

DETERMINANTS OF YOUNG POLISH CONSUMERS' FOOD PRODUCT PURCHASES

CZYNNIKI WARUNKUJĄCE ZAKUP PRODUKTÓW SPOŻYWCZYCH
PRZEZ MŁODYCH POLSKICH KONSUMENTÓW

Irena Ozimek¹, Julita Szlachciuk², Olena Kulykovets³, Anna Dąbrowska⁴

^{1,3}Management Institute, Warsaw University of Life Sciences (WULS-SGGW),
Nowoursynowska 166, 02-776 Warsaw, Poland

²Department of Food Market and Consumer Research, Institute of Human Nutrition Sciences,
Warsaw University of Life Sciences (WULS-SGGW), Nowoursynowska 166, 02-776 Warsaw, Poland

⁴Department of Consumer Behaviour Research, Institute of Management, Collegium of Management and Finance,
Warsaw School of Economics, al. Niepodległości 162, 02-554 Warsaw, Poland

¹E-mail: irena_ozimek@sggw.edu.pl

ORCID: 0000-0003-3430-8276

²E-mail: julita_szlachciuk@sggw.edu.pl

ORCID: 0000-0002-9742-2044

³E-mail: olena_kulykovets@sggw.edu.pl

ORCID: 0000-0002-6917-5437

⁴E-mail: adabro3@sgh.waw.pl

ORCID: 0000-0003-1406-5510

DOI: 10.2478/minib-2024-0014

ABSTRACT

This article investigates the factors influencing food product purchases by young Polish consumers aged 18–25 – a group important for the development of the economy. In the process of deciding to purchase specific food products, consumers pay attention to various economic and non-economic factors, including marketing. We carried out survey in October/November 2020 using the CAWI method (Google Forms) to test the importance of 17 factors on young Polish consumers' food purchases, applying factor analysis and cluster analysis to the resulting data. The results reveal that price and product expiration date are young Polish consumers' primary concerns when purchasing food products. The study also found that environmental sustainability attributes, although less critical than price or product quality, are increasingly influencing young Polish consumers' purchasing decisions.

Key words: food purchases, young consumers, consumer behaviour, packaging

ABSTRAKT

W artykule przedstawiono determinanty zakupu produktów żywnościowych przez młodych konsumentów w wieku 18-25 lat. W procesie podejmowania decyzji o zakupie określonych produktów spożywczych konsumenci zwracają uwagę na różne czynniki ekonomiczne i pozaekonomiczne, w tym marketingowe. Młodzi nabywcy stanowią istotną grupę dla rozwoju gospodarki. Dostrzegając złożoność czynników determinujących wybory żywnościowe konsumentów, podjęto próbę sprawdzenia znaczenia i wpływu wybranych 17 czynników na zakup żywności przez młodych konsumentów. Badanie zostało przeprowadzone na przełomie października i listopada 2020 roku metodą CAWI. Do przeprowadzenia badania wykorzystano Formularze Google dostępne w Internecie. Do analizy danych zastosowano analizę czynnikową i analizę skupień. Większość respondentów przyznała, że podczas zakupów żywności zwraca uwagę przede wszystkim na cenę oraz datę przydatności do spożycia/datę minimalnej trwałości.

Słowa kluczowe: żywność, zakupy żywności, konsument żywności, opakowanie, młody konsument

JEL: D12, D18

Type of the work: research article

Article History

Received: December 18, 2023 | Revised: June 04, 2024 | Accepted: July 16, 2024

1. Introduction

In the process of making decisions about purchasing specific food products, consumers pay attention to various factors characterizing the food itself, as well as the terms of sale, labelling, price (Kumar & Kapoor, 2017), taste, brand, product appearance or food quality (Gelici-Zeko et al., 2013; Eldesouky & Mesías, 2014). In developed countries, the influence of advertising campaigns on the choice of food products is also noted (Prowse et al., 2020). Research shows that consumers indicate food packaging as one of the primary sources of information about food (Gutkowska & Ozimek, 2005; Alibabić et al., 2011), and this information function of packaging is now becoming more and more critical for consumers.

The labelling of products placed on the market, including food, must include mandatory information, the presence of which on the packaging results from applicable legal provisions. In the EU countries, Regulation (EC) No. 178/2002 generally regulates issues related to the labelling, advertising and presentation of food. As emphasized in this legal act, the advertising and presentation of food and feed products, taking into account their appearance, shape, and packaging, as well as the arrangement and place of display and the information provided about them, may not provide consumers with incorrect information. In this respect, detailed rules for food labelling are set out in Regulation (EU) No. 1169/2011, which defines food information as “information about a food made available to the final consumer using a label, other accompanying materials or other means, including modern technological tools or oral communication” (p. 3). Food labelling, in turn, includes “any inscriptions, particulars, trademarks, brand names, illustrations or symbols relating to a food and affixed to any packaging, document, leaflet, label, band or ring accompanying such food or relating to it” (Regulation..., 2011, p. 4). Also important are the requirements regarding hygienic conditions related to the sale of products, which are regulated in particular by EU regulations such as: Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs; and Regulation (EC) No 853/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific hygiene rules for food of animal origin.

A product’s price should also be clearly displayed at the point of sale. This issue is regulated in Poland by the Act of May 9, 2014 on information on prices of goods and services (Act..., 2014), which implements Directive 98/6/EC of the European Parliament and of the Council of February 16, 1998, on consumer protection by displaying the prices of products offered to consumers, together with the implementing act, i.e. the Regulation of the Minister of Development and Technology of December 19, 2022, on the visibility of prices of goods and services (Regulation..., 2022).

The modern consumer is becoming more and more open to trying different product categories at regional, national, European, and global levels (Angowski & Jarosz-Angowska, 2020). Research shows that food shopping habits are influenced, among other factors, by age, gender, place of residence, and education level (Aday & Yener, 2014; Grande Covián et al., 2014; de Lourdes Samaniego-Vaesken et al., 2018; Bassola et al., 2020; Lima

et al., 2021). Moreover, the young generation, representing the future of society, seems to have a completely different approach and different ideas than the older generation (Kanchanapibul et al., 2014).

In this study, we resolved to concentrate on young buyers, who constitute an essential group for the development of Poland's economy – given that people between 18 and 34 years of age constitute over 18% of the population (Statistics Poland, 2021). However, the definitions of 'young consumers' used in previous research vary. For example, Solomon (2017) identifies young consumers as individuals up to 24 years old, whereas other publications define them as individuals up to 35 years old, such as Bakewell & Mitchell (2003), Olejniczuk-Merta (2008), Nyrhinen et al. (2024). In his research, Arnett (2000) focused on young consumers aged 18–25. He emphasized that this period of life, which he termed 'emerging adulthood,' is neither adolescence nor early adulthood and differs both theoretically and empirically. This stage is characterized by intense identity exploration and experimentation with various social roles, translating into specific consumer behaviors. Following Arnett's (2000) research, we focused on the 18–25 age group of young consumers.

The aim of the study was to investigate the influence of selected factors on the purchase of food by young consumers, using the CAWI method (computer-assisted Internet interview technique). The survey was created in Google Forms, an online survey collection tool.

2. Materials and method

The survey was conducted in October–November 2020, using purposive sampling. Participants were specifically selected based on two criteria: age (18–25 years) and their status as students. It was administered online via a publicly accessible Google Forms questionnaire, which included both the research questions and additional questions regarding the respondents' demographic and socio-economic characteristics.

The study used a 5-point Likert scale to gauge the extent to which a given respondent pays attention to particular selected factors when purchasing food (a score of 1 indicating no attention to this factor at all, a score of 5 indicating high attention to this factor). We treat the ordinal scales as quasi-quantitative scales for analytical purposes, calculating means and standard deviations (SD) via descriptive analysis. The reliability of the scales was assessed using

Cronbach's alpha, which was 0.829 – indicating satisfactory reliability (as indicated by values above 0.7)

To investigate the complexity of factors determining consumers' food choices, we examined the validity of selected 17 elements related to food product characteristics and conditions of food sales. The following factors were analysed: the food storage method at the store, the storage conditions, appropriate hygienic conditions at the point of sale, food price, the appearance, taste and smell of the product, the condition of the product packaging, and general information appearing on the food product packaging – country of origin, energy/nutritional value of the food product, product weight/volume, product composition, nutrient content (e.g. proteins, carbohydrates), shelf life/date of minimum durability, the ecological origin of the product, manufacturer, and brand.

A 5-point scale was likewise used in subsequent questions in the questionnaire: a score of 1 meant that the respondent "completely disagrees" with a given statement, 2 – "generally disagrees"; 3 – "neither agrees nor disagrees", 4 – "generally agrees", and a score of 5 – "completely agrees".

Factor and cluster analyses, common in consumer research, were applied to analyse the resulting data. First, factor analysis was used to identify the relationship between the factors, applying the varimax rotation method. The number of factors was determined based on the following criteria: a scree plot test, components with an eigenvalue of 1, and the interpretability of the factors. Factors with loadings above 0.40 were considered. Data factorability was confirmed with the Kaiser–Meyer–Olkin (KMO) (with a cut-off value of 0.60) measure of sampling adequacy and Bartlett's test of sphericity ($p \leq 0.05$).

In the second step of analysis, non-hierarchical clustering was performed to obtain segments of respondents, using the k-means clustering method. Clusters are formed by evaluating dissimilarities and similarities of intrinsic characteristics between different cases. We calculated the correlation ratio (CR) for each variable applied in our cluster analysis and conducted cross-tabulation with Chi²-statistics to profile the clusters. SPSS for Windows statistical software (9.0 version) was used for statistical analysis.

The questionnaire also included questions about the respondents' demographic characteristics, such as gender, labour market status, number of people in the household, self-assessment of the household's financial status, and place of residence. These detailed characteristics of the respondents are presented in Table 1.

Table 1. Demographic characteristics of respondents (N=702)

Demographic characteristics	N ^a	%
Gender		
Female	445	63.4
Male	257	36.6
Employed		
Yes	401	57.1
No	301	42.9
Number of household members		
1	54	7.7
2	90	12.6
3	151	21.5
4	221	31.5
5 and more	186	26.5
Financial situation		
Very bad	4	0.6
Bad	26	3.7
Average	245	34.9
Good	338	48.1
Very good	89	12.7
Place of residence		
Rural area	249	35.5
City below 20.000 residents	77	11.0
City from 20 to 100.000 residents	117	16.7
City up 100.000 residents	259	36.9

^aNumber of respondents

The study involved 702 student participants, all between 18 and 25 years old, 63.4% women and 36.6% men. Most often, respondents lived in households of 4 or 3 people (31.5% and 21.5%, respectively). The respondents were least likely to declare that they lived in single-person households and those with 6 or more people (7.7% and 8.4%, respectively). Two-fifths of respondents (42.9%) were gainfully employed, 57.1% were not employed. At the same time, almost half of the respondents (48.1%) described the financial situation of their household as good, while one-third (34.9%) described it as average. The respondents represented places of residence of

various sizes, most often declaring that they lived in a city with a population of over 100,000 inhabitants (36.9%) and rural areas (35.5%).

3. Results

The most respondents declared that when shopping for food, they pay attention primarily to the price (mean score 4.43) and the use-by date / date of minimum durability (mean 4.42). Factors such as the 'taste and aroma' of a food product (mean 4.37), 'condition of packaging' (mean 4.35), 'appearance' (4.34), and 'hygienic conditions' (4.24) also achieved an average above four (Table 2).

Table 2. Summary of responses to the survey ($N = 702$)

Items	Mean; SD
Price	4.43 ± 0.774
Use-by date/date of minimum durability	4.42 ± 0.816
Taste and aroma	4.37 ± 0.762
Condition of packaging	4.35 ± 0.801
Appearance	4.34 ± 0.799
Hygienic conditions	4.24 ± 0.859
Information on the packaging	3.86 ± 0.920
Method of storing food in the store	3.84 ± 1.010
Storage conditions	3.65 ± 1.042
Product composition	3.64 ± 1.079
Weight/volume	3.63 ± 1.079
Brand	3.28 ± 1.148
Energy value	3.13 ± 1.306
Nutrient content	3.08 ± 1.257
Manufacturer	3.04 ± 1.175
Organic origin	2.86 ± 1.149
Country of origin	2.76 ± 1.203

The factor 'information on the packaging' obtained a mean score of 3.86. The respondents least often indicated such factors as 'organic origin' (2.86) and 'country of origin' (2.76) (Table 2).

3.1. Factors influencing food choice

Exploratory factor analysis was performed to examine the relationship between the observed variables. The Kaiser–Meyer–Olkin value was 0.808. The result indicated that the choice of analysis and the number of factors were correct. The result of Bartlett's test of sphericity $\chi^2 = 3985.855$, $p \leq 0.01$, indicated that correlations between items were high enough to perform the analysis.

EFA was conducted using maximum likelihood extraction with varimax rotation (Table 3), extracting four factors. It was assumed that the components of the coefficient are those variables that, after rounding, obtain absolute values equal to 0.4 or greater. All factors were identified with an eigenvalue higher than the Kaiser criterion 1. The first factor's eigenvalue is 4.665, which explains 27.44% of the variance. The second factor's eigenvalue equals 2.343, which explains 13.78% of the variance. The third factor's eigenvalue equals 1.630, which explains 9.59% of the variance. The fourth factor's eigenvalue equals 1.214, which explains 7.14% of the variance. All four factors taken together explained 57.95% of the total variance.

The first factor, summarizing five variables, was positively correlated with the tendency of respondents to read food labels and pay attention to product composition, hence it was named '*Information*'. The second factor, summarizing four variables, was positively related to variables expressing interest in the conditions associated with storing food at the point of sale and paying attention to the use-by date/date of minimum durability on the food product packaging. For this reason, this factor was labelled '*Hygiene and food safety*'. The third factor explains four variables and was named '*Product appearance and price*'. Lastly, the fourth factor summarizes four variables, relating to respondents' interest in the purchased food brand, its origin, and information about organic production, hence it was named '*Origin*' (Table 3).

Table 3. The results of EFA

Variables	Information	Hygiene and food safety	Product appearance and price	Origin
Nutrient content	0.857			
Energy value	0.808			
Product composition	0.706			
Weight/volume	0.570			
Information on the packaging	0.565			
Storage conditions		0.728		
Hygienic conditions		0.701		
Method of storing food in the store		0.649		
Use-by date/date of minimum durability		0.537		
Appearance			0.749	
Taste and aroma			0.697	
Price			0.641	
Condition of packaging			0.630	
Manufacturer				0.901
Brand				0.856
Organic origin				0.561
Country of origin				0.437
Cronbach's α	0.789	0.711	0.708	0.746
Variance explained (%)	27.44%	13.78%	9.59%	7.14%
Total variance explained (%)	57.95%			

3.2. The influence of food choice factors on the respondents' profile

For the whole surveyed population, 5 clusters were identified, each representing from 5.98% to 30.77% of the surveyed population (Table 4). Cluster 2 represents 27.92% of all respondents. In Cluster 2, the highest average value was obtained for 15 of the 17 variables. Only in the case of three factors, 'price', 'appearance', and 'energy value', were higher average values recorded in other clusters ('price' in Cluster 5; 'appearance' in Cluster 3; 'energy value' in Cluster 4). Cluster 1 had the lowest mean values for 14 factors out of 17. The reported averages range from 1.33 'storage conditions'

to 2.25 'nutrient content'. The largest spreads in average values were recorded for Cluster 5, representing 13.82% of all respondents. They ranged from 1.56 for the variable 'energy value' to 4.55 for the value 'price'. Cluster 3 represents 30.77% of the surveyed population, and Cluster 4 represents 21.52%. In Cluster 3, the highest average value (4.54) was recorded for the factor 'use-by date/date of minimum durability'. In turn, the lowest average value (2.29) was exhibited by the factor 'nutrient content'. In Cluster 4, the lowest average was recorded for the factors 'manufacturer' and 'organic origin' (2.23) (Table 4).

Table 4. Cluster analysis

		Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	
Number of respondents	702	42	196	216	151	97	
Number of respondents (%)	100%	5.98%	27.92%	30.77%	21.52%	13.82%	
Nutrient content	3.08	2.25	4.00	2.29	3.82	1.68	p<0.001
Energy value	3.13	1.92	4.01	2.34	4.04	1.56	p<0.001
Product composition	3.64	1.83	4.38	3.26	3.72	2.82	p<0.001
Weight/volume	3.63	1.92	4.15	3.40	3.74	2.97	p<0.001
Information on the packaging	3.86	1.75	4.45	3.60	3.85	3.36	p<0.001
Storage conditions	3.65	1.33	4.24	3.86	3.68	3.42	p<0.001
Hygienic conditions	4.24	1.50	4.44	4.35	4.07	4.10	p<0.001
Method of storing food in the store	3.84	1.75	4.18	3.56	3.37	3.28	p<0.001
Use-by date/date of minimum durability	4.42	1.83	4.63	4.54	4.24	4.29	p<0.001
Appearance	4.34	2.17	4.46	4.50	4.18	4.28	p<0.001
Taste and aroma	4.37	2.17	4.56	4.38	4.28	4.31	p<0.001
Price	4.43	1.83	4.54	4.40	4.46	4.55	p<0.001
Condition of packaging	4.35	1.50	4.55	4.47	4.20	4.22	p<0.001
Manufacturer	3.04	1.75	3.64	2.91	2.23	2.06	p<0.001
Brand	3.28	1.83	3.84	3.43	2.23	1.70	p<0.001
Organic origin	2.86	1.58	3.92	3.76	2.55	2.08	p<0.001
Country of origin	2.76	2.00	3.67	2.58	2.35	1.78	p<0.001

Analysis of the socio-demographic characteristics showed that Cluster 1 consists most predominantly of females and unemployed people. Of all the clusters, the percentage of unemployed people was the highest in this cluster (Table 5).

Table 5. Socio-demographic profile of clusters

		% of total sample	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	
Gender	female	63.4	75.0	65.0	69.0	53.6	60.8	p<0.001
	male	36.6	25.0	35.0	31.0	46.4	39.2	
Working shifts	no	42.9	66.7	58.0	56.9	54.3	58.8	p=0.132
	yes	57.1	33.3	42.0	43.1	45.7	41.2	
Financial status	very bad	0.6	0.0	13	0.0	0.0	1.0	p=0.203
	bad	3.7	16.7	3.5	1.4	5.3	5.2	
	average	34.9	16.7	33.6	38.0	35.1	33.0	
	good	48.1	66.7	50.0	45.8	47.0	48.5	
	very good	12.7	0.0	11.5	14.8	12.6	12.4	
Place of residence	rural area	35.5	16.7	36.3	38.0	33.1	34.0	p<0.05
	city below 20,000 residents	11.0	25.0	9.7	13.0	10.6	8.2	
	city from 20 to 100,000 residents	16.7	25.0	15.0	16.7	15.9	20.6	
	city above 100,000 residents	36.9	33.3	38.9	32.4	40.4	37.1	
Number of household members	1	7.7	8.3	7.5	7.4	7.9	8.2	p=0.108
	2	12.6	8.3	16.4	11.1	10.6	12.4	
	3	21.5	25.0	21.7	21.3	19.2	24.7	
	4	31.5	41.7	24.8	36.6	33.8	30.9	
	5 and more	26.5	16.7	29.6	23.6	28.5	23.7	

None of the respondents in Cluster 1 described their financial situation as 'very good', and 16.7% stated that their financial situation was 'bad'. The highest percentages of men and employed individuals are found in Cluster 4; the percentage of respondents living in the largest cities was also the highest in this cluster. The respondents in Cluster 3 most often declared that they lived in rural areas and had a very good financial situation. Cluster 2 includes mainly respondents living in households of 5 or more people. Compared to other clusters, we note the highest percentage of respondents declaring a very bad financial situation in this cluster. Cluster 5 consists predominantly of women, respondents with good financial situations and those living in four-person households (Table 5).

4. Discussion

Food selection is a complex process affecting food production systems and consumer nutrient intake, as it determines what foods consumers buy and eat (Furst et al., 1996). As such, understanding what motivates basic food choices is essential from the perspective of food development and marketing efforts. In our study, factors such as packaging information, hygiene, and food safety emerged as significant determinants of food purchasing decisions among young Polish consumers, giving some insight into what drives their food choices.

Su et al.'s (2019) study of Gen Z consumers in the United States found them to be much more knowledgeable about sustainable lifestyles than previous generations, typically prioritising their health when making food choices. Our findings similarly suggest that young Polish consumers are increasingly attentive to health-related aspects like hygiene and the nutritional content displayed on packaging, indicating a shift towards health consciousness in their purchasing behaviour. This moreover parallels Kumar & Kapoor's (2017) findings that young consumers in India place considerable importance on food labels, mirroring the behaviour observed in our study where information on packaging plays a crucial role.

On the other hand, Allman-Farinelli et al. (2016) found that young people prefer and overconsume unhealthy foods because they are tastier than their healthier alternatives. The present study, on the contrary, suggests a more balanced consideration involving both health and sensory attributes like taste and appearance. This could indicate a cultural variation or an evolving

trend among younger demographics who are seeking to balance taste with health considerations.

Moreover, such differences in the findings reported by studies on food choice priorities may reflect gender-related differences or broader regional consumer behaviour trends. Alibabić et al. (2011), for instance, found that product packaging, manufacturer, and product quality were the main determinants for Bosnian male consumers when deciding whether to buy food. Studies such as those by Lawlor et al. (2001) and Wardle & Griffith (2001) suggest that men may prioritize taste and convenience – a trend not strongly evidenced in our study's young Polish demographic, which displayed a more balanced set of priorities encompassing price, hygiene, and information.

The place where consumers live also has an impact on their food choices. This factor may also be linked to economic status and affect food availability (Samaniego-Vaesken et al., 2018; Grande Covián et al., 2014). On the other hand, other studies show that a globalised market, which includes the distribution of a wide range of staple foods, regardless of their origin, reduces the gap in food purchases and consumption between urban and rural areas (Martín et al., 2014; Naska et al., 2006).

In our study, the origin of products was found to be the least important factor in food choices for young Polish consumers. This contrasts with findings from Turčínková and Kalábová (2011), who concluded that the origin of food plays a vital role in Czech consumers' purchasing decisions. They found a moderately strong relationship between the age and education of respondents and their tendency to choose local food. Similarly, Brown (2003) noted that the attitude towards local food depends on the origin of the respondents. Additionally, Bimbo et al. (2021) showed that age, education, and professional status positively correlate with high frequency of local food purchases. These differences, again, may reflect varying cultural values or economic conditions that influence consumer priorities in different regions.

5. Conclusions

This study successfully identified several critical determinants influencing food choices among young Polish consumers, achieving the article's aims as demonstrated by the results. The analyses revealed that consumer choices are influenced by a blend of economic, informational, and aesthetic factors

including information on the packaging of food products, hygiene and food safety, the appearance of the product, and its price. Notably, the lessened importance of food origin and the high priority given to product appearance and hygiene suggest a unique profile of young Polish consumers that may differ from global trends. Significant differences were also observed based on gender and place of residence among the clusters identified in the study, emphasizing the complexity of decision-making processes in food purchases.

The selection of a sample consisting only of people aged 18–25 carries limitations regarding representativeness and generalization of research results to a broader population. People aged 18–25 are at a stage of life often related to higher education, the beginning of their professional career, greater mobility, and life changes. They usually have limited professional and financial experience, which may influence their economic decisions and attitudes. People of this age are also often heavy social media and technology users, which may also influence their behaviour. To obtain more universal conclusions, future studies should consider a broader demographic range, including different age groups, to better reflect society's diversity.

Additionally, food marketers and producers should consider these preferences when designing and marketing their products to the young Polish market, potentially adjusting marketing strategies to emphasize the factors of highest consumer sensitivity, such as packaging information and hygienic conditions.

References

- Act of May 9, 2014, on information on prices of goods and services. Single text OJ of 2023, item 168..*
- Aday, M. S., & Yener, U. (2014). Understanding the buying behaviour of young consumers regarding packaging attributes and labels. *International Journal of Consumer Studies*, 38(4), 385–393. <https://doi.org/10.1111/ijcs.12105>
- Alibabić, V., Jokić, S., Mujić, I., Rudić, D., Bajramović, M., & Jukić, H. (2011). Attitudes, behaviors, and perception of consumers' from northwestern Bosnia and Herzegovina toward food products on the market. *Procedia - Social and Behavioral Sciences*, 15, 2932–2937. <https://doi.org/10.1016/j.sbspro.2011.04.217>
- Allman-Farinelli, M., Partridge, S. R., & Roy, R. (2016). Weight-Related dietary behaviors in young adults. *Current Obesity Reports*, 5(1), 23–29. <https://doi.org/10.1007/s13679-016-0189-8>

- Angowski, M., & Jarosz-Angowska, A. (2020). Importance of regional and traditional EU quality schemes in young consumer food purchasing decisions. *European Research Studies Journal*, XXIII(Special Issue 2), 916–927. <https://doi.org/10.35808/ersj/1906>
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55(5), 469–480. <https://doi.org/10.1037/0003-066x.55.5.469>
- Bakewell, C., & Mitchell, V. (2003). Generation Y female consumer decision-making styles. *International Journal of Retail & Distribution Management*, 31(2), 95–106. <https://doi.org/10.1108/09590550310461994>
- Bassola, B., Tommasi, V., Bonetti, L., Bauer, S., & Lusignani, M. (2020). Nurses' knowledge about malnutrition in older people: A multicenter cross-sectional study. *Nutrition*, 78, 110947. <https://doi.org/10.1016/j.nut.2020.110947>
- Bimbo, F., Russo, C., Di Fonzo, A., & Nardone, G. (2020). Consumers' environmental responsibility and their purchase of local food: Evidence from a large-scale survey. *British Food Journal*, 123(5), 1853–1874. <https://doi.org/10.1108/bfj-05-2020-0398>
- Brown, C. (2003). Consumers' preferences for locally produced food: A study in southeast Missouri. *American Journal of Alternative Agriculture*, 18(4), 213–224. <https://doi.org/10.1079/ajaa200353>
- Eldesouky, A., & Mesias, F. (2014). An insight into the influence of packaging and presentation format on consumer purchasing attitudes towards cheese: A qualitative study. *Spanish Journal of Agricultural Research*, 12(2), 305. <https://doi.org/10.5424/sjar/2014122-5520>
- Furst, T., Connors, M., Bisogni, C. A., Sobal, J., & Falk, L. W. (1996). Food choice: A conceptual model of the process. *Appetite*, 26(3), 247–266. <https://doi.org/10.1006/appe.1996.0019>
- Gelici-Zeko, M. M., Lutters, D., ten Klooster, R., & Weijzen, P. L. G. (2012). Studying the influence of packaging design on consumer perceptions (of dairy products) using categorizing and perceptual mapping. *Packaging Technology and Science*, 26(4), 215–228. <https://doi.org/10.1002/pts.1977>
- Grande Covián, F., Rof Carballo, J., & Jiménez García, F. (2014). Alimentación y desarrollo infantil II; el desarrollo físico comparativo de dos grupos de niños en edad escolar y distinto nivel económico (Rev Clin Esp 1944;12:155-164) [Nutrition and child development II; a comparison of physical development in two school children groups with different income level]. *Nutricion Hospitalaria*, 30(3), 708–718. <https://doi.org/10.3305/nh.2014.30.3.7709>

- Gutkowska, K., & Ozimek, I. (2005). *Wybrane aspekty zachowań konsumentów na rynku żywności – kryteria zróżnicowania [Selected aspects of consumer behavior in the food market - differentiation criteria]*. Warszawa, Poland. Wydawnictwo SGGW.
- Kanchanapibul, M., Lacka, E., Wang, X., & Chan, H. K. (2014). An empirical investigation of green purchase behaviour among the young generation. *Journal of Cleaner Production*, 66, 528–536. <https://doi.org/10.1016/j.jclepro.2013.10.062>
- Kumar, N., & Kapoor, S. (2017). Do labels influence purchase decisions of food products? Study of young consumers of an emerging market. *British Food Journal*, 119(2), 218–229. <https://doi.org/10.1108/bfj-06-2016-0249>
- Lawlor, D. A., Ebrahim, S., & Davey Smith, G. (2001). Sex matters: Secular and geographical trends in sex differences in coronary heart disease mortality. *BMJ*, 323(7312), 541–545. <https://doi.org/10.1136/bmj.323.7312.541>
- Lima, J. P. M., Costa, S. A., Brandão, T. R. S., & Rocha, A. (2021). Food consumption determinants and barriers for healthy eating at the workplace—a university setting. *Foods*, 10(4), 695. <https://doi.org/10.3390/foods10040695>
- Martín, A., Cervero, M., González Rodríguez, A., Molinero, A., Magro, M., & Partearroyo, T. (2014). Quidad y desigualdad nutricional en dos centros escolares de la ciudad de Madrid (España) [Equity and nutritional inequality in two school centers in Madrid (Spain)]. *Nutricion Hospitalaria*, 29(1), 128–135. <https://doi.org/10.3305/nh.2014.29.1.6778>
- Naska, A., Fouskakis, D., Oikonomou, E., Almeida, M. D. V., Berg, M. A., Gedrich, K., Moreiras, O., Nelson, M., Trygg, K., Turrini, A., Remaut, A. M., Volatier, J. L., & Trichopoulou, A. (2005). Dietary patterns and their socio-demographic determinants in 10 European countries: Data from the DAFNE databank. *European Journal of Clinical Nutrition*, 60(2), 181–190. <https://doi.org/10.1038/sj.ejcn.1602284>
- Nyrhinen, J., Sirola, A., Koskelainen, T., Munnukka, J., & Wilska, T.-A. (2023). Online antecedents for young consumers' impulse buying behavior. *Computers in Human Behavior*, 108129. <https://doi.org/10.1016/j.chb.2023.108129>
- Olejniczuk-Merta, A. (2008). *Uwarunkowania rozwoju społeczno-zawodowej aktywności ludzi młodych. [Circumstances for the development of social and professional activity among young people]*. Instytut Badań Rynku, Konsumpcji i Koniunktur.
- Prowse, R. J. L., Naylor, P.-J., Olstad, D. L., Storey, K., Carson, V., Mâsse, L. C., Kirk, S. F. L., & Raine, K. D. (2020). Impact of a capacity-building intervention on food marketing features in recreation facilities. *Journal of Nutrition Education and Behavior*, 52(10), 935–943. <https://doi.org/10.1016/j.jneb.2020.03.009>

- Regulation of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, amending Regulations (EC) No 1924/2006 and (EC) No 1925/2006 of the European Parliament and the Council, and repealing Commission Directive 87/250/EEC, Council Directive 90/496/EEC, Commission Directive 1999/10/EC, 2000/13/EC of the European Parliament and the Council, Commission Regulation (EC) No 608/2004. (EU No 1169/2011). (2011).
- Regulation of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority, and laying down procedures in matters of food safety. (EC No 178/2002). (2002).
- Regulation of the European Parliament and of the Council of 29 April 2004 laying down specific hygiene rules for food of animal origin. (EC No 853/2004). (2004).
- Regulation of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs. (EC No 852/2004). (2004).
- Regulation of the Minister of Development and Technology of December 19, 2022, on the visibility of prices of goods and services. OJ of 2022, item 2776.
- Samaniego-Vaesken, M., Partearroyo, T., Ruiz, E., Aranceta-Bartrina, J., Gil, Á., González-Gross, M., Ortega, R., Serra-Majem, L., & Varela-Moreiras, G. (2018). The influence of place of residence, gender and age influence on food group choices in the spanish population: Findings from the ANIBES study. *Nutrients*, 10(4), 392. <https://doi.org/10.3390/nu10040392>
- Solomon, M. R. (2017). *Consumer behaviour: Buying, having, and being*. Pearson.
- Statistic Poland. (2021). *Population. Size and structure and vital statistics in Poland by territorial division. As of December 31, 2020*. <https://stat.gov.pl/en/topics/population/population/population-size-and-structure-and-vital-statistics-in-poland-by-territorial-division-as-of-december-31-2020,3,29.html>
- Su, Tsai, Chen, & Lv. (2019). U.S. sustainable food market generation Z consumer segments. *Sustainability*, 11(13), 3607. <https://doi.org/10.3390/su11133607>
- Turčínková, J., & Kalábová, J. (2011). Preferences of Moravian consumers when buying food. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 59(2), 371–376. <https://doi.org/10.11118/actaun201159020371>
- Wardle, J. (2001). Socioeconomic status and weight control practices in British adults. *Journal of Epidemiology & Community Health*, 55(3), 185–190. <https://doi.org/10.1136/jech.55.3.185>

Prof. Irena Ozimek, PhD, DSc is a full professor at the Management Institute, Warsaw University of Life Sciences, Poland; she works as a scientific researcher and lecturer. Her research focuses on consumer protection (including consumer education), consumption of goods and services in households, and consumer behaviour in the market of goods and services, especially in the food market and tourism.

Julita Szlachciuk, PhD is an assistant professor at the Department of Food Market and Consumer Research, Institute of Human Nutrition, Warsaw University of Life Sciences. Her main research interest focuses on consumer protection, consumer behavior in the food market, and intellectual property. Her main areas of teaching activity are focused on consumer protection and food legislation.

Olena Kulykovets, PhD is an assistant professor at the Management Institute, Warsaw University of Life Sciences, Poland. She obtained her Ph.D. in 2022 in the discipline of management and quality sciences at the University of Warsaw, Faculty of Management. Her scientific interests focus on topics related to non-standard marketing tools, as well as the use of modern technologies in the field of scientific research, and the use of artificial intelligence to support the marketing activities of enterprises.

Prof. Anna Dąbrowska, PhD, DSc is a full professor at the Department of Consumer Behaviour Research, Collegium of Management and Finance, Warsaw School of Economics, Poland. Her research interests focus on the services market, e-services, consumption of goods and services in households and consumer behaviour in the market of goods and services.