DETERMINANTS OF PURCHASE AND CONSUMPTION OF CONVENIENCE FOODS – SURVEY OF POLISH RESPONDENTS

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Purpose: The aim of the study was to identify factors influencing consumers' purchasing decisions and frequency of convenience food consumption, including qualitative (gender, generation, income level) and quantitative (attitudes towards new foods, values held and lifestyle) factors.

Design/methodology/approach: The research instrument was a survey questionnaire administered through the CAWI method using Google forms. The research was conducted in the spring of 2023 in Gdynia, Pomeranian Voivodeship (Northern Poland). To select the respondents for the survey sample, the snowball sampling technique was used. They also acknowledged the inherent risk factors associated with conducting an interview using the CAWI method. The interview questionnaire consisted of thematic blocks including scales on: lifestyle, food neophobia (FNS), convenience food purchasing habits, frequency of convenience food consumption and intention to purchase convenience foods, and a metric.

Findings: The research carried out showed that the use of convenience foods of convenience foods varies widely and can depend on factors such as: gender generation, level of monthly income, lifestyle. It was found that generation Z is more likely, compared to generations X and Y, to express an intention to consume convenience foods, new foods and are interested in unconventional food trends.

Research limitations/implications: Our study has some limitations. Identification of factors influencing purchase decisions and frequency of convenience food consumption by consumers belonging to generations X, Y, Z was carried out using snowball sampling among residents of Gdynia. The results of the study are therefore not representative of the entire Polish population and should be interpreted with caution.

Practical implications: Our findings can be used as a basis for discussion and reflection on the development of smart food systems using information and communication technologies (ICTs) that provide consumers (Generations X, Y, Z) with knowledge about the range and quality of convenience foods and help them to enjoy convenience foods.

Originality/value: The change in consumption trends observed in recent years creates new challenges for convenience foods, which not only simplify meal preparation but also heavily influence the nutritional quality of food. Therefore, convenience food manufacturers should consider the preferences and needs of Generation Z when designing such products.

Keywords: food consumption, food trust, new food trends, consumer behaviour of generations X, Y, Z.

Category of the paper: Research paper.

1. Introduction

Consumers play an important role in setting consumption trends in the market (Clark, Tilman, 2017). Food is an expression of people's identity, values and lifestyle (Flemmen et al., 2018). The food market has observed the creation of appealing products for an extended period (Mojka, 2012; Gadzala, Lesiów, 2019). An analysis of consumer trends in the market allows us to distinguish two basic trends in contemporary consumption. These are: 1 - unsustainable consumption (excessive consumption that causes damage to the environment and society); 2 - sustainable consumption (conscious consumption that causes an improvement in the quality of life of the present and contributes to improving the living conditions of future generations) (Komor et al., 2020; Wiśniewska, 2022). Therefore, the analysis of changes in consumer behaviour allows us to propose the thesis that trends in food consumer behaviour are a consequence of the emerging threats, which translate into food and food security (understood as the lack of physical and economic availability and adequacy) (Gadzała, Lesiów, 2019; Kozłowska-Burdziak, 2019).

The research shows that consumer attitudes are influenced by a number of factors including, but not limited to, economic, cultural, social and nutritional awareness (Gadzała, Lesiów, 2019; Topolska et al., 2021). Among the dominant trends in shopping, it is also worth mentioning: eco-consumption (Witek, 2019; Kalińska-Kula, 2016), consumer ethnocentrism (Ratajczyk, 2016), and conscious consumption, which involves ethical and responsible purchasing (Wasilik, 2014; Jasiulecz, 2016). According to the emphasis on conscious consumption, nutrition experts categorise buyers into three groups: 1. Individuals who endeavour to consume healthily and maintain a balanced diet; 2. Individuals who purchase a range of products with little concern for the source of food and its impact on the body; 3. Individuals who make purchases based on their financial means (Gadzała, Lesiów, 2019).

In recent times, there has been a rise in the variety of goods obtainable in the novel food market. These include ethnic products (Maciejewski, 2020), regional products (Wasilik, 2014), vegetarian and vegan products (Maciejewski, 2020), organic foods (Komor et al., 2020; Mazurek-Łopacińska, Sobocińska, 2018), functional and convenience foods (Mojka, 2012). The primary objective of manufacturing convenience food is to create a sustainable product for

immediate consumption or consumption after a short heat treatment (Jeżewska-Zychowicz, 2009; Tuorila, Hartmann, 2020). Convenience food lacks a clear definition, however but all attempts to describe it in the literature have similar elements. The product's purpose is mainly to decrease the time and effort required to prepare a meal (Casini et al., 2019). Consumers have been demonstrated to reap several benefits from accessing new foods. These advantages encompass not only fulfilling nutritional requirements, but also providing food diversity, serving ethical needs (vegan food), convenience, and sustainable consumption (Barska, 2018; Tuorila, Hartmann, 2020). Evidence indicates a shift in Polish dietary habits from traditional home-cooked meals to fast food consumption at street food vendors. The determinants of street food consumption frequency have been identified as service quality, meal quality, personal preference, and price, as noted by Wiatrowski et al. (2021). It has been suggested by some authors that consumers ought to be aware of the risks associated with street food consumption, such as poor production and sales hygiene (Auad et al., 2019; Kolanowski et al., 2020; Okumus et al., 2014; Tomaszewska et al., 2019). Additionally, several factors including the visual and olfactory characteristics of food, the surroundings, flavour preferences, and even nutrition data have led to customers making pressured or uninformed purchase decisions (Enriquez, Archila-Godinez, 2022). The introduction of cuisine that deviates from conventional dishes has created disputes and mistrust among certain consumer segments. Experts suggest that the Polish food market currently lacks ready-to-eat products, with the majority being traditional options. This may be attributed to the prevalence of food neophobia (Barska, 2018), whereby anxiety and fear of new foods can significantly impact consumers' ability to learn about and experience new products (Socha et al., 2009). The literature suggests that neophobia is associated with gender (Platta, 2019), education, and income level (Siddiqui et al., 2022). As a result, it diminishes demand in the innovative food industry by limiting the range of products bought (Kozioł-Kozakowska, Piórecka, 2013).

In recent times, there has been a shift in the assessment of convenience food. It is no longer viewed as having an adverse impact on health and is now being promoted as a means to aid the dietary patterns of the elderly and other individuals (Nakano, Washizu, 2020). Additionally, in developed nations with aging populations, convenience foods are anticipated to enhance the eating habits of the elderly (Maitre et al., 2014; Soucier et al., 2019; Zhou et al., 2019). Identifying trends in the consumption of convenient food is crucial in ensuring the nutritional needs of present and future generations are met. It is crucial to ascertain the factors that determine purchasing decisions when it comes to convenient food. While literature offers studies on this issue, they tend to focus primarily on organic food. Highlighted by the authors of these studies is a discrepancy between consumers' affirmed positive attitudes towards organic food and their actual purchasing behaviour, where purchases are marginal (Buder et al., 2014; Caniëls et al., 2021; Paladino, Ng, 2013; Young et al., 2010). In terms of consumers' willingness to purchase food, particularly convenience foods, factors such as purchase and usage

convenience, perceived need fulfilment, quality, efficiency, sustainability, and trust in the provider and their products are also relevant considerations (Lewicka-Strzałecka, 2015).

Due to differences in awareness of nutritional needs, attitudes towards new foods, lifestyles, and socio-demographic variables, consumer attitudes and behaviours towards convenience foods can vary. Therefore, further exploration in this area is necessary.

2. Methods

The main objective of the research was to identify factors influencing consumers' purchasing decisions and frequency of convenience food consumption, including qualitative (gender, generation, income level) and quantitative (attitudes towards new foods, values held and lifestyle) factors.

The research instrument was a survey questionnaire administered through the CAWI method using Google forms. The research was conducted in the spring of 2023 among a group of 393 respondents in Gdynia, Pomeranian Voivodeship (Northern Poland). To select the respondents for the survey sample, the snowball sampling technique was used. They also acknowledged the inherent risk factors associated with conducting an interview using the CAWI method. The survey sample's characteristics are presented in Table 1.

Table 1.
Study sample characteristics

Parameters	Number of Respondents [n]	Percentage [%]
Gender		
Female	197	50.13
Male	196	49.87
Generation		
X	134	34.09
Y	130	33.08
Z	129	32.83
Monthly income		
Allows to meet basic needs	118	30.02
I/we can afford some, but not all expenses	184	46.82
I/we can afford everything	91	23.16

Source: own elaboration based on survey results.

The research implemented a semi-standardized interview questionnaire (Jeżewska-Zychowicz et al., 2015), which underwent adaptation to suit the unique features of the study. The interview questionnaire consisted of thematic blocks including scales on: lifestyle, food neophobia (FNS), convenience food purchasing habits, frequency of convenience food consumption and intention to purchase convenience foods, and a metric.

Lifestyle Respondents assessed their own lifestyle by giving their opinion on four statements describing values and lifestyle: "I consider myself to be someone who pays attention to the naturalness of food, values tradition, is very health conscious and pays a great deal of attention to the health value of the food I consume". Opinions were rated on a 5-point scale ranging from "1" defined as disagree, "2" - rather disagree, "3" - neither disagree nor agree, "4" - rather agree, "5" – agree (Arvola et al., 2007).

In contrast, the Food Neophobia Scale (FSN) developed by Pliner and Hobden (1992) was used to assess attitudes towards new foods. The FSN consists of 10 statements on which respondents expressed their own opinions. In order to achieve the intended purpose, statements number 5, 6, 10 of the FNS scale were modified to statements that read: so-called 'healthy food' is too weird-looking for me to eat (5), At parties/when I go out I like to try new foods (6), I like to try new foods (10). Additionally, the scale underwent a revision whereby the 7-point rating scale was replaced with a 5-point scale. The new scale comprised of rating 1 as 'disagree', 2 as 'rather disagree', 3 as 'neither disagree nor agree', 4 as 'rather agree', and 5 as 'agree'. The method used to analyse the responses remained unchanged from the original Food Neophobia Scale. After recoding statements where higher points corresponded to a neophobic attitude, we summed the answers and calculated two indicators from the totals: the mean value (X) and standard deviation (SD). The aforementioned indices differentiated three attitude types, each with a distinct range of scores. These ranges are as follows: below X-SD, from X-SD to X+SD, and exceeding X+SD, which correspond to low, moderate, and high levels of food neophobia, respectively.

Respondents indicated the frequency of consumption of convenience foods, i.e.: ready-to-eat peeled fruit/vegetables, dried fruit/vegetables, pan vegetables, nuts, freshly squeezed juices, hummus, instant soups, ready-to-eat salads, ready-to-eat sandwiches, sweet desserts, dumplings intended for short cooking, pizza from a pizzeria, burgers, fries, kebabs, hot dogs, salty snacks, sweet drinks, vacuum-packed ready lunches, bakery products. When rating the frequency of consumption, respondents gave 1 out of 7 possible answers next to each product presented: 1 - don't know, 2 - know but don't consume, 3 - 1-2 times a month (occasionally), 4 - 1-2 times a week (often), 5 - 3-5 times a week (very often), 6 - once a day, 7 - 2-3 times a day or more often.

Convenience food consumption habits, on the other hand, were assessed on the basis of respondents' opinions on7 statements: 'I eat convenience foods regularly', 'I eat a variety of convenience foods', 'I eat convenience foods mainly for breakfast', 'I eat convenience foods mainly for lunch', 'I eat convenience foods mainly for dinner', 'I eat convenience foods mainly as a snack between meals (including as a source of fluid)', 'I like to always have convenience foods at home'. Opinions were expressed on a 5-point scale where '1' was 'no', '2' was 'rather no', '3' was 'neither yes nor no', '4' was 'rather yes', '5' was 'yes'.

Intention to consume convenience foods was assessed across various options, including ready-made lunches for quick heating, products for direct consumption, bakery products, fast food restaurant products, and catered lunches. A 5-point rating scale was used: '1' was 'no', '2' was 'rather no', '3' was 'neither yes nor no', '4' was 'rather yes', '5' was 'yes'.

The survey consisted of inquiries that explored the sociodemographic features of the participant, such as sex, age, and viewpoint on income.

A reliability test was conducted using Cronbach's alpha coefficient, with a resulting α value of 0.86 indicating high reliability. All FNS statements were found to be valid, with factor loading values exceeding 0.700. The Kaiser-Meyer-Olkin test had a value of 0.861, while the Bartlett test produced a value of 1435 (df = 45; $p < 0.001$).

The study analyzed qualitative variables, including gender, generation, monthly income, and food neophobia. The results were presented through the percentage distribution of individual responses (% of indications). To determine the relationship between gender, generation, meat income, and food neophobia in the study groups, a Chi-square test was performed with Yates correction, based on statements included in the food neophobia scale. The Mann-Whitney U test was used to compare men and women, while the Kruskal-Wallis test was used to compare groups categorised by generation and monthly income. To investigate the connections between gender, generation, monthly income, neophobia, naturalness of food consumption, traditional values, health consciousness, and significance of health values of food intake, the Spearman's rank correlation coefficient was calculated. For all statistical analyses, a significance level of $p < 0.05$ was set. The calculations were conducted using Excel 2000 and Statistica 13.3 (Tibco Software, Palo Alto, USA).

3. Results

Following the methodology outlined earlier, the study population was categorised into three groups based on the severity of their neophobia towards novel foods. The majority of respondents (67.18%) held an ambivalent attitude towards novel foods, while only 17.04% demonstrated neophilic tendencies and 15.78% exhibited neophobic attitudes (Table 2). Only males and females ($p = 0.62$) showed no statistically significant difference in the percentage allocation of attitudes towards novel foods. Ambivalent attitudes were prevalent across all groups. In Generation Z, the study found a significantly higher occurrence of neophilic attitudes (25.58%) and a lower occurrence of ambivalent attitudes (58.91%) when compared to other generations (Table 2). The greatest differences in attitudes were observed amongst groups with monthly income as the dividing criterion. A tendency towards novelty-seeking was found to occur significantly less frequently among those with insufficient income (8.48%), whereas it was observed significantly more frequently among those with high income

(31.87%). Furthermore, individuals with insufficient income exhibited noephobic attitudes (29.66%) at significantly higher rates than other respondents (those with declared middle income - 11.41% and high income - 6.59%) (Table 2).

Table 2.
Population structure and attitudes towards food neophobia amongst respondents' sociodemographic features [%]

Population characteristics	Attitudes towards food neophobia		
	neophilic	**ambivalent**	**neophobic**
Whole population	17.04	67.18	15.78
Gender (Chi2 = 0.95; df = 2; *p* = 0.62)			
Men	16.33	69.39	14.29
Women	17.77	64.97	17.26
Generation (Chi2 = 9.95; df = 4; *p* = 0.04)			
X	13.43	71.64	14.93
Y	12.31	70.77	16.92
Z	25.58	58.91	15.51
Monthly income (Chi2 = 38.04; df = 4; *p* < 0.01)			
Inadequate	8.48	61.86	29.66
Middle	15.22	73.37	11.41
High	31.87	61.54	6.59

Source: own elaboration based on survey results.

Respondents were asked to respond to the 10 statements of the Food Neophobia Scale. Gender, generation and monthly income were selected as differentiating factors. The most significant differences in responses to these questions were observed in the group where monthly income was the dividing criterion ($p < 0.05$) (Table 3). Throughout the entire sample, individuals with inadequate income for the statement " I am constantly sampling new and different foods " were significantly more prone to responding "disagree" or "rather disagree" (16.54%) in contrast to those with a high income (6.11%). On the other hand, those with a middle income were more inclined to answer 'agree' or 'rather agree' (15.01% of the total group) relative to the other groups. In responses to the statement: "If I don't know what is in a food, I won't try it", people with a middle income (28.24% of total respondents) were significantly more likely to answer "I don't agree" and "I rather disagree", compared to the other groups and the other forms of response while at the same time declaring with this their openness to new foods. "I like foods from different countries" was significantly more often declared by representatives of generation Z (25.44%), X (21.38%) and people with middle income (32.83%) and high income (18.32%). For the statement: "So-called 'health food' looks too weird for me to eat", negative answers were significantly more often given by people from generation Z (24.43% of the total number of respondents) and generation Y (22.90%) and those declaring a monthly income at a middle level (32.56%). Conversely, individuals from Generation Z (20.39% of total respondents) and those with an middle income (31.04% of total respondents) expressed a significantly higher inclination to try novel foods in social settings. Meanwhile, 6.87% of respondents with inadequate monthly income expressed apprehension about trying new food. Additionally, the research revealed that individuals with a stated middle monthly

income (27.22% of all participants) exhibited no apprehension towards experimenting with new culinary options. Significant differences between respondents in the responses given to the statement: "I am very particular about the foods I will eat" was observed for gender (Table 3). Women were significantly more likely, compared to men (15.52%) to declare that they are demanding about the foods they eat. Men (33.33%) were also significantly more likely than women (16.80%) to declare that they were not demanding with regard to the food they ate. In the answers given to the statement: "I will eat almost anything" significant differences were observed in all analysed groups (gender, generation, declared monthly income) (Table 3). Negative answers were given significantly more often by women (18.83%), persons from generation X and Z (10.50% each) and persons with middle and inadequate income (12.72 and 11.37% respectively). "I like to try new foods" was declared significantly more often by people from generation Z (12.63% of total respondents) and those with a middle income (27.74% of total respondents). Mean values for individual FNS statements ranged from 2.20 points, for the statement: "I like foods from different countries", to 3.08 points, for the statement: "I am constantly sampling new and different foods" (Table 3). It should be noted that the mean values for all statements indicate a high proportion of 'neither agree nor disagree' responses. A significant correlation between monthly income and responses to eight out of the ten FNS statements was observed in tests comparing two groups (gender - Mann-Whitney U-test) and three independent groups (generation, income - Kruskal-Wallis test). This effect was also seen in the Chi2 test (Table 3).

To present the findings of the Sperman rank correlation, we selected convenience food products, intentions, and habits that had at least a weak, but statistically significant correlation. Figure 1 displays mostly weak, but significant correlations between gender, generation, and declared monthly income with the frequency of consumption of convenience foods. No significant impact of attitudes towards new foods was detected on the consumption frequency of selected convenience products. In terms of frequency, males were significantly more inclined than females to consume kebabs (0.21), hot dogs (0.27), sugary drinks (0.22), vacuum-packed ready lunches (0.20) and rotisserie chicken (0.22). Generation Z, on the other hand, are significantly more likely to declare consumption of short-cooked dumplings (0.21), pizza (0.20), chips (0.25), kebabs (0.29), rotisserie chicken (0.20) and burgers (0.41) (moderate correlation), compared to representatives of generations Y and X. Respondents with a high income were significantly more likely to consume dried fruit and vegetables (0.28) and stir-fired vegetables and healthy snacks such as nuts (0.20 each).

When analysing the influence of attention to the naturalness of food, appreciation of tradition, health consciousness and appreciation of the health benefits of food on the frequency of consumption of products belonging to convenience foods, it was observed that people who pay more attention to the naturalness of food were significantly more likely to declare the consumption of dried fruit and vegetables (0.25), healthy snacks such as nuts (0.27) and freshly squeezed juices (0.24) (figure 2). In contrast, people who do not pay attention to the naturalness

of food were significantly more likely to declare eating instant soups (0.22), kebabs (0.21), hot dogs (0.27), salty snacks (0.26), vacuum-packed ready-made dinners (0.26), rotisserie chicken (0.21) and sugar drinks (0.35 moderate correlation). Those who do not pay attention to tradition were significantly more likely to declare eating burgers and kebabs (0.21 each). Respondents characterised by high health consciousness were significantly more likely to declare consumption of dried fruit and vegetables (0.28) and healthy snacks such as nuts (0.25). In contrast, those with lower health consciousness were significantly more likely to declare consumption of instant soups (0.20) and sugary drinks (0.26). Dried fruit and vegetables (0.37), healthy snacks such as nuts (0.39) and freshly squeezed juices (0.23) were significantly more likely to be consumed by those who pay attention to the naturalness of food. In contrast, people who do not pay attention to the naturalness of food are significantly more likely to report consuming instant soups (0.36), quick cook dumplings (0.21), crisps (0.21), kebabs (0.26), hot dogs (0.37), savoury snacks (0.31), sweet drinks (0.41), pre-packaged ready meals (0.33) and rotisserie chicken (0.28) (Figure 2).

When analysing the influence of factors on the frequency and intention to consume convenience foods and habits, only gender, generation, attention to the naturalness of food and appreciating the health benefits of food were observed to have a significant effect (Figure 3). Men were found to be significantly more likely than women to declare buying meals for quick cooking and products for direct consumption (0.29 each). Men also differed significantly from women in their habits and behaviours towards convenience foods. They were significantly more likely than women to report eating convenience food regularly (0.24), consuming it for lunch (0.23) and keeping convenience food at home (0.25). Generation Z respondents were significantly more likely to declare buying fast food (0.26), compared to Generation Y and Z respondents. Respondents from generation Z were also significantly more likely to declare that they regularly consume convenience foods mainly for lunch (0.22). On the other hand, people who pay attention to the naturalness of food and appreciating the health benefits of food declared buying meals for quick cooking (0.29 and 0.35, respectively) and buying products from fast food restaurants (0.25 and 0.29, respectively) significantly less often, compared to those who do not pay attention to these values. These persons also declared significantly less frequently consuming convenience foods regularly (0.20 and 0.28, respectively) and keeping the type of products at home (0.22 and 0.21, respectively). In addition, those appreciating the health benefits of food were significantly less likely to declare consuming convenience foods mainly for lunch (0.24) compared to the others (Figure 3).

Table 3.

*Respondents' attitudes towards the statements of the Food Neophobia Scale*

Statements	Gender			Generation			Monthly income			Mean score (rank) ±SD	*p*		
	Chi2	df	*p*	Chi2	df	*p*	Chi2	df	*p*		Gender[1]	Generation[2]	Monthly income [2]
I am constantly sampling new and different foods	9.05	4	0.06	9.38	8	0.31	33.47	8	**<0.01**	3.08±1.18	**0.01**	0.05	**<0.01**
I don't trust new foods	5.69	4	0.22	10.12	8	0.26	9.51	8	0.30	2.42±1.19	**0.04**	0.71	0.06
If I don't know what is in a food, I won't try it	3.15	4	0.53	12.09	8	0.15	31.44	8	**<0.01**	2.27±1.14	0.27	0.23	**<0.01**
I like foods from different countries	4.08	4	0.39	39.70	8	**<0.01**	50.20	8	**<0.01**	2.20±1,08	0.53	**<0.01**	**<0.01**
So-called 'health food' looks too weird for me to eat	9.72	4	0.05	18.92	8	**0.02**	23.49	8	**<0.01**	2.23±1,08	0.43	**<0.01**	**<0.01**
At parties/when I go out I like to try new foods	7.56	4	0.11	21.27	8	**0.01**	40.11	8	**<0.01**	2.44±1,20	0.22	**0.01**	**<0.01**
I am afraid to eat things I have never had before	7.18	4	0.13	11.35	8	0.18	27.53	8	**<0.01**	2.74±1,12	0.41	0.89	**<0.01**
I am very particular about the foods I will eat	9.99	4	**0.04**	13.43	8	0.09	10.99	8	0.20	2.80±1,26	0.07	0.89	0.12
I will eat almost anything	14.44	4	**0.01**	18.90	8	**0.02**	28.41	8	**<0.01**	2.43±1,07	0.17	0.44	**<0.01**
I like to try new foods	9.16	4	0.06	29.14	8	**<0.01**	40.01	8	**<0.01**	2.22±1,16	0.17	**<0.01**	**<0.01**

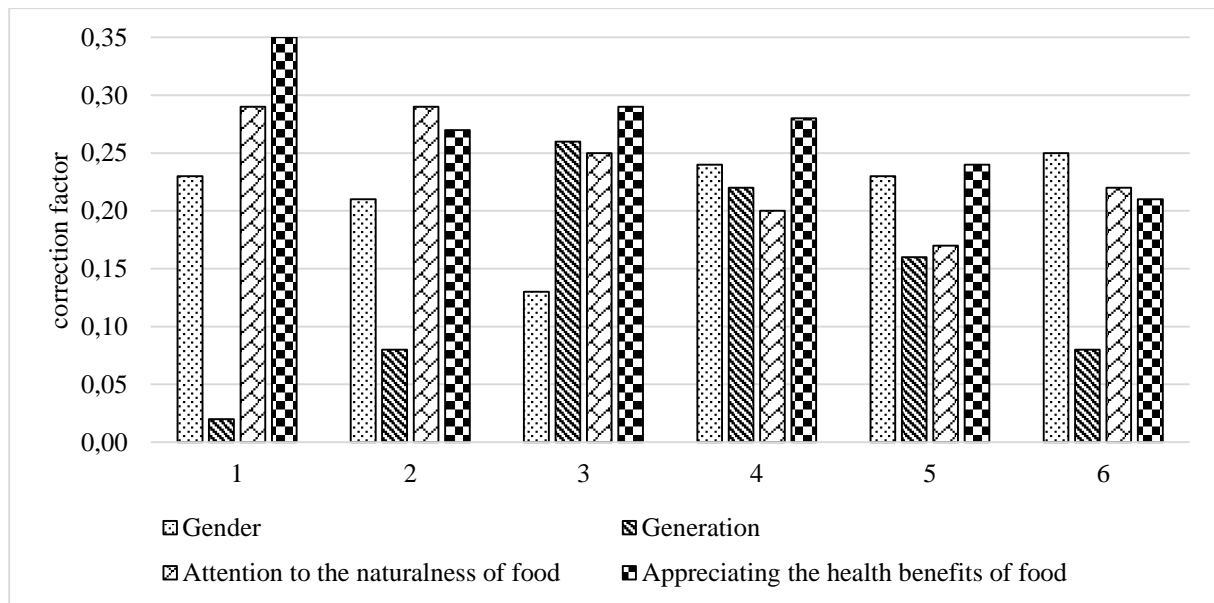Explanatory notes: SD - standard deviation; 1 - U-Manna Whitneya; 2 - Kruskala-Wallis.

Source: own elaboration based on survey results.
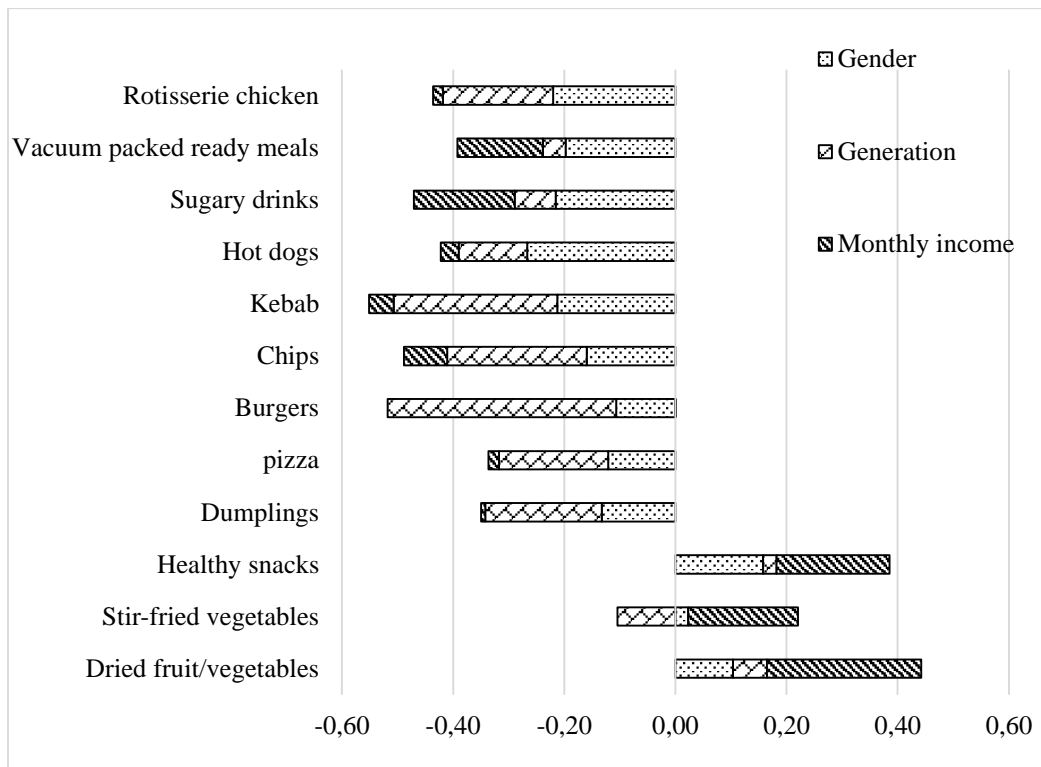
Figure 1. Effect of gender, generation and monthly intake on frequency of convenience food consumption.
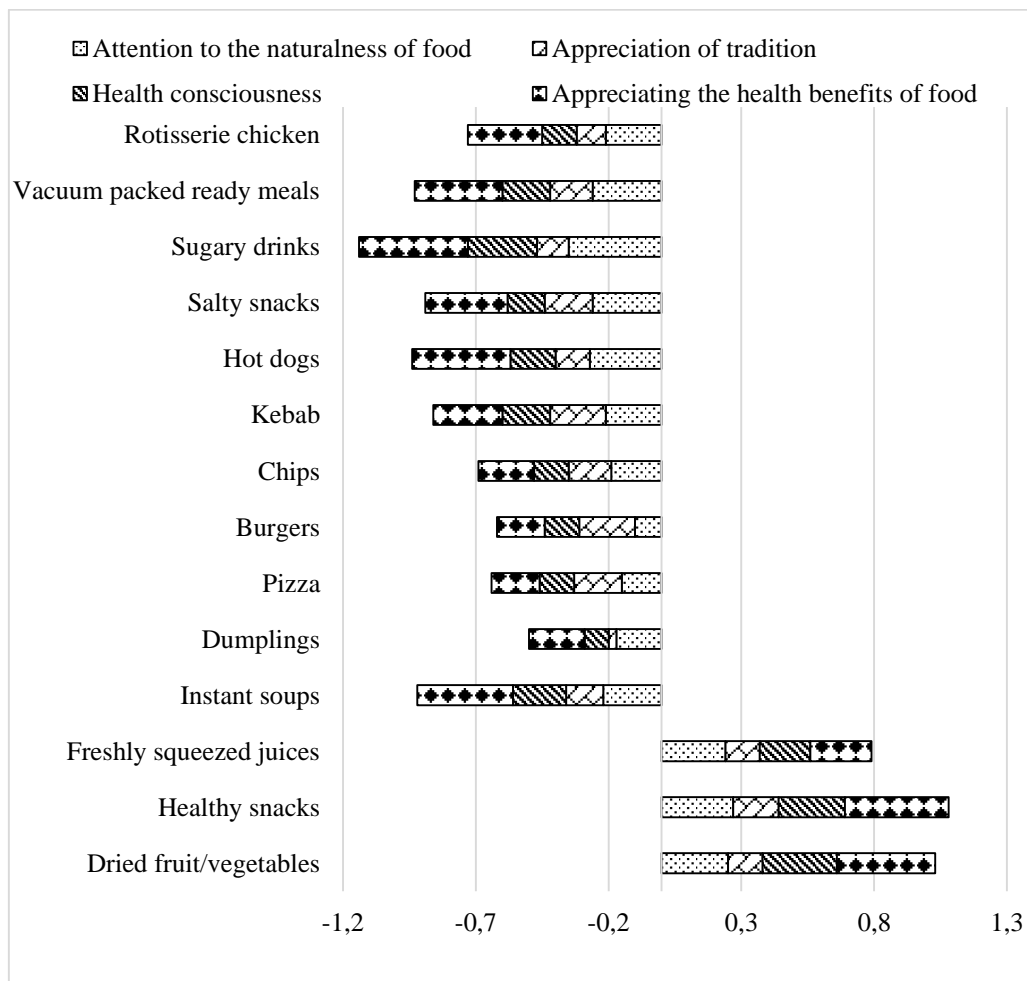
Figure 2. Influence of values and lifestyle on the frequency of convenience food consumption.

Explanatory notes: 1 - Buying meals for quick cooking; 2 - Buying products for direct consumption; 3 - Buying products from fast food restaurants (KFC, McDonald's); 4 - Regularly consuming convenience foods; 5 - Mainly consuming convenience foods for lunch; 6 - Keeping convenience foods at home.

Figure 3. Gender, generation and health values of food vs. intention to consume convenience foods and food habits.

4. Conclusions

The assessment of convenience foods has undergone significant changes in recent years, with an increasing interest in their diverse social functions in developed nations. Apart from time-saving benefits, these foods are now viewed as a means of promoting various population groups' eating habits due to several advantages they offer. Furthermore, it is anticipated that convenience foods will enhance the dietary behaviours of both young people (who wish to economise time and energy cooking at home) and older people (who may be cognitively impaired) in developed countries. The results of our survey indicate significant variance in convenience food consumption, depending on factors like gender, generation, income, and lifestyle. Notably, our research found that Generation Z showed the most interest in out-of-the-box food trends, and expressed stronger intentions to consume both new and convenient foods, compared to Generation X and Y. The shift in consumption trends observed in recent years creates new challenges for convenience foods, which not only simplify meal preparation but also heavily influence the nutritional quality of food. Therefore, convenience food manufacturers should consider the preferences and needs of Generation Z when designing such products. In this study, we believe that convenience foods play an important role in meeting the nutritional needs of populations in both developing and developed countries, and we have analysed eating behaviour in terms of the type, frequency and context of their consumption. Our findings can be used as a basis for discussion and reflection on the development of smart

food systems using information and communication technologies (ICTs) that provide consumers (Generations X, Y, Z) with knowledge about the range and quality of convenience foods and help them to enjoy convenience foods. Using a smartphone, both younger and older people can easily access information on food and nutrition to suit their tastes, or buy their favourite foods online from shops.

Our study has some limitations. Identification of factors influencing purchase decisions and frequency of convenience food consumption by consumers belonging to generations X, Y, Z was carried out using snowball sampling among residents of Gdynia. The results of the study are therefore not representative of the entire Polish population and should be interpreted with caution.

Acknowledgements

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