.49	4.00	4.00	1.16
ERC5	I try only to buy products that can be recycled.	3.70	4.00	4.00	1.10
ERC6	When I have a choice between 2 equal products, I always purchase the one which is less harmful to the environment.	3.59	4.00	4.00	1.15
ERC7	I will not buy a product if the company that sells it is ecologically irresponsible	3.34	3.00	3.00	1.16
ERC8	I always plan my purchases in advance. Impulse buying is not characteristic of me.	3.43	4.00	4.00	1.23

3. Results and discussion

The questionnaire was filled in by altogether 2,224 respondents. The responses received could be used in their entirety thanks to the prior regulation and setting of the online questionnaire. In the sample, the members of the Baby Boomers, as well as Generation X, Y and Z, form the vast majority, but the Alpha and the Silent generation generations also appeared. Table 2 illustrates the distribution of the demographic data of the respondents, expressed in frequency and percentage.

Table 2: Classification of respondents by age group, gender and education

Generation	Frequency	Fraction (%)
Silent Generation	11	0.5
Baby Boomers	120	5.4
Gen X	581	26.1
Gen Y	527	23.7
Gen Z	972	43.7
Alpha	13	0.6
Gender	**Frequency**	**Fraction (%)**
Female	1,346	60.5
Male	859	38.6
Other	19	0.9
Highest level of education	**Frequency**	**Fraction (%)**
elementary education	82	3.7
secondary education	1,320	59.4
higher education	822	36.9

In the rest of the analysis, the Silent Generation and Alpha Generation were excluded due to the low number of items (24), so the restricted, cleaned sample examines 2,200 consumers. The reliability index of the 13 items included in the analysis (ERC and SRC question groups) represents a very high value. The Cronbach Alpha index was used to measure reliability, and the value of this index is 0.897.

In a Likert scale survey, the recognised method of revealing generational differences or similarities is the examination of the average value of the scales. In the methodological part of the study, Table 1 illustrates the averages for the entire sample. However, in this study, it is also appropriate to examine the responses of the members of the generations given to the attitude statements. Table 3 shows the average values of the ecological- and social attitudes of each generation.

Table 3: Average values of the attitude statements by generation

	Attitude statements												
	SRC1	SRC2	SRC3	SRC4	SRC5	ERC1	ERC2	ERC3	ERC4	ERC5	ERC6	ERC7	ERC8
Baby Boomers	3.27	3.51	3.58	3.38	3.46	3.27	3.63	3.50	3.53	3.73	3.60	3.38	3.79
Gen X	3.33	3.68	3.89	3.70	3.80	2.75	3.81	3.87	3.77	3.86	3.81	3.57	3.59
Gen Y	3.02	3.40	3.68	3.45	3.62	2.80	3.60	3.62	3.45	3.73	3.57	3.29	3.46
Gen Z	3.02	3.34	3.49	3.27	3.39	2.82	3.54	3.52	3.36	3.59	3.47	3.23	3.28

The average values do not show a significant difference in any of the statements. It is advisable to pay attention to the ERC1 statement, which examined consumers' price preferences regardless of environmental effects. The statement can also be used as a control factor for the SRC5 and ERC6 statements. Based on the results, consumers do not specifically regard price as a primary consideration, but the analysis does not prove the opposite either. According to a consumer demand survey (n=11,300) conducted by the Capgemini Research Institute (2022), opinions were quite miscellaneous regarding affordability and sustainability. On the whole, around 54 % of consumers worldwide said they appreciate the affordability of a product more than its sustainability. The differences between generations were not more than 7 %. A parallel can be found between this result and that of the current research.

On the whole, based on the analysis of the statements, Generation X can be called the most responsible consumer group from an environmental- and social point of view, followed by Baby Boomers and Generation Y, while the members of Generation Z are the least responsible consumers. However, it is important to pay attention to the extent of the differences between the generational averages, as this cannot be considered significant. In the case of positive statements, the value between 3 and 4 dominates for each generation; the average does not exceed the limit of 4 in any generation, so it does not reach the limit of 4.50, which can be regarded as strongly positive. All this gives rise to doing further analysis.

After refuting the differences given between the generations, the question arose whether the consumers in the sample could be categorised based on their answers to the statements. A frequently used method of forming groups is cluster analysis, and it can be perfectly used if we consider the number of elements in the sample. During the cluster analysis, three consumer groups emerged. The three groups were Eco-Socially Responsible(s), Sustainability Explorers and Unsustainable(s). In the case of the members of the Eco-Socially Responsible(s) group, the average value given to the statements was 4.23, which represents the highest value among the three groups. This value represents the set of environmentally- and socially responsible, sustainable consumers. Consumers belonging here reject corporate deception and discrimination from both environmental- and social aspects. For example, they reject companies which use child labour, and they choose the product with a more favourable environmental impact regardless of the price. For the members of the Sustainability Explorers group, the average value given to the statements was 3.29. This value cannot be considered as particularly positive but negative either. It is a question in which direction such a consumer moves. However, based on the examination of the values within the group, it can be assumed that they would adopt the approach of sustainability. In their case, the rating of the companies is less visible. The responsible behaviour of companies is not a decisive factor in their purchases. They neither reject nor support companies that are discriminatory, deceptive or irresponsible in their operation. The most important factor for them in terms of sustainability when purchasing is whether the product can be recycled, and they prefer choosing products free of harmful chemical additives. The members of the Unsustainable(s) group had the lowest average values, which was 2.20. This value can be especially regarded as negative from the point of view of sustainability. For such a consumer, corporate responsibility is not important at all when purchasing a product. They do not attempt to buy products that are less harmful to the environment, nor to buy products that can be recycled or have a more favourable social impact. The visual presentation of the emerged clusters can be seen in the first illustration.
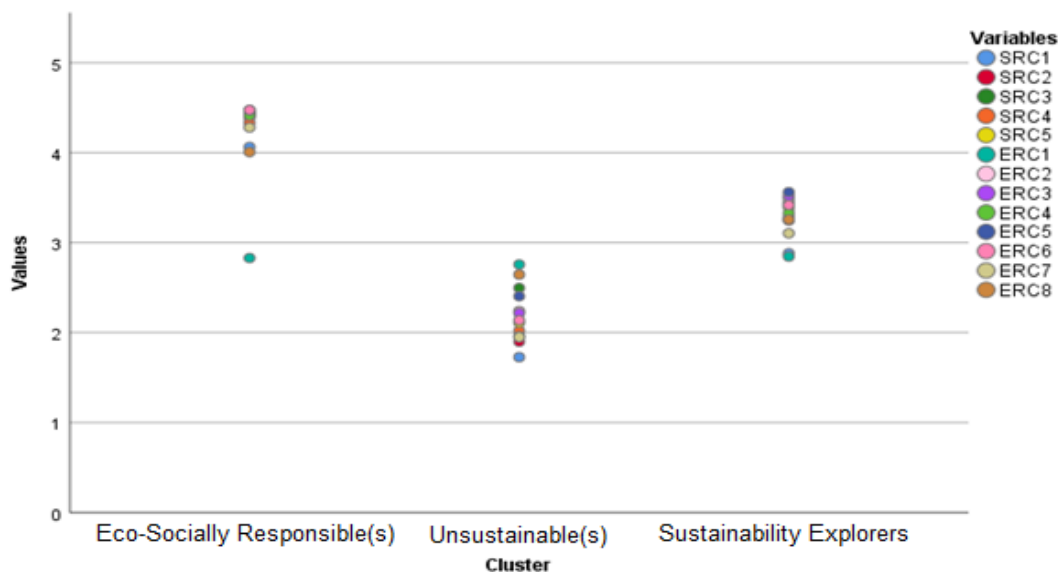
Figure 1: Final Clusters

The three groups established as a result of the cluster formation show interesting results. However, it is advisable to explore the internal makeup of the groups. After exploring the basic differences between the groups, the generation-based composition of each cluster can be a further question of investigation.

Table 5: Composition of the clusters by generation

	Baby Boomers	Gen X	Gen Y	Gen Z
Eco-Socially Responsible(s)	36.67 %	**50.26 %**	37.19 %	30.04 %
Sustainability Explorers	40.83 %	37.69 %	44.59 %	**50.00 %**
Unsustainable(s)	**22.50 %**	12.05 %	18.22 %	19.96 %
SUM	100.00 %	100.00 %	100.00 %	100.00 %

Table 5 shows that members of the X generation are in the majority among responsible green consumers, i.e. half of Generation X can be categorised as responsible green consumers. Preliminary surveys have proven the environmental attitude of Generation Z several times. Still, 30.04 % of Generation Z belong to the group of Eco-Socially Responsible(s). This also means that the members of Generation Z are represented in the smallest proportion among the Eco-Socially Responsible(s) among the four generations examined. The second cluster, which can still be categorised as green, is the group of those who take the Green route. In their case, the members of Generation Z are represented in the largest proportion, followed by Generation Y, Baby Boomers, and Generation X. The third group gathers consumers who cannot be listed in the sustainable categories at all. The Unsustainable(s) cluster is made up mostly of the members of the Baby Boomers, which could even be predicted from the preliminary research results. In the Unsustainable(s) cluster, the presence of Generation Z should be highlighted since, altogether, nearly 20 % of Generation Z can be listed here, which contradicts the generational stereotypes.

4. Conclusions

The results show that the consumer's age does not significantly determine the environmental attitude. Still, there are some differences found between the generations, but to quite a small extent, and it does not mean that only the consumer's generational affiliation has an impact on their consumer attitude towards the environment and society, i.e. their sustainable approach. The purpose of the study was to reveal the generational peculiarities. For this purpose, cluster formation served as a further analysis. As a result of the cluster analysis, three consumer groups emerged. In their case, it can be said that the members of the group called „Eco-Socially Responsible(s)" are at the highest level of sustainable consumption. For them, it is advisable to maintain interest and a pro-environmental attitude. It is recommended to motivate and reinforce them. The members of the group called „Sustainability Explorers" can be influenced in a positive direction. In their case, education, expansion of knowledge, and motivation can be beneficial. The members of the group called „Unsustainable(s)" are the least

accessible group of consumers. They stick to their ideas, and their opinions can hardly be influenced or cannot be influenced at all. It is possible that the way the questions were asked influenced the result. For example, some questions specifically focus on companies. However, the results of the research did not examine what kind of ecological footprint consumers leave. The conclusion was formulated that it is advisable to include additional variables in the study in addition to the generational theory. It is advisable to analyse the dominant and weakest statements in the clusters. Although the generational difference can be demonstrated, its sole influencing power cannot be clarified based on the thesis. So, the best answer to the research question would be that some generational differences arise, but the generation in itself does not determine the environmental attitude and sustainable view of consumers. Future research is directed at finding the factor that has the greatest influence on consumers' environmental attitudes.

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