NICOLAUS COPERNICUS UNIVERSITY IN TORUŃ

Bulletin of Geography. Socio-economic Series, No. 74 (2026): 31-47
http://doi.org/10.12775/bgss-2026-0034

BULLETIN OF GEOGRAPHY. SOCIO–ECONOMIC SERIES

journal homepages:
https://apcz.umk.pl/BGSS/index
https://www.bulletinofgeography.umk.pl/

Consumer value systems and insights into sustainable food behaviour across generational cohorts

Renata Nestorowicz[1, CDFM], Adrian Lubowiecki–Vikuk[2, CMR], Doris Antczak[3, M], Sylwia Majcher[4, M], Maria Bajak-Spendel [5, FM]

[1,3,4]*Poznań University of Economics and Business*, Poznań, Poland; [2]*SGH Warsaw School of Economics,* Warsaw, Poland; [5]*Krakow University of Economics*, Krakow, Poland; [1]e-mail: renata.nestorowicz@ue.poznan.pl, [1]https://orcid.org/0000-0002-7510-3747; [2]e-mail: alubow@sgh.waw.pl (*corresponding author*), [2]https://orcid.org/0000-0001-9672-9514; [3]e-mail: doris.antczak@ue.poznan.pl, [3]https://orcid.org/0000-0003-1443-7855; [4]e-mail: sylwia.majcher@phd.ue.poznan.pl; [4]https://orcid.org/0000-0003-0457-7301; [5]e-mail: bajakm@uek.krakow.pl, [5]https://orcid.org/0000-0003-4769-7696

How to cite:
Nestorowicz, R., Lubowiecki–Vikuk, A., Antczak, D., Majcher, S., & Bajak-Spendel, M. (2026). Consumer value systems and insights into sustainable food behaviour across generational cohorts. *Bulletin of Geography. Socio-economic Series*, 74(74): 31-47. https://doi.org/10.12775/bgss-2026-0034

Abstract. This article aims to determine the hierarchy of consumers' values belonging to three generational cohorts (X, Y, Z) and examine the strength of the link between the value system and sustainable eating habits. A quantitative survey utilising the CAWI technique was conducted among a representative sample of Polish Internet users aged 18–59 (N = 639). The empirical results indicate that societal security represents the primary value priority for Gen X and Gen Y, whereas benevolence-dependability holds the highest importance for Gen Z. Furthermore, sustainable food behaviours (meat reduction and food waste avoidance) exhibit stronger correlations with core value systems in younger generations than in Gen X, where routine and economic pragmatism dominate. Given that gender acts as a vital intragenerational differentiator, value-based marketing communications promoting sustainability should be highly tailored to these demographic variations.

Article details:
Received: 19 January 2026
Revised: 24 September 2026
Accepted: 24 October 2026

Key words:
consumer behaviour, sustainable dietary behaviour, Generation X, Millennials, Generation Z, generational cohort theory, Poland

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1. Introduction

Consumer values are shaped by social, economic, and cultural factors, while changes in the environment and technological developments contribute to dynamic shifts in consumer needs (Wyrwa et al., 2023). In Poland, these dynamics are closely linked to long-term demographic transformations and shifts in the population's age structure. As noted by Szymańska et al. (2009), analyzing changes in age structures is essential for understanding broader socio-economic developments, as evolving age cohorts directly influence contemporary consumption patterns. These changes have led to differences between generations in their attitudes towards life and consumption. The values that guide individual generational cohorts are a key element in understanding consumer motivations, preferences, and behaviours (Mason et al., 2023). They not only distinguish generations but also shape internal differences within generational groups (e.g., Dąbrowski et al., 2022; Wyrwa et al., 2023; Caliskan et al., 2025). This is particularly visible in Poland, a country undergoing a rapid cultural transition where older generations still hold relatively traditional and collective values, whereas younger generations (Gen Y and Gen Z) lean strongly towards individualism and self-enhancement (Gadomska-Lila, 2020). This shifting value system directly affects market behaviour, as younger Polish consumers increasingly rely on digitalized, individualistic decision-making, which demands that marketing adapts to their personal mobile habits (Mróz & Grabiwoda, 2025).

Consumer awareness and their orientation towards values related to social and environmental responsibility contribute to changes in consumer attitudes and behaviours (Doan et al., 2025). The approach to consumption encompasses both social and individual dimensions, suggesting that consumer values reflect a wide range of motivations, from concern for the common good to concern for one's own well-being (Mason et al., 2023). Consumers increasingly value authenticity and personalisation in their experiences. Trust in brands and other social entities develops when there is consistency between an individual's values and the activities offered by those entities (Braciníková & Matušínská, 2020). Differences in values are reflected in how individuals identify with brands and products, posing a significant challenge for organisations seeking to respond to changing consumer needs. This approach is also crucial for analysing generational preferences, whose attitudes and values influence social relations and purchasing decisions (Walia et al., 2025). The retail food sector in Poland perfectly illustrates this tension. It is one of the largest and most competitive markets in Central Europe, dominated by large discount chains like Biedronka and Lidl (Rogala et al., 2025). In this market, promotional campaigns for traditional dairy brands focus heavily on security and tradition, while plant-based alternatives predominantly appeal to hedonism and openness to change (Rogala et al., 2025).

There is still a lack of research comparing consumer value systems across generational cohorts. Existing studies typically focus on single age groups – most often young consumers (Gen Z) – and are conducted within narrow service contexts, such as the clothing, food, or sustainable development markets (e.g., Garia-Fodor & Csiszárik-Kocsír, 2018; Makowska, Boguszewski & Hrehorowicz, 2024; Walia et al., 2025). From a socio-economic perspective, recent studies also emphasize how technological drivers shape sustainable dietary choices in consumer food practices (Jerzyk et al., 2026). The lack of a holistic view of the value systems of generational cohorts deepens the cognitive gap in understanding consumer behaviour and hinders many companies' practical marketing activities. In addition, a turbulent environment, adverse events, and the numerous crises associated with them have a significant impact on changing consumer values and behaviours (e.g., Dimitrova & Ilieva, 2023; Jasrotia et al., 2023; Caliskan et al., 2025). Therefore, consumer value systems should be analysed with explicit consideration of generational cohorts. To examine the relationship between values and consumer behaviour, a specific context needs to be defined – in this study, it is sustainable food consumption within the specific socio-economic reality of the Polish marketplace.

This article aims to determine the hierarchy of values among consumers from three generational cohorts (X, Y, and Z), to identify similarities and differences both between and within these cohorts, and to examine the strength of the relationship between value systems and sustainable food consumption (a diet that limits the consumption of meat and/or animal products, not wasting food). Understanding these differences will enable organisations to design communication activities and strategies that reflect the expectations of individual generational cohorts, thereby supporting the development of more sustainable eating habits. To achieve this goal, the study addresses the following research questions (RQs):

- RQ1: What is the hierarchy of values among generational cohorts in Poland?
- RQ2: What intergenerational differences exist in the value system of Polish consumers?
- RQ3: What intragenerational differences in the value system exist in the age groups studied?

- RQ4: What is the relationship between values and the stage of the process of changing eating habits to more sustainable ones (a diet that limits the consumption of meat and/or animal products, not wasting food)?

2. Literature review

2.1. Generational cohort theory

The researchers' approach to generations is anchored in Strauss and Howe's generational theory. Generational theory aims to explain and characterise cohorts of people based on their membership in a particular generation, revealing distinct behavioural patterns within generational groups (Strauss & Howe, 2000). Each generational cohort develops shared worldviews, values, attitudes, and perceptions (Snyder et al., 2025), creating distinct generational characteristics. These characteristics influence the needs, motives (Savin et al., 2024), and behaviours of individual members of a given generation, regardless of gender, education, or income (e.g., Eastman & Liu, 2012).

A generation refers to a cohort of people born in a similar period, who are of similar age and life cycle, as well as those who have been shaped by a specific period (Strauss & Howe, 2000). However, it is difficult to identify clear boundaries between generations in the literature (e.g., Rudolph et al., 2021). Typically, a generational cohort spans approximately twenty years (±5). At present, six generational cohorts coexist: the Silent/Mature Generation, Baby Boomers, Generation X/13th Generation (Gen X), Generation Y/Millennials (Gen Y), Generation Z (Gen Z), and Generation Alpha.

In management and marketing research, generational cohort analysis is often treated as equivalent to "generational segmentation." Generational segmentation involves homogeneous grouping (based on age) and the profiling of individuals, taking into account their attitudes, beliefs, and behaviours common to people in a particular generation (e.g., Parment, 2013; Snyder et al., 2025). These characteristics are distinctive features of "cohort effects" (Duffy, 2021). As a rule, this distinguishing feature refers to instantaneous time and is observed in the analysis of generational cohorts. This is reflected in both the similarities and differences in consumer behaviour observed across generational cohorts (e.g., Rudolph et al., 2021).

The labelling of rigid generational cohort categories, widely criticised by some researchers (e.g., Gardiner et al., 2013; Rudolph et al., 2021), may have marketing and practical benefits (Casalegno et al., 2022). As Wiedmann et al. (2014) demonstrated, a focus on consumers' subjective expectations and individual value perceptions can lead to increased consumer loyalty. In practice, marketers tend to focus disproportionately on younger generations, thereby overlooking not only a substantial share of the population but also the groups with greater purchasing power (Probst & Atkinson, 2025). This requires a deeper understanding of the essence of generational segmentation and going beyond an exclusive focus on intergenerational differences, which are to some extent natural. Furthermore, as emphasized by Gardiner et al. (2013), generational categories must be balanced with an understanding of consumer self-identity, as rigid chronological boundaries often fail to capture individual cross-generational variations.

In addition to dividing generational cohorts by chronological age and assigning them specific labels, it is important to consider factors that shape individuals' beliefs, thinking, and behaviour, which may occur simultaneously across different age groups (Duffy, 2021). This is influenced not only by the previously mentioned "cohort effects." Duffy (2021) highlights two additional mechanisms: "period effects" and "life-cycle effects." The former refers to experiences that affect everyone regardless of age, such as the health crisis associated with the COVID-19 pandemic. Life-cycle effects, in turn, are changes associated with chronological age (e.g. lifestyle) or arising from significant life events. Among these personal changes, the hierarchy of values across an individual's life cycle plays a key role.

2.2. The value system shaping consumer behaviour

The consumer value system is crucial for marketing strategies and understanding it allows communication to be tailored to different consumer segments (Vermeir & Verbeke, 2008; Chen & Lamberti, 2015). It is the prism through which consumers perceive the goods and services available on the market (Dimitrova & Ilieva, 2023). Values, understood as enduring beliefs about desirable ways of acting, are a fundamental aspect of culture that influences consumer attitudes (Hofstede, 2001; Schwartz, 2012). They play a guiding role in consumers' purchasing decisions and help them formulate their expectations (Jasrotia et al., 2023). Values are often hierarchical, with some dominating others, which translates into purchasing priorities (Vauclair et al., 2014).

The significance of consumer values is dynamic – it changes under the influence of global trends and social processes, e.g., growing environmental aware-

ness (e.g., Kim & Choi, 2005; Leiserowitz et al., 2006). Research on consumer values also suggests that consumers increasingly link their values to social responsibility, which influences their consumption choices and purchasing preferences (Carrington et al., 2010). Young consumers often identify with values that emphasise an ethical and sustainable approach to shopping (Robichaud & Yu, 2022). Fashion-conscious consumers seek goods that align with their personal values, and view clothing as a means of self-expression (Manley et al., 2023). Consequently, the concept of sustainability is gaining importance, especially among younger generations. This is not a categorical view, as Táborecká et al. (2025) suggested that Gen Z is characterised by a disconnect between their attitudes and actual behaviour. This is undoubtedly related to the findings of other researchers who have proven that Gen Z is more sensitive to price (Lemanowicz et al., 2025). According to Gauthier et al. (2020), the effectiveness of value-based marketing depends heavily on the congruence between the values embedded in the message and the specific values activated by consumers at the moment of choice.

Values can have both positive and negative effects on consumer attitudes, depending on the context and individual beliefs (Davari et al., 2024). The role of values in decision-making is particularly visible in product selection, where consumers rely on symbolic and emotional meanings that extend beyond the product's functional attributes (Tangsupwattana & Liu, 2018).

An individual's value system is shaped not only by individual experiences and beliefs, but also by belonging to a specific generational cohort. For example, Gen X, characterised by stability and a tendency to choose high-quality products, differs in terms of value preferences from millennials, who are more likely to value authenticity and experiences (Ladhari et al., 2019). These differences are particularly relevant in the context of consumer loyalty – Gen X representatives may be more likely to be guided by their attachment to traditional brands. At the same time, younger generations choose brands that reflect their values and identity (e.g., Pennington-Gray et al., 2003).

The influence of values on consumer behaviour can be analysed in terms of various demographic factors, such as age, gender, and socio-economic status (Caliskan et al., 2025). On the one hand, research indicates that women are more likely than men to be guided by pro-social values in their purchases, which may be evident in preferences for organic or fair-trade products (Swim et al., 2020). On the other hand, Eastman and Liu (2012) suggest that consumer needs and behaviours driven by values may be independent of demographic characteristics such as gender, education, or income, which indicates the universal role of values in shaping consumer attitudes.

One of the most important tools for analysing the impact of values on consumer behaviour is the modified Schwartz model (Cieciuch & Schwartz, 2012). This model assumes that the value system is universal, but the impact of individual values on consumer behaviour depends on external factors such as culture or specific demographic characteristics. The authors point out that values can serve as a source of motivation for certain behaviours, although they do not necessarily have to. Conscious values are more strongly reflected in behaviour when they are personally important and deliberately considered by the individual. The model proposed by Schwartz and developed jointly with Cieciuch is based on the thesis that the structure of values is circular (Fig. 1), and the number of wedges corresponding to values depends on the research objectives and the precision of the research tool. In the classical approach, 10 values were identified, and in the modified approach, 19 (achievement, hedonism, stimulation, self-direction-action, self-direction-thought, universalism-tolerance, universalism-nature, universalism-societal concern, benevolence-caring, benevolence-dependability, humility, conformity-interpersonal, conformity-rules, tradition, security-societal, security-personal, face, power-resources, power-dominance), which can be analysed by combining them into four main values: openness to change, self-enhancement, conservation, and self-transcendence. Analyses can also be conducted considering opposing dimensions of values: focus on oneself vs. focus on others, or growth vs. self-protection (Cieciuch & Schwartz, 2018).

2.3. Sustainable food consumption

Consumers' food choices are linked to their values (Vermeir & Verbeke, 2008; Vergura et al., 2023). In the context of social and ecological challenges such as climate change, food waste, and overexploitation of natural resources, decisions about nutrition are becoming increasingly important (Abrahamse, 2020; Reisch et al., 2021). Transforming food consumption patterns in a more responsible direction is particularly important for achieving global sustainable development goals (e.g., Glińska-Neweś et al., 2025).

Understanding how an individual's values translate into their purchasing choices is the basis for implementing sustainable consumption. This concept refers to purchasing decisions aimed at reducing negative environmental impacts during the purchase, use, and disposal of products (Vergura et al., 2023). In the context of food, this relates to issues such as local production, animal welfare, waste reduction, ethical working conditions, and food safety (e.g., Ammann et al., 2023).

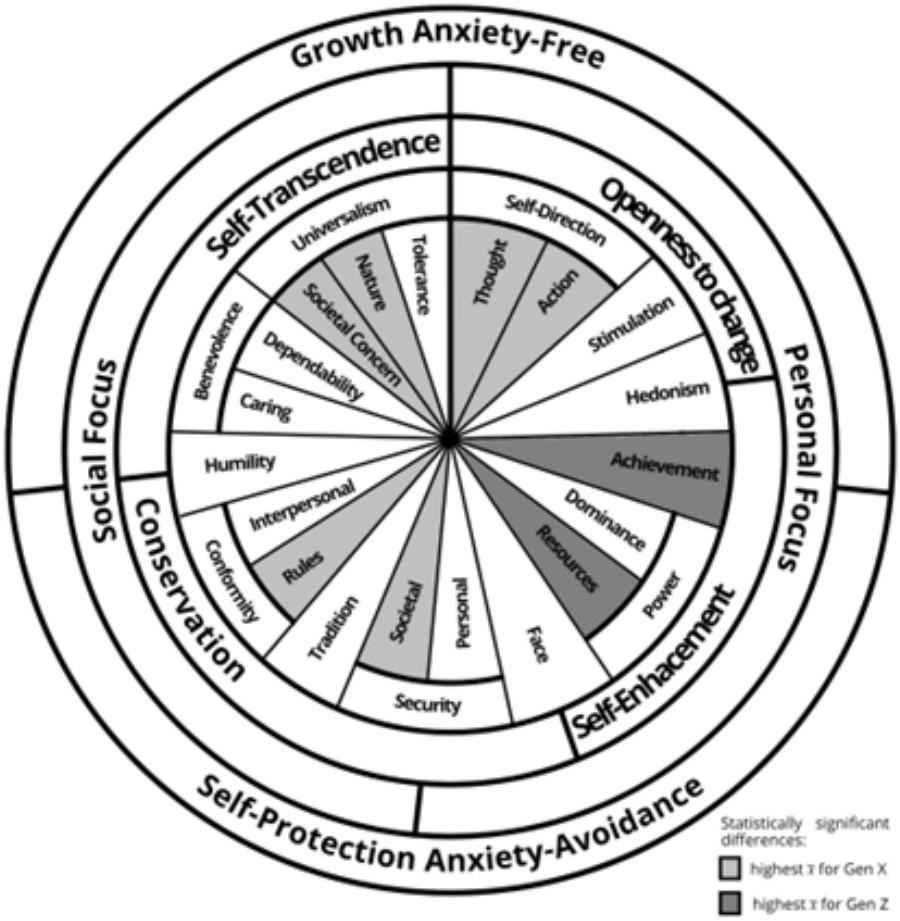


Fig. 1. Values across generations: compilation of averages
Source: own study based on Cieciuch & Schwartz (2012, 2018) scale

Consumer values can be an important predictor of sustainable food choices, such as reducing meat consumption, choosing plant-based alternatives, or preferring local and organic products (Cicia et al., 2021). Sustainable food behaviours are not only an expression of ethical beliefs but can also be linked to individual benefits perceived by consumers. For example, hedonistic values can reinforce pro-environmental choices when consumers associate them with enhanced well-being, greater meal appeal, or increased food satisfaction (Issock et al., 2023). At the same time, situational factors such as product availability and price (Marian et al., 2014) or social influence (Begho & Liu, 2024) can shape the strength of the relationship between values and food behaviours. Knowledge of these mechanisms shaping purchasing behaviour enables organisations not only to influence consumer decisions in ways conducive to achieving market goals, but also to advance broader ideas related to sustainable development (Belz et al., 2025).

Understanding the consumer value system, its hierarchy, and the differences between and within generations is crucial for marketing communication. The model developed by Schwartz and Cieciuch (2012, 2018) can be regarded as a holistic framework for analysing values in a marketing context, enabling precise targeting that accounts for the specific preferences and value orientations of consumers across different generational cohorts. This alignment is visible in the Polish retail market, where promotional campaigns for traditional dairy brands (such as Mleczna Dolina or Pilos) focus heavily on security and tradition, while plant-based alternatives (such as Go Vege, Vemondo, or Alpro) predominantly appeal to hedonism and openness to change (Rogala et al., 2025). However, values related to self-transcendence, such as ecological universalism, are rarely communicated explicitly at the product level, reflecting a widespread marketing tendency to prioritize immediate taste and convenience over purely ideological appeals (Rogala et al., 2025).

3. Method

This study adopted a quantitative research approach to examine the value system of Polish consumers, with a focus on generational cohort analysis (de Pelsmacker, 2025). The data were collected through a Computer-Assisted Web Interview (CAWI) survey. The CAWI technique allowed for effective data collection by presenting survey questions to respondents on screen devices. This technique was chosen because it enabled a large, diverse research sample while allowing respondents to participate in the study in a convenient, comfortable manner. Importantly, the sampling explicitly targeted mobile device users. Rather than being a mere technical constraint of the data collection mode, this criterion represents a deliberate theoretical approach. Modern younger generations – especially Gen Z – are primarily characterized as digital and mobile consumers whose daily decision-making, purchasing, and food practices are intrinsically linked to smartphone environments (Mróz & Grabiwoda, 2025; Rogala et al., 2025). Therefore, engaging mobile device users ensures that the data captures authentic digital consumption contexts. Moreover, the survey forms part of a project that aims to identify how respondents' values can be used in communication via mobile devices, which are utilised not only in respondents' leisure time, but also when shopping for food or preparing meals.

The study was conducted using an Internet research panel of a professional research agency, in accordance with a project plan agreed with the researchers. To ensure data quality, the agency held PKJPA research quality certification (Polskie Standardy Jakości Realizacji Badań Rynku i Opinii Społecznej, 2023). This is the leading Polish Research Quality Control Program, which functions as an objective industry standard based on international ISO guidelines and the ICC/ESOMAR International Code on Market and Social Research, thereby guaranteeing strict adherence to international auditing and data validation norms. The study received ethical approval from the Committee on Research Ethics at the Poznań University of Economics and Business.

The data were collected in July 2024. First, a pilot study was conducted to assess the clarity and structure of the questionnaire. After incorporating the necessary adjustments, the final version of the questionnaire was distributed for independent completion by respondents.

A total of 639 complete questionnaires were collected. Respondents were mobile device users, decision-makers, or co-decision-makers in household food purchases. Quota sampling was used with the following selection criteria: gender, age, and place of residence (95% confidence interval). To ensure national representativeness, the sample structure was directly aligned with the official demographic data of the Polish Central Statistical Office (GUS) regarding internet users within the analysed age brackets (Table 1). The sample was representative of Polish Internet users aged 18–59, belonging to one of three generational cohorts. The study assumed that people belonging to each generation were born in the following years:

- 1965–1980 Gen X (aged 44–59, n = 238),
- 1981–1994 Gen Y (aged 30–43, n = 266),
- 1995–2006 Gen Z (aged 18–29, n = 135).

Although the overall sample size is sufficient for advanced multi-group comparisons, the distribution across the cohorts is uneven. This is due to the quota-based selection of the sample. The size of each age cohort in the sample corresponds to the structure of the general population. This sample size allowed for comparisons across the whole sample with a 95% confidence interval, with a maximum margin of error of 4%. For comparisons within the Gen Z group, the maximum margin of error was 8%, whilst for the Gen X and Gen Y groups it was 6%.

In this study, slightly over 50% of the respondents were women. Less than 40% of the respondents lived in rural areas, and almost 13% lived in cities with over 500,000 inhabitants. Nearly 43% of respondents described their financial situation as average, and 41% as good. Over 90% of respondents live in households with more than one person, most often comprising 2–4 members. Over half of the respondents had higher education.

The study considered 19 values identified by Cieciuch and Schwartz (2012, 2018), using a scale prepared by these authors. Three statements describing a person were used to define each value, and the respondent was asked to rate how similar they were to them on a 6-point scale (1 – "not at all like me," 6 – "very much like me").

The stage of change towards more sustainable food behaviours was determined using the scale used in the TTM model (Prochaska & Velicer, 1997). Sustainable food behaviours can be exhibited by choosing plant-based products more often than animal-based ones, selecting products from local suppliers, choosing seasonal vegetables and fruits, and choosing products from ethical farming systems (e.g., free-range eggs), free from antibiotics and hormones, and certified products (e.g., organic, fair trade). They also include practices to reduce food waste. Two types of behaviour were selected for analysis: the first concerning a diet that limits the consumption of meat and animal products (diet), and the second based on not wasting food. The selec-

Table 1. The profiles of respondents

Variable	Population (in thousands)	Study
Total	**21184.9 (100.0)**	**639 (100.0)**
Gender		
female	10520.9 (49.7)	325 (50.9)
male	10664 (50.3)	312 (48.8)
Age		
18-29	4848 (22.9)	135 (21.1)
30-39	5920.9 (27.9)	188 (29.4)
40-49	5868.2 (27.7)	179 (28.0)
50-59	4547.8 (21.5)	137 (21.4)
Place of residence*	**37907.7 (100.0)**	
village	15283.7 (40.3)	247 (38.7)
city up to 20,000 inhabitants	4941.1 (13.0)	82 (12.8)
city from 20,000 to 100,000 inhabitants	7126.4 (18.8)	123 (19.2)
city over 100,000 inhabitants	10556.5 (27.8)	187 (29.3)

Notes: * The structure of the general population refers to the total population of Poland
Source: own elaboration based on the research and GUS (2022, 2023)

tion of these two aspects of sustainable food consumption was made for the following reasons:

- At the level of individual decisions, these behaviours do the most to minimise negative impacts on health, the environment and the well-being of future generations.
- Behaviours related to the avoidance of food waste are more comprehensive than those which are linked solely to product choices, such as the purchase of certified products. This is because they relate not only to the process of purchasing decisions, but also to the entire process of food consumption (from the planning of purchases, the selection of items in-store, the preparation and consumption of meals, to the storage of food).
- Respondents' incomes have a potentially smaller influence on these behaviours than, for example, in the case of purchasing certified organic or fair-trade products. It is estimated that the cost of organic food in Poland is approximately 30% higher than that of conventional food (Szymańska, 2024).

Respondents were asked to rate their behaviour on a scale: 1 – I do not think about it at all; 2 – I think about it, but I am not convinced; 3 – I have decided to do so and am now thinking about how to start; 4 – I am trying to do so, but it is difficult; 5 – I do this regularly/every day. In the case of diet, two statements were assessed ("I'm reducing my meat consumption"; "I'm reducing my consumption of animal-based products, such as dairy and eggs"), whereas in the case of food waste, eight statements were evaluated, covering shopping practices, meal preparation, the use of leftovers, and sharing surplus food ("When I go shopping, I use a list I've prepared in advance"; "I know how much and what kind of food I have at home"; "I buy products with a short use-by date"; "I only buy as much food as I can eat before it expires or goes off"; "If I have a product whose use-by date is approaching, I use it to prepare a meal"; "If I have a product whose use-by date has passed but which haven't gone off, I use it to prepare a meal"; "I store and use up leftover food"; "I share food when I have too much of it"). To determine the level of sustainable food consumption in relation to diet and food waste, the averages for both types of behaviour were calculated separately.

The results were analysed using the SPSS Statistics version 29.0 programme for Windows. To compare mean scores across clusters, we used one-way analysis of variance (ANOVA) and eta-squared as a measure of effect size. For data that met the assumption of homogeneity of variance (based on Levene's test), we applied Hochberg's GT2 post-hoc test, while for data that did not meet this assumption, we used the Games-Howell test. These tests allowed us to identify which specific groups differed in terms of the analysed value. For comparisons between two gender-based groups, we used Student's t-test and reported Cohen's d as the effect size. Spearman's rho was applied to examine the correlation between value orientations and the stage of change in food behaviours toward a more balanced diet.

4. Results

The collected research material indicates certain differences in the value system of Polish consumers, both between and within generational cohorts.

When comparing the value systems of the three generations, it should be noted that most values were rated highest by Gen X and lowest by Gen Z. The opposite was true only for power, achievement, stimulation, and hedonism, with statistically significant differences only for power-resources and achievement. The averages for Gen Y were most often between those of Gen X and Gen Z, sometimes closer to the older generation and sometimes closer to the younger generation. Not all differences were statistically significant (Table 2). Statistically significant differences in values are observed between Gen X and Gen Z. However, the eta-squared values are low, which indicates that the effect is not strong.

For both Gen X and Gen Y, societal security and self-direction–action represent the most important values. In contrast, for Gen Z, benevolence–dependability holds the highest importance. The lowest in the hierarchy of values for all three generations is power (resources and dominance). It can also be noted that the older the generation, the greater the amplitude between the highest- and lowest-ranked values.

A detailed analysis of values in generations X, Y, and Z based on Cieciuch and Schwartz's circular model of values (Cieciuch & Schwartz, 2012; 2018) reveals even more pronounced differences and similarities between generations (Fig. 1). Statistically significant differences are marked in shades of grey in the figure. Moving on to our higher-order values, the values more important to Gen X are primarily those related to self-transcendence (universalism and benevolence) and openness to change (self-direction), whereas in Gen Z, values related to self-enhancement (power and achievement) proved more crucial. Considering the averages of the four main values, it can be concluded that the generations did not differ statistically significantly in terms of openness to change (Gen X: $\bar{x}$=4.58; Gen Y: $\bar{x}$=4.57; Gen Z: $\bar{x}$=4.52; F(2,636)=0.347, p=.707). Statistically significant differences were found between generations X and Z in terms of self-enhancement (Gen X: $\bar{x}$=3.43; Gen Y: $\bar{x}$=3.54; Gen Z: $\bar{x}$=3.75; F(2,636)=5.368, p=.005), conservation (Gen X: $\bar{x}$=4.51; Gen Y: $\bar{x}$=4.42; Gen Z: $\bar{x}$=4.29; F(2,636)=4.887, *p*=.008) and self-transcendence (Gen X: $\bar{x}$=4.74; Gen Y: $\bar{x}$=4.62; Gen Z: $\bar{x}$=4.53; F(2,636)=4.242, *p*=.15). Values related to self-enhancement are more important for Gen Z than for Gen X, while the other two groups of values (conservation and self-transcendence) are considered more important by representatives of Gen X than by those of Gen Z.

For Gen Z, self-focused values hold greater importance, whereas for Gen X the most important values are oriented toward others, and only to a lesser extent toward the self. All generations surveyed show a slight preference for growth over self-protection values. However, within the growth category, its importance is highest for Gen X and lowest for Gen Z.

To identify intra-generational differences, the differences in values declared by women and men in each generation were analysed. Other demographic characteristics proved to be statistically insignificant. Comparative analyses were conducted separately for respondents of each gender within their respective generational cohorts. Table 3 presents only the statistically significant results.

When analysing gender differences in values across generations, some values were found equally important to women and men within a given cohort. These values are power-resources, tradition, humility, conformity-interpersonal and stimulation. In the case of visible differences in the assessment of the importance of individual values, they are more important for women than for men. The only exception is power-dominance. Regarding this value, men in all generations are more attached to it than women.

Gender differences in values become less pronounced with age, particularly for universalism-tolerance and self-direction-action. This means that the older the generation, the less visible the difference in the value system between women and men becomes: it is either statistically insignificant (Gen X) or the magnitude of the gender effect is smaller compared to younger generations (Gen Y and Gen Z). The opposite is true for values such as face, conformity-rules, and universalism-nature. This means that the youngest generation surveyed is similar in this respect, while in older generations, women attached greater importance to these values than men.

Gen Y proved to be the most diverse in terms of values. In this cohort, statistically significant gender differences were observed for 13 out of the 19 values. Unlike the other generational cohorts, differences were observed in universalism-societal concern, achievement, and hedonism. These values were more important to Gen Y women than to men of the same generation.

In contrast, in the youngest generation, women were more focused on self-directional thoughts than men.

Intragroup gender differences within individual generations may result from greater age-related variation among women compared to men. Men proved to be less diverse in their assessment of individual values across generations compared to women. Only in

Table 2. Hierarchy of values among the surveyed generational cohorts in Poland

Value	Total		Gen X		Gen Y		Gen Z		Anova		
	R	$\bar{x}$ (σ)	R	$\bar{x}$ (σ)	R	$\bar{x}$ (σ)	R	$\bar{x}$ (σ)	F	*p*	η^2
Security – societal	1	4.997 (.866)	1	**5.144**^{a} (.827)	1	4.996^{a} (.878)	4	4.741^{b} (.855)	9.611	.000	.029
Self-direction–action	2	4.989 (.813)	2	**5.098**^{a} (.797)	2	4.995^{a} (.810)	2	4.783^{b} (.816)	6.600	.001	.020
Benevolence –dependability	3	4.916 (.814)	4	**4.941** (.817)	3	4.930 (.814)	1	4.844 (.809)	0.673	.510	.002
Self-direction–thought	4	4.880 (.756)	3	**5.003**^{a} (.748)	4	4.867^{a,b} (.768)	6	4.686^{b} (.706)	7.775	.000	.024
Benevolence –caring	5	4.827 (.831)	5	**4.906** (.823)	5	4.798 (.851)	3	4.746 (.800)	1.891	.152	.006
Security –personal	6	4.825 (.849)	6	**4.866** (.890)	6	4.851 (.817)	5	4.701 (.832)	1.833	.161	.006
Universalism–societal concern	7	4.643 (.908)	7	**4.822**^{a} (.899)	9	4.592^{b} (.938)	10	4.427^{b} (.807)	9.094	.000	.028
Hedonism	8	4.617 (.880)	10	4.522 (.951)	7	**4.678** (.843)	7	4.664 (.811)	2.215	.110	.007
Face	9	4.595 (.865)	8	**4.633** (.921)	8	4.619 (.856)	8	4.484 (.775)	1.436	.239	.004
Universalism–tolerance	10	4.502 (.928)	9	**4.573** (.949)	10	4.452 (.951)	9	4.477 (.839)	1.125	.325	.004
Universalism–nature	11	4.338 (1.061)	11	**4.482**^{a} (1.080)	11	4.310^{a,b} (1.050)	12	4.141^{b} (1.018)	4.670	.010	.014
Conformity –rules	12	4.313 (.953)	12	**4.433**^{a} (.938)	12	4.300^{a,b} (.975)	13	4.126^{b} (.907)	4.561	.011	.014
Achievement	13	4.170 (.996)	16	4.041^{a} (1.043)	13	4.167^{a,b} (.973)	11	**4.405**^{b} (.918)	5.854	.003	.018
Tradition	14	4.148 (1.136)	13	**4.216** (1.211)	14	4.118 (1.158)	14	4.089 (.942)	0.698	.498	.002
Conformity –interpersonal	15	4.090 (1.050)	14	**4.174** (1.052)	15	4.088 (1.064)	17	3.946 (1.013)	2.037	.131	.006
Humility	16	4.027 (.873)	15	**4.109** (.921)	16	3.993 (.874)	16	3.948 (.773)	1.819	.163	.006
Stimulation	17	3.773 (1.064)	17	3.691 (1.101)	17	3.756 (1.092)	15	**3.953** (.917)	2.699	.068	.008
Power –resources	18	3.613 (1.111)	18	3.485^{a} (1.152)	18	3.613^{a,b} (1.122)	18	**3.840**^{b} (.977)	4.445	.012	.014
Power –dominance	19	2.851 (1.185)	19	2.759 (1.185)	19	2.856 (1.208)	19	**3.003** (1.130)	1.825	.162	.006

Notes: Scale from 1 to 6: R – ranking position in each group; Values whose significance in individual generations differed statistically significantly are marked in grey. The upper indices next to the averages indicate which groups differed from each other at a statistically significant level in terms of a given value. The same superscript letters indicate that cohorts do not differ significantly from each other, while different letters denote statistically significant differences between cohorts. A bold average value means that in this age group, the given value was more important than in other groups.
Source: own study

the case of four values were statistically significant differences observed between men from different generations:

- self-direction-action F(2.309)=8.804; p<.001. Men from Gen X ($\bar{x}$=5.03) and Gen Y ($\bar{x}$=4.85) differ statistically significantly from each other compared to Gen Z ($\bar{x}$=4.47);
- self-direction-thought F(2.309)=7.329; p<.001. There was a statistically significant difference between men from Gen X ($\bar{x}$=5.00) and Gen Z ($\bar{x}$=4.53);
- universalism-societal concern F(2.309)=5.277; p<.01 – Gen X ($\bar{x}$=4.74) and Gen Z ($\bar{x}$=4.28);
- security-societal F(2.309)=5.3; p<.01. Men from Gen X ($\bar{x}$=5.03) and Gen Z ($\bar{x}$=4.56) differ significantly from each other.

However, it should be noted that the effect size η2 was relatively small, ranging between .033 and .054.

Table 3. Intragenerational differences by gender

Values	Gen X				Gen Y				Gen Z			
	F	M	t	d	F	M	t	d	F	M	t	d
Achievement					**4.30**	4.02	2.37*	.29				
Hedonism					**4.82**	4.53	2.79**	.34				
Stimulation												
Self-direction-action					**5.14**	4.85	2.97**	.36	**4.98**	4.47	3.53***	.66
Self-direction-thought									**4.78**	4.53	2.03*	.36
Universalism-tolerance					**4.70**	4.23	4.16***	.51	**4.65**	4.19	3.22**	.57
Universalism-nature	**4.67**	4.31	2.55*	.33	**4.49**	4.16	2.64**	.32				
Universalism-societal concern					**4.76**	4.46	2.69**	.33				
Benevolence-caring	**5.05**	4.78	2.59*	.34	**5.00**	4.60	3.95***	.48	**4.94**	4.44	3.73***	.66
Benevolence-dependability	**5.06**	4.83	2.23*	.29	**5.10**	4.77	3.38***	.41	**5.04**	4.54	3.63***	.64
Humility												
Conformity-interpersonal												
Conformity-rules	**4.56**	4.32	1.98*	.26	**4.43**	4.18	2.13*	.26				
Tradition												
Security-societal	**5.27**	5.03	2.18*	.28	**5.14**	4.85	2.72**	.33	**4.85**	4.56	1.99*	.35
Security personnel	**5.11**	4.65	4.13***	.54	**5.06**	4.66	4.19***	.51	**4.85**	4.46	2.61*	.48
Face	**4.82**	4.47	2.98**	.39	**4.78**	4.45	3.23**	.40				
Power-resources												
Power-dominance	2.56	**2.93**	-2.44*	-.31	2.64	**3.04**	-2.76**	-.34	2.79	**3.35**	-2.87**	-.51

***p < .001; **p < .01; *p < .05
Notes: F – Female; M – Male; t – Student's t-test statistic; d – Cohen's d effect size
Source: own study

The values that differentiated men became more significant with age. Similar trends were observed among women, but across a significantly larger set of values. Only achievement proved to be a more important value for women from Gen Z than for women from Gen X. Statistically significant differences between the generations among women were found in relation to the following values:

- achievement: Gen X ($\bar{x}$=4.10) and Gen Z ($\bar{x}$=4.53); F(2.322)=4.937; p<.01;
- self-direction-thought: Gen X ($\bar{x}$=5.03) and Gen Z ($\bar{x}$=4.78); F(2.322)=3.070; p<.05;
- universalism-nature: Gen X ($\bar{x}$=4.67) and Gen Z ($\bar{x}$=4.20); F(2.322)= 5.563; p<.01;
- universalism-societal concern: Gen X ($\bar{x}$=4.92) and Gen Z ($\bar{x}$=4.52); F(2.322)= 5.809; p<.01;
- conformity-interpersonal: Gen Y ($\bar{x}$=4.23) and Gen Z ($\bar{x}$=3.85); F(2.322)= 3.504; p<.05;
- conformity-rules: Gen Z ($\bar{x}$=4.06) vs Gen Y ($\bar{x}$=4.43) and Gen X ($\bar{x}$=4.56); F(2.322)= 7.975; p<.001;
- security-societal: Gen Z ($\bar{x}$=4.85) vs Gen Y ($\bar{x}$=5.14) and Gen X ($\bar{x}$=5.27); F(2.322)= 6.519; p<.01;
- security-personal: Gen X ($\bar{x}$=5.11) and Gen Z ($\bar{x}$=4.85); F(2.322)= 3.277; p<.05;
- face: Gen X ($\bar{x}$=4.82) and Gen Z ($\bar{x}$=4.53); F(2.322)= 3.546; p<.05.

As in the case of men, the strength of the effect η2 at individual values was relatively small, ranging from .019 to .047. The observed differences are quite consistent with the common perception of Gen Z.

Identifying values important to consumers can be a starting point for determining recommendations for the use of different value-based messages targeted to different audiences. Therefore, the next step was to examine the relationships between values and specific consumer behaviours (RQ4). In this article, we focused on changing food behaviours to more sustainable ones. For the correlation analysis, we focused on the decision to change the diet towards one that limits meat and/or animal products and reduces food waste. In both cases, weak or moderate correlations were observed between certain values and achieving subsequent levels in the TTM. Correlations were more frequent in the case of not wasting food than in the case of reducing the consumption of meat and animal products. In addition, it was noted that the older the generation, the weaker the correlation between the values held and the achievement of the next level in the TTM. This may

mean that for Gen X, moving to higher levels of more sustainable food behaviour is not related to a system of values; they do not need some ideological foundation to change their behaviour, and there are no deep convictions behind such actions. Similar conclusions can be drawn in relation to women, who, compared to men, attach less value to their dietary behaviours.

The correlations between consumer values and dietary changes to limit meat and/or animal products across different generations are presented in Table 4.

Most of the correlations identified were weak (light grey cells in the table). However, a moderate positive correlation was found between power-dominance and the transition to such a diet among men across all generations.

In contrast, for self-direction-action, a negative correlation with switching to a diet limiting the consumption of meat and animal products was observed among men in Gen Z.

This suggests that, in this youngest male cohort, dietary choices may be shaped more by external social influences than by internal autonomy-driven motivations. In Gen X, regardless of gender, an average correlation was observed with universalism-nature. In other words, the change in diet went hand in hand with values related to environmental protection. A similar relationship was also observed among women from Gen Z. The strongest correlation, although still at an average level, was observed between following this diet and universalism-tolerance among men from Gen Y.

More (positive) and stronger correlations were observed between values and not wasting food than in the case of the diet described above (Table 5). There were differences between generations and between genders. In the case of Gen X, there are fewer correlations, and they are weaker than in younger generations. A similar situation exists for women compared to men. Therefore, it can be concluded that not wasting food by women, as well as by representatives of Gen X, is less related to their values. The transition to subsequent levels of TTM must therefore be caused by factors other than professed values. Values, on the other hand, are more important among younger generations and men.

In the case of food waste, the strongest correlations were found with the following values: self-direction, universalism, and benevolence.

Table 4. Correlation between consumer values across generations and diets that limit the consumption of meat and animal products

Values	Total	F	M	F_Gen X	M_Gen X	F_Gen Y	M_Gen Y	F_Gen Z	M_Gen Z
Achievement	.017	-.046	.077	.09	.196*	.022	.074	-.221*	-.195
Hedonism	-.056	-.104	-.02	.019	.004	-.098	.038	-.264*	-.238
Stimulation	.147**	.096	.200**	.217*	.246**	.134	.191*	-.018	.121
Self-direction-action	-.083*	-.039	-.149**	-.018	-.125	-.11	-.12	-.049	-.324*
Self-direction-thought	-.05	.007	-.114*	.012	-.067	-.083	-.112	.081	-.295*
Universalism-tolerance	.145**	.060	.212**	.109	.162	.084	.346**	-.027	.032
Universalism-nature	.299**	.299**	.298**	.303**	.313**	.251**	.297**	.310**	.287*
Universalism-societal concern	.123**	.108	.126*	.025	.06	.119	.183*	.082	.102
Benevolence-caring	-.057	-.054	-.072	.061	-.037	-.107	-.03	-.172	-.281*
Benevolence-dependability	-.067	-.109	-.054	.039	-.012	-.186*	-.013	-.187	-.255
Humility	.186**	.176**	.189**	.239*	.199*	.079	.203*	.235*	.099
Conformity-interpersonal	.123**	.088	.148**	.072	.196*	.116	.123	.01	.145
Conformity-rules	.112**	.048	.163**	.055	.248**	-.015	.11	-.011	.131
Tradition	-.058	-.069	-.051	-.134	.074	-.108	-.206*	.018	.072
Security-societal	-.073	.021	-.174**	-.114	-.17	-.035	-.15	.151	-.287*
Security-personal	-.014	-.017	-.032	-.120	-.026	.005	.015	-.001	-.184
Face	-.014	-.046	.023	-.092	.06	.007	.057	-.227*	-.146
Power-resources	.057	-.006	.130*	-.025	.096	.156	.134	-.155	.233
Power-dominance	.206**	.10	.337**	.08	.345**	.17	.316**	.058	.390**

** Correlation significant at the .01 level (two-tailed). * Correlation is significant at the .05 level (two-tailed)
Notes: F – Female; M – Male
Source: own study

The lack of, or weak, correlation between sustainable food behaviours and professed values does not mean that members of older age groups, in particular, do not exhibit sustainable food consumption. On the contrary, they do behave in this way (in the case of diets that limit the consumption of meat and animal products, there are no statistically significant differences between generations, and with regard to food waste, the older the generation, the higher the percentage of people in the last two levels of change: less than ⅓ in Gen Z and over ½ in Gen X). However, their motivations are probably more pragmatic than those resulting from their value system.

5. Discussion

The hierarchical organization of consumer values identified in this study reveals substantial shifts across Polish generational cohorts, reflecting broader macroeconomic and cultural transitions in Central Europe. The finding that the most statistically significant differences occur between Gen X, and Gen Z aligns with the long-term documentation of shifting consumption patterns driven by distinct socio-cultural changes in post-communist societies (Gadomska-Lila, 2020). Research based on Hofstede's cross-cultural framework indicates that younger Poles exhibit far more characteristics of an individualistic culture than older generations, who retain strong ties to collective solidarity and social security (Hofstede, 2001; Kim et al., 2002). For consumers from individualistic cultures, personal growth, hedonic fulfilment, and material achievement tend to dominate purchasing priorities, whereas those from collectivist cultures place social harmony and societal protection at the core of their value structures (Hofstede, 2001).

The empirical evidence from this study, which points toward a more self-centered and achievement-oriented value structure in Gen Z, directly corresponds with the findings of Shulhina and Dąbrowska (2022). Their research suggests that younger generations focus predominantly on individual goals rather than broader social responsibilities. This self-oriented value system heavily dictates contemporary market behaviour. As Mróz and Grabiwoda (2025) note, Polish Gen Z consumers rely extensively on digitalized, individualistic decision-making processes, which naturally requires marketing strategies to adapt directly to their personalized mobile habits. Consequently, what may appear as a lack of social alignment is in-

Table 5. Correlation between consumer values across generations and food waste

Values	Total	F	M	F_Gen X	M_Gen X	F_Gen Y	M_Gen Y	F_Gen Z	M_Gen Z
Achievement	.159**	.106	.191**	.104	.087	.184*	.266**	.088	.377**
Hedonism	.218**	.191**	.210**	.18	.035	.234**	.342**	.198	.410**
Stimulation	.135**	.103	.185**	.202*	.039	.068	.283**	.112	.456**
Self-direction-action	.329**	.287**	.336**	.194*	.212*	.250**	.398**	.403**	.313*
Self-direction-thought	.367**	.360**	.370**	.263**	.242**	.307	.427	.513	.411**
Universalism-tolerance	.330**	.181**	.414**	.098	.368**	.15	.483**	.360**	.242
Universalism-nature	.391**	.330**	.407**	.341**	.375**	.158	.449**	.494**	.299*
Universalism-societal concern	.308**	.172**	.397**	.044	.312**	.184*	.471**	.225*	.23
Benevolence-caring	.331**	.228**	.378**	.119	.261**	.300**	.461**	.230*	.337*
Benevolence-dependability	.311	.240**	.328**	.123	.161	.316**	.434**	.275*	.393**
Humility	.147**	.106	.211**	.119	.231**	.039	.197*	.214	.145
Conformity-interpersonal	.126**	.05	.204**	-.056	.177*	.127	.254**	.002	.055
Conformity-rules	.230**	.165**	.269**	-.01	.261**	.165	.310**	.289**	.103
Tradition	.093*	.055	.126*	-.159	.059	.133	.145	.198	.356**
Security-societal	.277**	.203**	.305**	-.047	.248**	.218*	.308**	.363**	.284*
Security-personal	.232	.155	.235**	-.145	.148	.197*	.301**	.464**	.224
Face	.192**	.104	.240**	-.04	.17	.199*	.271**	.04	.344*
Power-resources	-.001	-.068	.068	-.141	.026	.064	.083	-.085	.327*
Power-dominance	-.058	-.068	.014	.017	-.036	-.111	.065	-.089	0

** Correlation significant at the .01 level (two-tailed). * Correlation is significant at the .05 level (two-tailed).
Notes: F – Female; M – Male.
Source: own study.

stead a pragmatic consumer pattern rooted in individualized autonomy.

Furthermore, gender acts as a critical internal differentiator within these generational cohorts. The observation that values important to women are significantly more other-focused – primarily associated with self-transcendence and conservation – strengthens previous environmental sociology literature (Swim et al., 2020; Doan et al., 2025). These studies consistently demonstrate that women are structurally more likely than men to be guided by pro-social and eco-centric motivations during grocery purchases. Interestingly, this study shows that intergenerational value diversity is particularly pronounced among women, whereas men of different ages remain remarkably homogeneous across their value systems. These discrepancies within individual cohorts reflect contemporary cultural transformations, including the rapid evolution of social roles and lifestyle preferences among women in Poland.

The weaker correlations found between individual value structures and sustainable food behaviours among older consumers present an intriguing paradox. While Gen X exhibits weak value-behaviour links, they simultaneously display the highest real-world compliance with food waste reduction, with over half of the cohort operating in the maintenance and action stages of the Transtheoretical Model. According to Schwartz and Cieciuch (2018), conscious, self-declared values guide behaviour primarily when a decision is perceived as novel, deliberate, and ideologically charged. For older generations, minimizing food waste or managing animal-protein intake is often driven by routine, economic pragmatism, or deeply ingrained household management habits rather than an explicit ideological foundation. This stands in sharp contrast to Gen Z, who approach sustainability as a highly conscious expression of personal identity and ideological belief, a mechanism also observed by Piscitelli and D'Uggento (2022).

However, the findings of this study partially diverge from the conclusions of Ivanova et al. (2018), who indicated that Gen Y is universally more community-oriented and pro-environmental, while Gen X is strictly individualistic. This divergence is likely due to the distinct socio-economic trajectory of Poland compared to Western markets, as well as the specific retail environment. Our empirical data shows that values related to ecological universalism are rated lower by Gen Z than by Gen X, even though younger cohorts express the highest abstract anxiety regarding climate change in general public discourses (Balázsné et al., 2022; Caliskan et al., 2025). This disconnect highlights the profound attitude-behaviour gap that characterizes young green consumers in highly competitive discount-retail markets (Táborecká et al., 2025).

6. Conclusions, implications and limitations

This study successfully determined the value hierarchies of Gen X, Gen Y, and Gen Z in Poland, identifying crucial intergenerational and intragenerational boundaries that shape sustainable food consumption. The older cohorts prioritize societal security and consensus, whereas Gen Z shifts toward benevolence-dependability alongside self-enhancement traits like power and achievement. Crucially, the link between internal values and actual sustainable behaviours (reducing meat consumption and avoiding food waste) is stronger in younger generations, whereas older consumers act on pragmatic, routine, and economic foundations.

6.1. Theoretical and managerial implications

From a theoretical perspective, this study advances generational cohort theory by demonstrating that chronological age indicators must be heavily contextualized within cross-cultural transitions. It proves that in a rapidly developing CEE market like Poland, cohort effects interact dynamically with shifting individualism-collectivism axes, modifying how universal value frameworks (Schwartz-Cieciuch model) translate into behavioural models like the Transtheoretical Model. Furthermore, it challenges universalist green marketing assumptions by demonstrating that identical sustainable behaviours (e.g., avoiding food waste) can be driven by completely different cognitive paths – ideological value-alignment in youth versus historical routine and economic pragmatism in older cohorts.

From a managerial standpoint, these findings indicate that a simplistic, age-only approach to marketing communication is highly ineffective. Marketers must differentiate their positioning strategies based on gender and generational segments. When targeting men across all generations, sustainability messages can effectively leverage themes of personal empowerment and structural control (power-dominance). For traditional grocery brands navigating older audiences (Gen X), promotional strategies should completely bypass abstract green ideology, focusing instead on themes of household

security, local tradition, price-to-quality ratios, and pragmatic resource efficiency (Rogala et al., 2025). Conversely, campaigns targeting Gen Z must position sustainable choices as direct expressions of personal identity, autonomy, and peer-to-peer dependability, delivered exclusively through mobile and digital channels.

6.2. Limitations and future research directions

Our research concerned a specific moment in the life cycle of the respondents, meaning that long-term temporal changes could not be directly observed. Therefore, it would be highly worthwhile to conduct regular research on values in a panel group. This would allow researchers to capture the structural changes taking place in the value system over time. Longitudinal research (e.g., Rudolph et al., 2021) would enable the comparison of results concerning the value system both within generational cohorts and between generations across multiple decades (Pennington-Gray et al., 2003; Leijen et al., 2022).

Beyond the cross-sectional design, several specific methodological limitations must be acknowledged. First, the data relies entirely on the subjective self-reports of respondents, which introduces the potential for social desirability bias, particularly regarding sensitive ethical topics like food waste and sustainable diets. Second, the use of a CAWI data collection technique inherently introduces a sampling bias, as it excludes individuals who are less digitally active, potentially over-representing tech-savvy and highly mobile buyers. Third, although the overall sample size (N = 639) is robust, the internal segmentation by cohort and gender created relatively small subgroup sizes – most notably within the Gen Z cohort (n = 135 total). These restricted cell sizes limit the statistical power of multi-group variance analyses and increase the risk of unstable subgroup comparisons. Finally, this study operationalized sustainable food consumption using only two primary dimensions: meat/animal-product reduction and food waste. While these are globally recognized as high-impact behaviours for emission reduction, they do not fully capture the broader spectrum of sustainable consumption, such as purchasing organic products, sourcing locally, or minimizing plastic packaging.

To mitigate these limitations, future research should adopt a mixed-methods approach, utilizing methodological triangulation by combining quantitative surveys with qualitative depth interviews or behavioural observation to drastically reduce data bias.

Acknowledgement

Manuscript commenced within an inter-institutional research grant of Poznań University of Economics and Business, SGH Warsaw School of Economics, University of Economics in Katowice, and Kraków University of Economics for the project "Value motive in mobile communication versus sustainable food consumer behaviour" executed between 2023 and 2026. The authors acknowledge the support of the other members of the project team: Magdalena Jaciow, Ewa Jerzyk, Anna Rogala, Katarzyna Sanak-Kosmowska, Robert Wolny, and Piotr Antończyk.

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