
Consumer Behavior of Rural Residents Regarding the Choice of Food Purchase Places: The Case of Poland

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Abstract:

Purpose: The purpose of the article was to assess the consumer behavior of rural residents regarding the choice of food purchase places and the possibility of self-producing food.

Design/Methodology/Approach: The conducted analysis was based on own research with the use of a questionnaire among 302 rural households in Poland. To determine whether there is a correlation between the types of rural households and the frequency of food purchases, the Kruskal–Wallis test by ranks and the Spearman's rank correlation coefficient were used.

Findings: Research has shown a large variation between the forms of satisfying food needs by the inhabitants of rural areas, some of them try to produce food themselves as part of their households, or supplement it with purchases mainly from local producers. Inhabitants of villages not related to agriculture most often shop in large-format stores.

Practical Implications: The assessment of consumer behavior of rural residents should be extended to research on consumer awareness of the quality of consumed food, the benefits of purchasing from local producers.

Originality/value: In the case of Poland, there is a lack of research and knowledge about the preferences of rural residents regarding places to buy food and information on whether they, as rural residents, undertake food production as part of their household.

Keywords: Rural households, food self-supply, consumer preferences, food purchase, Poland.

JEL classification: C18, C83, D12, D13, D16.

Paper Type: Research study.

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1. Introduction

The household satisfies the needs from basic (lower order), necessary for the normal and proper functioning of a human being, to the extra-basic (higher-order), depending on the level of socio-economic and cultural development achieved (Jackson *et al.*, 2004). Consumer needs arise from three sources - physiological, psychological, and sociological. The fulfillment of needs depends on the human being, on the prioritization of these needs, and the economic conditions that make it possible or difficult to meet them (Szwacka-Salmonowicz and Zielińska, 1996).

Food is a special group of consumer goods. These are goods that meet human physiological needs, as well as needs related to safety, belonging, and respect (Tracy, 1993). Changes in the level and structure of food consumption are related to the growing interest in the principles of rational nutrition and the importance of food safety needs (Zalega, 2008). Food needs are among the basic needs, the source of which are the biological requirements of the organism, always placed in the first place as objective and most urgent needs to be satisfied, because food plays an important role in maintaining human health and psychophysical fitness (Maslow, 1954). Food can be divided into groups using different classification criteria. One of the criteria is the scale of needs according to which food products are divided into basic, higher-order, and luxury products (Jeznach, 2007). The basic ones are bread, milk, and dairy products. Higher-order products are rarely purchased and their price is quite high (e.g., chocolate, better types of meat, caviar).

2. Consumers' Behavior in Terms of Forms to Satisfy Food Needs

Consumers' decisions regarding the choice of place, time, method, and mode of food supply are the result of several market, economic and socio-cultural factors (Rudnicki, 2012). The most common ways of meeting the food needs of a household are (Zalega, 2012):

- producing goods in the household (e.g., producing and preparing food products for consumption);
- purchasing ready-made consumer goods and items that require processing and preparation for consumption on the market;
- obtaining consumer goods in a way other than their production or purchase, in particular through the system of benefits and social insurance (medical services and social care),
- free receipt of food products from family, relatives, or friends as part of the so-called neighborhood exchange.

In the literature on the subject of consumption economics, especially to food consumption, attention should be paid to the division of consumption due to the criterion of the source of consumer goods, i.e., where the consumer goods are obtained

from. Taking them into account, one can distinguish between market consumption and natural consumption (consumer self-supply). When a consumer purchases goods and services on the market, we are dealing with market consumption, while when the object of consumption are goods and services produced by the consumer himself within the household, it is referred to as natural consumption (Zalega, 2012).

According to Strzelecka (2012), natural consumption concerns mainly food and occurs mainly in rural areas. Currently, several cultural trends (ecology, individualism, domocentrism) are conducive to the expansion of natural consumption also among high-class consumers who make many purchases on the market, who want to try to self-produce food "free from preservatives, emulsifiers or improvers" (Trębska, 2020). Food self-supply from a farm or plot of land is one of the main factors influencing the shaping of food consumption patterns, especially in rural areas (Biernat-Jarka and Tuka, 2015). Recently, a trend of going back to nature has been observed among some people, manifested in the consumption of self-produced food products due to their nutritional value, care for the health of family members and care for the condition of the natural environment and food safety (Zalega, 2014).

Rising income levels, the degree of trade liberalization, and progressive urbanization have made it possible to rapidly change consumers' lifestyles and preferences (Zalega, 2015). This also applies to consumers living in rural areas. Polish citizens pay more and more attention to the composition and origin of the product. Many consumers are familiar with the idea of "farm to fork", which they can pursue mainly living in the countryside. Increasing awareness and concern with global climate change has led to a push to identify local food consumption as a way to reduce food miles and help preserve the environment. The journey from farm to fork is rarely a simple connection between farmer and consumer but involves a range of different actors and agents, located in different places and at different socioeconomic scales (Blake *et al.*, 2010).

An example of research on the places of purchase of consumer goods in selected European countries, including Poland, is the study by Maciejewski (2016). The author points to the imitation of consumers regarding the behavior of selected European countries in connection with the selection of shopping centers as a shopping zone. Research has shown that discount stores (59.1%) and hypermarkets (20.1%) are the most frequent purchasing place of food for the questioned Poles. The study by Cyran (2013) is also noteworthy, in which the preferences of consumers in terms of places to buy food were examined as a determinant of the possibility of developing trade in markets and bazaars. To fully present the role of marketplace trade in satisfying consumer needs, the author presented selected characteristics against the background of other food sales channels, i.e. a small store next door and large-format stores.

Polish consumers are increasingly concerned about various attributes of food quality, especially sensory properties, health, and safety. They distinguish the quality of food offered at various points of sale and have positive opinions about specialized stores,

and perceive the quality of food bought in super and hypermarkets as worse (Ozimek and Żakowska-Biemans, 2011).

Research by Rudawska (2014) confirms the positive and emotional approach of consumers to traditional products. This emotional attachment, which is very important in building loyalty among consumers, makes them buy traditional food. Polish consumers are satisfied with the taste of traditional products, which are also perceived as fresh and natural. Consumers highly value the quality of traditional products and emphasize their positive impact on the health of them and their families.

3. Methodology

The purpose of the article was to assess the behavior of rural consumers in the area of preferences in choosing places to buy food and to assess the possibility of self-producing food. The empirical material contained in the study comes from a survey conducted in the rural areas of Mazowieckie Voivodeship, in the form of a questionnaire on a sample of 302 respondents in 2017 in Poland. The analysis of the study results was performed in Excel and IBM SPSS Statistics.

To determine whether there is a correlation between the types of rural households and the frequency of food purchases, the Kruskal–Wallis test by ranks and the Spearman's rank correlation coefficient were used (Field, 2013). Socio-economic characteristics of households taken into account in the analysis are the number of people in the household, the number of children in the household, income per person in the household, the area of the farm, type of household that determines the degree of its connection with agriculture (agricultural, agricultural and employee, not related to agriculture).

The Spearman's rank correlation coefficient is used to determine whether there are statistically significant correlations between variables measured at the ordinal or quotient level, but whose distribution significantly differs from the normal one. Three levels of statistical significance were adopted: $p < 0.001$, marked as ***, $p < 0.01$, marked as **, and $p < 0.05$, marked as *. The Spearman's rank correlation coefficient is given by the formula:

$$r_s = 1 - \frac{6 \cdot \sum d_i^2}{n(n^2 - 1)},$$

where:

- n - number of observations (X and Y have the same number of observations),
- d_i - the difference between the X and Y ranks: $RX_i - RY_i$.

The Kruskal–Wallis test by ranks is used to determine whether more than two groups differ significantly from each other in a statistically significant manner in terms of

variables measured at the ordinal or quotient level, but whose distribution is significantly different from normal. The following symbols are used in the tables: M - arithmetic mean, Me - median, SD - standard deviation, H - statistic of the Kruskal-Wallis test by ranks, "p" - the significance of the Kruskal-Wallis test by ranks. Three levels of statistical significance were adopted: $p < 0.001$, marked as ***, $p < 0.01$, marked as **, and $p < 0.05$, marked as *. The formula for the Kruskal-Wallis test by ranks is:

$$H = \frac{12}{N(N+1)} \sum_{i=1}^p \frac{R_i^2}{n_i} - 3(N+1),$$

where:

- H – Kruskal–Wallis test by ranks,
- N – number of observations,
- p – number of compared groups,
- R_i – a sum of ranks in a given group,
- n_i - number of observations in a given group.

The frequency of grocery shopping was expressed on a scale of 1-7, where: 1 - not at all, 2 - occasionally, 3 - once a month, 4 - several times a month, 5 - once a week, 6 - several times a week, 7 - daily. This allowed for treating the variable as quantitative and calculating both linear correlations with ordinal and quantitative variables (number of people in a household, number of children in a household, the average income in a household) as well as a comparison of three types of households in terms of the frequency of food purchases in particular places.

4. Results and Discussion

Grocery shopping is an integral part of everyday life and the most common type of consumer behavior. The survey asked rural residents where and with what frequency they buy food or whether they undertake the production of food themselves as part of their household. 302 rural households from Poland participated in the study. 58.9% of women and 41.1% of men participated in the study. The most numerous age group were people aged 45-54 (29%). An important variable in the study of consumption was the place of residence. The sample of respondents, following the adopted research assumptions, included people living in rural areas from ten communes in the Mazowieckie Voivodeship in Poland.

In the survey, respondents were asked about the level of education. The interview questionnaire presents seven categories of education: primary, lower secondary, basic vocational, general secondary, secondary vocational, post-secondary and higher. The most numerous group were people with general secondary education. About 38% of the respondents had this level of education. Almost every fifth respondent had higher education (18.2%). People with primary (4%) and basic vocational education (4.3%) constituted the smallest group in the sample. The researched households are mainly

two- and three-generation families, where the majority are households of four. The structure of households by household members was as follows: 1-person - 2.7%, 2-person - 7.8%, 3-person - 14.5%, 4-person - 29.1%, 5-person - 25.7%, 6- and more persons - 20.3%. About 32% of the surveyed households had children under 14. Households without children under 14 constituted 68% of the respondents, with one child - 18%, with two - 10%, with three and more - 4%. The largest group among the respondents were people whose monthly income ranged between PLN 501.00-1000.00 (28.8%). For 9.3% of respondents, the monthly household income per person did not exceed PLN 500.00. The group of respondents whose monthly income exceeded PLN 2,000.00 accounted for 17.9% of the surveyed population.

Table 1. Structure of respondents and their families

Features of the respondents	Number of respondents	%
Total	302	100.0
Sex:		
Women	178	58.9
Men	124	41.1
Age:		
Up to 24 years old	28	9.3
25 - 34 years old	74	24.5
35 - 44 years old	80	26.5
45 - 54 years old	88	29.1
55 years old and more	32	10.6
Education:		
Primary	12	4.0
Lower secondary	53	17.5
Basic vocational	13	4.3
General secondary	114	37.7
Secondary vocational	41	13.6
Post-secondary	14	4.6
Higher	55	18.2
Number of people in the household:		
1	8	2.7
2	23	7.7
3	43	14.5
4	86	29.0
5	76	25.6
6 and more	61	20.5
Number of children under 14 in the household:		
0	200	67.8
1	54	18.3
2	29	9.8
3 and more	12	4.1
Average household income per person per month:		

Less than PLN 500	28	9.3
PLN 501 - 1000	87	28.8
PLN 1001 - 1500	68	22.5
PLN 1501 - 2000	47	15.6
Above PLN 2001	54	17.9
No answer	18	6.0

Source: Own processing.

The inhabitants of the village are both farmers and people who make a living from other sources, including contract work or running your own business. Not every household is related to agriculture and has the option of using agricultural land. Among rural households, i.e. households whose permanent residence are rural areas, one can distinguish: typically agricultural households, agricultural and employee households, rural households not related to agriculture (Trębska, 2020).

In the structure of the surveyed rural households, there were 51.7% of typical agricultural households, 32.8% of agricultural and employee households, and 15.6% of households not related to agriculture. Because half of the surveyed households declare a high degree of connection with agriculture, the respondents were first asked whether living in the countryside has the potential of a farm or a home garden and what are their possibilities of self-producing food (Table 2). More than half of the respondents (56%) declare that they grow plants in home gardens, and 14% own a farm. The inability to self-produce food, despite living in rural areas, is declared by only 11% of the respondents.

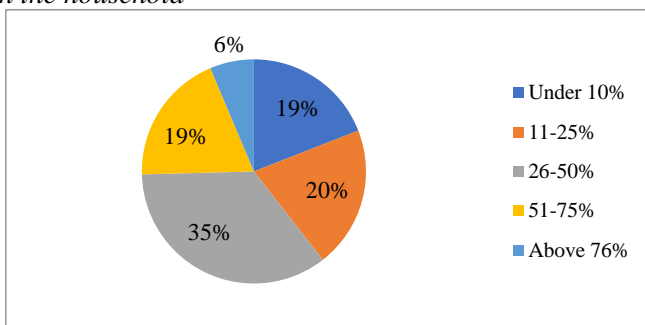
Table 2. *Assessment of the possibility of self-producing food in the household*

	Number	%
I am a member of a household with a farm user	55	18.2
I have my farm	43	14.2
I have a home garden / vegetable plot / allotment garden	170	56.3
I have a fish pond	27	8.9
I have an orchard	41	13.6
I have no way of self-supplying food	34	11.3

Source: Own processing.

One of the possibilities of producing food is self-supply, which mostly concerns rural households, mainly farmers. One of the reasons is the fact that the vast majority of these people own land, which they use for gardening and agricultural activities. This is associated with the possibility of replacing the finished products available in stores with their preserves. Thus, rural households complement their home budget. Asking the respondents what was the percentage share of food consumption from their household in the total food consumption in the household 35% declared that it was from 26-50% of the food. Only in every tenth household declared consumption of food from self-supply was below 10% (Figure 1).

Figure 1. The percentage share of food consumption from own farm in total food consumption in the household



Source: Own processing.

Respondents who declared the use of self-supply were also asked about the frequency of consumption of such products. 35% of respondents said that they consumed food from self-supply at least 4 times a week. Every fourth respondent did it every day. Two to three times a month, 12% of respondents used self-supply, and less than once a month – 8%.

Receiving food products free of charge from family, relatives or friends is another form of meeting the consumption needs of households. To the question asked by the respondents whether they eat food obtained free of charge from their family or a neighborly exchange, and which were produced on their own by these people, 75% of the respondents answered positively. Natural consumption is supplemented by market consumption. Table 3 shows the places where food was purchased by rural residents, taking into account the frequency of purchases.

Table 3. The frequency of purchases in various places

	I don't shop at all		Occasionally		Once a month		Several times a month		Once a week		Several times a week		Everyday	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Directly from the farmer	101	34.5	112	38.2	23	7.8	25	8.5	13	4.4	10	3.4	9	3.1
Market	19	6.4	79	26.8	43	14.6	79	26.8	53	18.0	21	7.1	1	0.3
Local shop	13	4.4	52	17.7	29	9.9	55	18.7	55	18.7	69	23.5	21	7.1
Discount store	21	7.1	28	9.5	19	6.5	71	24.1	66	22.4	77	26.2	12	4.1
Hypermarket	20	6.8	59	20.1	37	12.6	72	24.5	49	16.7	51	17.3	6	2.0

Source: Own processing.

Do villagers shop at their farmers' neighbors or prefer shopping in large stores? As the research shows, only a few respondents who took part in the survey declare frequent purchases directly from the farmer, 38% do it occasionally, and 35% do not buy food directly from the farmer. 27% of respondents do shopping at the market several times a month. 7% of the respondents do their shopping at the local shop every day, and

24% several times a week. In a discount store, 27% of respondents do it several times a week. One-fourth of respondents shop several times a month at a hypermarket. To fully show the satisfaction of food needs through shopping in various places, a correlation analysis was carried out taking into account the socio-economic characteristics of households (Table 4).

Table 4. *Linear correlations between the frequency of grocery shopping in various places and the number of people in the household and the number of children under 14 in the household*

The frequency of grocery shopping	Number of people in the household		Number of children in the household	
	rho	p	rho	p
Directly from the farmer	-0.046	0.433	-0.068	0.250
Market	0.100	0.088	-0.030	0.611
Local shop	-0.004	0.945	0.020	0.731
Discount store	-0.067	0.258	-0.013	0.821
Hypermarket	-0.110	0.061	-0.023	0.700

Source: Own processing.

Spearman's rank correlation coefficient did not show statistically significant, linear correlations between the number of people in a household and the frequency of shopping in specific places. We are dealing, however, with two tendencies close to statistical significance. The more people in the household, the more frequent shopping at a market or bazaar, and the less frequent in a hypermarket. Spearman's rank correlation coefficient did not show statistically significant or close to statistical significance linear correlations between the number of children in a household and the frequency of shopping in specific places (Table 5).

Table 5. *Linear correlations between the frequency of grocery shopping in various places and the average household income and the area of the farm*

The frequency of grocery shopping	Average household income		Area of the farm	
	rho	p	rho	p
Directly from the farmer	0.046	0.444	-0.085	0.335
Market	0.023	0.703	-0.133	0.129
Local shop	0.007	0.910	-0.058	0.512
Discount store	0.147	0.014*	0.137	0.118
Hypermarket	-0.009	0.885	-0.001	0.995

Source: Own processing.

Spearman's rank correlation coefficient showed a statistically significant, positive correlation between household income and the frequency of purchases at a discount store. The higher the income, the more frequent purchases at discount stores. Spearman's rank correlation coefficient did not show statistically significant or close to statistical significance linear correlations between the area of the farm and the frequency of shopping in various places (Table 6).

Table 6. Comparison of different types of farms in terms of the frequency of food purchases in various places

The frequency of grocery shopping	Household type									Kruskal–Wallis test by ranks	
	Agricultural			Agricultural employee			and Not related to agriculture			H	p
	M	Me	SD	M	Me	SD	M	Me	SD		
Directly from the farmer	<u>2.56</u>	2	1.73	2.17	2	1.25	<u>1.89</u>	1	1.30	7.612	0.022*
Market	<u>3.70</u>	4	1.38	3.32	4	1.44	<u>2.96</u>	3	1.33	10.583	0.005**
Local shop	<u>4.54</u>	5	1.70	<u>4.05</u>	4	1.70	<u>3.93</u>	4	1.61	7.884	0.019*
Discount store	4.21	4	1.63	4.56	5	1.53	4.70	5	1.65	5.172	0.075
Hypermarket	<u>3.61</u>	4	1.62	3.92	4	1.55	<u>4.45</u>	5	1.53	10.286	0.006**

Source: Own processing.

Based on the means and medians on a scale of 1-7, where the higher the mean and the median, the more frequent purchases in the surveyed place, the types of farms were compared in terms of the frequency of purchases in particular places. The Kruskal-Wallis test by ranks showed that people from agricultural households significantly more often than people from households not related to agriculture do their shopping: directly from the farmer, at the market or bazaar, and in a local shop. Besides, people from typical agricultural households significantly more often do shopping in local shops than people from agricultural and employee households. Members of households not related to agriculture significantly more often do shopping in hypermarkets than members of typical agricultural households.

5. Summary and Concluding Comments

Due to the limited size of the sample and the non-random selection of respondents for the study, the results of the analyzes in the study refer to the population covered by the study. The results of the research, although not representative, may constitute the basis for discussing the direction of choosing places to buy food by consumers living in rural areas and lead to in-depth qualitative analysis to quantify the factors that may affect the frequency and choice of places where food is purchased by rural residents. An interesting issue discussed in the article is also the role of food self-supply as one of the forms of meeting the needs of consumers. The article covers a new research area, as for the first time it presents consumer behavior of rural residents regarding the preferences of places where food is bought, which differs from the behavior of urban consumers. Nor should they be compared with general research relating to the entire consumer population in Poland.

Based on the conducted research, it should be stated that the shaping of the forms of satisfying the food needs among rural households is influenced by having a farm or a home garden, which makes them use self-supply food. Natural consumption is supplemented by market purchases in various places. Paradoxically, large-format stores are more often chosen than markets or shopping directly from the farmer. Rural residents prefer to go shopping in the city several times a month, and only occasionally

buy from local producers. This may result from the consumer unawareness of rural residents that the purchase of local products has a positive impact on the development of the economy in the region. Supporting local food producers helps to counteract social exclusion, as the deficit of jobs in rural areas is very high. Other benefits include the protection of the environment, in particular the protection of biodiversity, and the improvement of one's health by increasing the consumption of natural food of known origin.

The summary of the analysis is an indication of the existence of diversified consumer behaviors regarding satisfying the food needs of rural residents. Some of them choose products of natural origin, preferably self-made, and some of them prefer shopping in large stores instead of using self-supply food or shopping at local producers. The most important factors influencing the choice of places to buy food, apart from the income situation, turned out to be the type of rural households. Rural households related to agriculture more often support local producers by shopping with them than members of non-agricultural holdings. Perhaps this is due to neighborly solidarity, support from local producers, consumer awareness of food production by local producers.

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