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Original research paper

SERBIAN CONSUMER'S PERCEPTION OF BREAD QUALITY

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Abstract: Bread as we know it today originated in 10,000 BC. The life cycle of this food has changed over time. It was regarded as a divine gift and a culprit for many of the diseases prevalent in contemporary society. This research aims to see which factors have the greatest influence on the consumers' perception of the quality of bread, taking into account that in Serbia in recent years there has been a decline in the demand for this food. After data collection and processing, 310 respondents from the territory of the Republic of Serbia participated in the research. The survey was conducted anonymously, with data collected online via Google Forms. The obtained results suggest that sensory attributes have the greatest influence on quality perception. However, the research also revealed that the respondents were not informed about this food's nutritional and health aspects. Given that Serbia is a country with unique traditional bread varieties in nearly every region, and where the skill of bread-making is handed down through generations, future research should aim to inform consumers about the nutritional and health aspects of these traditional foods.

Key words: *bread, food, customer, perception of quality*

INTRODUCTION

Bread, as we know it today, originated around 10,000 BC in Egypt, as evidenced by the oldest papyri detailing precise bread-making instructions. Although bread has evolved in form over millennia, it remains a fundamental staple in our diet (Lockyer & Spiro, 2020; Barnes, 2023). The methods and techniques for bread production vary globally, but the basic ingredients-flour, water, leavening agent, and salt-have remained consistent (Martin, 2004; Sluimer, 2005; Goel, 2021).

The production process and techniques for making this staple food vary worldwide. The Food, Beverage, and Common Items Code defines bread as a product prepared and baked in specialized ovens under controlled conditions, consisting of flour, water, and a small amount of salt. According to the Rulebook on the Quality of Grain, Milling and Bakery Products, and Pasta, bread is described as a bakery product made by mixing, shaping, and baking dough composed of mill products and water, with or without baker's yeast or other leavening agents, salt, and additional raw mate-rials (Rulebook, 2018). According to this rule-book, bread can be produced from different cereals. Therefore, various types of bread can be found on the market today (wheat, rye, integral rye, corn, buckwheat...). Bread production from

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farm to bakery involves several steps. Each of these steps must conform to hygienic-sanitary measures and measures related to food quality because all these steps ultimately affect the quality of the bread itself (Aghalari, Dahms & Sillanpää, 2022).

Bread is a rich source of carbohydrates, complex carbohydrates, proteins, vitamins, and minerals, and for these reasons, it is an important part of a balanced diet (Alsuhaibani, 2018). An average daily intake of 300 grams of bread can supply essential nutrients needed by the human body (Namayandeh et al., 2018). However, bread consumption per capita in Serbia has been declining over the past 13 years. According to research by the Statistical Office of the Republic of Serbia, bread consumption per inhabitant has decreased by 33%. Official statistics reveal that the annual average consumption per household member fell from 101.5 kilograms of bread and pastries in 2006 to 66.7 kilograms in 2019. These figures are based on the Household Consumption Survey in Serbia (Statistical Office of the Republic of Serbia, 2022). Factors contributing to this decline may include changes in dietary habits, a preference for lower-quality, more affordable foods, shifts in household structure, and inflation. Additionally, consumers' evolving criteria for evaluating food products based on their expectations and requirements may also influence this trend.

Product quality encompasses various attributes that define the product and significantly impact consumer satisfaction and needs fulfilment. Consumers base their purchasing decisions largely on the perceived quality of the product (Malekpour, Yazdani & Rezvani, 2022). Identifying key product attributes that drive customer satisfaction is crucial for manufacturers (Harrington, von Freyberg, Ottenbacher & Schmidt, 2017). However, it is important to consider how consumers perceive product quality. From the consumer's perspective, quality perception is influenced by their experience or benefits from the product or service compared to their expectations of an ideal product (Keynon & Sen, 2012). Product attributes related to consumer quality perception in food and beverages are often categorized as intrinsic or extrinsic factors (Lee & Lou, 2011).

Extrinsic attributes refer to factors associated with a product that are not part of the product's physical composition, such as price, brand, country of origin, quality seals, and store presentation (Ampuero & Vila, 2006; Gellynck, Kuhne, Van Bockstaele, Van de Walle & Dewettnick, 2009). In contrast, intrinsic attributes pertain directly to the product itself and include aspects such as appearance, colour, shape, and presentation (Gellynck et al., 2009).

In addition to the attributes mentioned, the perception of quality is also influenced by sensory characteristics, the health aspects of the product, and its suitability for preparation and storage (Choroszy, 2021). The relative importance of these attributes can vary depending on the consumer's sociodemographic profile, which includes factors such as gender, age, status, and the number of household members (Choroszy, 2021). External factors, including economic variables, and marketing factors, such as labelling and product declarations, also play a role in shaping consumer perceptions.

One of the key perceptual attributes influencing consumer acceptability of bread is its taste (Curic, Novotni & Skevin, 2008). The taste of bread is perceived through a combination of various sensory inputs. The flavour profile of bread is created by both volatile and non-volatile compounds, which work together to enhance its quality and contribute to its overall palatability (Pico, Gómez, Bernal & Bernal, 2016). Moreover, the baking process itself significantly impacts flavour development. The Maillard reaction, a crucial process occurring during baking, is responsible for the formation of bread's flavour and colour, arising from the thermal degradation of its components (Xu, Zhang & Wang, 2020). Pacyński, Wojtasiak and Mildner-Szkudlarz (2015) identified aromatic substances in bread crust, discovering 77 volatile compounds including alcohols, aldehydes, ketones, and other aromatic molecules. Additionally, approximately 34 volatile organic compounds produced during dough fermentation and baking have been detected and identified (Gancarz, Malaga-toboa & Oniszczuk, 2021). Beyond taste, factors such as freshness, colour, and texture also play a significant role in the overall perception of bread.

The texture of food is closely linked to its mechanical properties, which are a direct consequence of its internal microstructure. In

scientific discussions, texture is regarded as a multidimensional attribute encompassing various textural properties (Bourne, 2002). For bread, texture encompasses aspects such as quality, uniform freshness, crust crispness, and crumb firmness (Altamirano-Fortoul, Hernando & Rosell, 2012). It is important to recognize that the texture and volume of bread can differ significantly between those made from white flour and those made from whole grain flour. Whole-grain bread, while nutritious, often has an organoleptic profile that makes it less appealing to consumers (Kuznesof et al., 2012; Heiniö et al., 2016). These products are typically characterized by a darker colour, distinct taste, smaller loaf volume, and denser texture (Heiniö et al., 2016).

Changes in bread texture can also result from various factors during production and storage. One significant issue is microbiological spoilage. Staling, which occurs during storage, involves a loss of freshness and subsequent organoleptic changes (Chavan & Chavan, 2011). Consumers perceive these changes as staleness. However, it is worth noting that some textural changes caused by staling can be partially reversed by reheating the bread at temperatures between 50-70 °C (Eliasson & Larsson, 1993).

The objective of this paper is to review the factors that influence consumers' perception of bread quality.

MATERIALS AND METHODS

The research was conducted from September to December 2023 using an online survey in Google Forms. Invitations were distributed via social media. All respondents had been informed about the nature and purpose of the study, and they provided their consent to participate. Our research involves humans but not as experimental research but as a part of survey research which is anonymous and does not involve collecting any personal data of respondents. As such, this kind of research does not require special Ethical committee approval in Serbia where the research was conducted, as it is in line with the national Law on Personal Data Protection (The Official Gazette of the Republic of Serbia, number 97/08; further: The Law). The national Law on Personal Data Protection is aligned with the current standards of the relevant European documents, and in particular with the EU General Data Protection Regulation (GDPR). The Law applies to the processing of personal data in the context of the activities of an establishment of a controller or a processor in the Republic of Serbia, regardless of whether the processing takes place in the Republic of Serbia or not.

After excluding incomplete surveys (15), the remaining 310 surveys were processed for analysis. A pre-test was conducted with 30 master and doctoral students to check the content validity and measurement items for conciseness and clarity. The survey was conducted anonymously, with data collected online via Google Forms. The number of clusters was used to check the adequacy of the sample size.

This study was designed following the methodology used by Gellynck et al. in 2009. The survey instrument was adapted from the original work of these authors with specific modifications. The questionnaire comprised three sections. The first section gathered sociodemographic information, including gender, age, number of household members, and marital status. The second section aimed to understand respondents' bread-buying habits, including frequency of consumption, typical meal pairings, and preferred types of bread. Additionally, respondents were asked to specify where they purchased their bread. The third section assessed consumers' perceptions of bread quality based on internal and external attributes. Using Linkert's scale, ranging from 1 (strongly disagree) to 5 (strongly agree), respondents indicated their level of agreement with various statements related to these attributes. Intrinsic attributes included the health and nutritional aspects of the bread. Respondents evaluated statements such as "brown bread is healthier than white" and "whole grain bread is healthier," which address the health benefits of different bread types. Nutritional aspects were examined through statements like "bread is suitable for digestion" and "bread is a basic foodstuff," with the latter emphasizing bread's role in a balanced diet. The questionnaire also included statements on sensory, production, and food property attributes, such as "bread is boring" and "few people are familiar with the bread production process." Additionally, factors related to the living external, such as economic and mercantile aspects, were evaluated. Respondents expressed their views on statements like "bread is expensive" and "bread from artisanal bakeries is of better

quality." Three hundred and ten respondents participated in the research.

The data collected were analyzed using SPSS 15.0. The analysis was guided by the structural variables identified in the research conducted by Gellynck et al. (2009). These variables were used to examine consumers' perceptions of bread quality. Cluster analysis was employed to segment consumers based on their perceptions of bread quality. To determine differences among clusters concerning various factors related to bread quality perception, one-way ANOVA was utilized. Additionally, chi-square tests were conducted to analyze socio-demographic characteristics and bread-buying habits.

The initial hypotheses for this study are as follows:

H1: Food enthusiasts are familiar with the nutritional value of bread.

H2: In light of current market inflation, economic factors outweigh marketing factors in influencing perceptions of bread quality.

H3: Sensory factors significantly affect the perception of bread quality.

RESULTS AND DISCUSSION

Four cluster groups were distinguished through cluster analysis, revealing differences among them. The first cluster consists of "enthusiasts" who exhibit positive factor loadings across all three aspects: sensory, nutritional, and health. Consumers in this group have a favourable view of bread regarding taste, nutritional value, and health benefits. The second cluster includes consumers for whom the sensory aspect is not important, as indicated by a negative factor loading. This group perceives bread as "tasteless" but maintains a positive attitude towards its nutritional aspect. The third cluster comprises consumers who find the nutritional element of bread unimportant, reflected by a negative factor loading in this area. They consider bread to be non-nutritious but hold positive views towards both the health and sensory aspects. The fourth cluster consists of consumers who view bread as "unhealthy" and exhibit a negative attitude towards all aspects. Among these, the health aspect receives the most negative factor loading.

As stated in the introductory section of this paper, the perception of bread quality can be influenced by various factors, including external factors (such as price and marketing), socio-demographic characteristics, and attributes related to food/product properties. Attributes related to these factors are summarized in Table 2. One of the statements included under sensory attributes is that the taste of bread is uninteresting (boring). The findings suggest that there are no significant statistical differences between the clusters regarding this claim. However, there are significant statistical differences regarding the remaining two statements: "Sandwiches are a popular product" and "Special types of bread are suitable for festive meals." Consumers in the "enthusiasts" group and those for whom the nutritional aspect is less important have a positive attitude towards the statement that "sandwiches are a popular product." On the contrary, consumers in the groups that perceive bread as tasteless or unhealthy do not show a clear position on this statement. Among the last two groups, consumers in the fourth cluster rated the statement about special types of bread for festive meals slightly higher. This may reflect a preference for bread in combination with spreads or fillings, or an appreciation for the convenience of sandwiches. Conversely, consumers in the second cluster (who find bread tasteless) gave a higher rating to the statement about special types of bread. This suggests that while they may dislike ordinary bread, they have a preference for certain special types of bread. Regarding health attributes as a product property, significant statistical differences were observed only for the statement "Additives are used in the production of bread." It is noteworthy that consumers in the second and fourth clusters do not have a clear opinion on the use of additives in bread production. To enhance product quality and prolong shelf life, manufacturers today incorporate various additives, such as emulsifiers and softeners (Vargas and Simsek, 2021). Consumers in the first and third clusters concur with this statement. However, regarding the statement "I know little about the nutritional value of bread," there are no significant statistical differences among the clusters. The ratings indicate that no cluster group is well-informed about the nutritional value of bread as a food product. The nutritional value of bread is directly linked to the health of the end consumer, a connection substantiated by numerous studies (Owusu, Owusu-Sekyere, Donkor, Dark-

waah & Adomako-Boateng; Królak, Jezewska-Zychowicz, Sajdakowska, & Gebski, 2017; Sandvik, Nydahl, Kihlberg, & Marklinder 2018). There is increasing discourse in scientific circles regarding the benefits of dietary fibre, the substitution of wheat with more nutrient-rich grains (e.g., amaranth, spelt, rye, chickpeas), and the nutritional and health advantages of sourdough bread. Research on the nutritional value of bread and its health implications has been conducted globally. One notable study investigated dietary fibre intake, revealing that consumption levels remain significantly below recommended amounts. Bread has been identified as a potential means to increase fibre intake. For instance, research in Poland demonstrated that respondents with greater awareness of dietary fibre's benefits were more likely to recognize the advantages of consuming fibre-enriched products and prioritise nutritional information on packaging (Królak et al., 2017). The wide variety of commercially available bread types can make it challenging for consumers to identify healthier options. Research by Sandvik and colleagues sought to identify attributes that define bread quality, particularly its health-related aspects. Their findings suggest that difficulties in identifying healthy bread may deter consumption. Some health-related benefits, however, cannot be effectively communicated through packaging alone (Sandvik et al., 2018). The inclusion of non-commercial grains in bread production, such as cassava in place of wheat, offers another method to enhance bread's nutritional value. Research in Ghana, a major cassava producer, explored consumer willingness to pay more for bread made from a blend of wheat and cassava flour. Given cassava's gluten-free properties, it is particularly suitable for individuals with gluten intolerance. This study underscores that limi-ted awareness of bread's nutritional composition and significance is a global issue. Owusu and colleagues propose targeted policies to encourage and promote bread consumption, such as cassava-wheat bread in Ghana (Owusu et al., 2014). These policies could involve packaging design improvements and emphasizing nutritional information on labels. Similar strategies could be adopted in Serbia to highlight the health and nutritional benefits of specific bread types. Moreover, organizing workshops to educate consumers on the nutritional aspects of bread could enhance public awareness.

The external factors investigated include economic and marketing aspects. Analysis of the collected data reveals no significant statistical differences between the clusters regarding price perception. Notably, respondents across all clusters exhibit an unclear stance on economic factors. In contrast, significant differences are observed among consumer segments concerning marketing aspects. The majority of respondents view bread as an artisanal product and perceive it to be of higher quality when made in artisan bakeries. Interestingly, the last two groups of consumers do not regard bread as an artisanal product, as reflected in their ratings.

Additionally, the data suggests that the description of bread is not a major concern for consumers. This may imply that factors such as ethics and nutritional value are of greater importance to them. Based on the results obtained, it can be stated that there are no significant statistical differences between the cluster groups with respect to sociodemographic characteristics. Although no statistical differences are evident, some trends can still be observed. Specifically, the data indicate a higher participation rate among women compared to men, with the majority of women categorized as enthusiasts. Similarly, most male respondents also fall into the enthusiast category.

Table 1.
Market segmentation based on the perception of bread quality using cluster analysis (n=310)

Cluster	**1**	**2**	**3**	**4**	
Market segmentation	**Enthusiasts**	**Tasteless**	**Non-nutritious**	**Unhealthy**	**Sig.**
Share (%)	47.7	9.4	26.1	17.1	
Factors					
Nutritional aspect	**0.73**	0.17	**-0.93**	-0.69	0.000*
Health aspect	**0.53**	-0.33	0.15	**-1.54**	0.000*
Sensory aspect	**0.48**	**-1.61**	0.18	-0.75	0.000*

* *p<0.05*

Table 2.
Factors influencing the perception of bread quality (attributes related to food properties)

	Consumer segment				
Attributes	**Enthusiasts**	**Tasteless**	**Non-nutritious**	**Unhealthy**	**Sig.**
Sensory attributes					
The taste of bread is perceived as uninteresting (boring)	2.29	2.31	2.51	2.40	0.658
Sandwiches are considered a popular product	4.61	3.48	4.42	3.51	0.000*
Special types of bread complement festive meals well	4.43	3.38	4.26	3.17	0.000*
Health attributes					
Additives are used in bread production	4.43	3.45	4.46	3.45	0.000*
I have limited knowledge about the nutritional value of bread	3.35	3.00	3.02	3.02	0.151
Production attribute					
Few people are familiar with the bread production process	3.81	3.59	3.94	3.47	0.076

* *p<0.05*

Table 3.
Factors influencing the perception of bread quality (external factors)

	Consumer segment				
External factors	**Enthusiasts**	**Tasteless**	**Non-nutritious**	**Unhealthy**	**Sig.**
Economic factors					
Bread is expensive	3.26	2.92	3.25	2.69	0.063
Due to the current inflation in the market, I cannot afford better-qualitybread	2.63	2.34	2.26	2.24	0.323
The price of bread is important to me when choosing it	3.14	2.55	2.91	2.92	0.023*
Marketing					
Bread is an artisanal product.	4.22	4.20	3.32	3.45	0.000*
The description of the bread is more important than the nutritional value and/or the brand.	3.37	3.12	2.79	2.86	0.016*
Bread from artisan bakeries is of better quality than others.	4.09	3.98	3.04	3.17	0.000*

* *p<0.05*

Regarding age distribution, there is a higher representation of younger participants, who are predominantly classified as enthu-siasts. The place of bread purchase concerning the cluster groups is presented in Table 4.

According to the data, there are no statistically significant differences between the clusters. Contrary to previous research, which indicated that up to 80% of respondents purchase bread from artisanal bakeries, the current study finds that respondents do not frequently visit such bakeries. Instead, the largest percentage of respondents purchase bread from grocery stores. Possible reasons for this preference include the wide assortment available, convenience (such as discounts), and a lack of time to visit artisanal bakeries.

Table 5 displays the results concerning the daily amount of bread consumed by all four cluster groups. The data reveal significant statistical differences (p=0.005). The majority of respondents consume less than 100 grams of bread daily, with slightly more than 60% falling into this category.

Table 4.
Influence of socio-demographic characteristics on the perception of bread quality

Characteristics	Consumer segment								p
	Enthusiasts		Tasteless		Non-nutritious		Unhealthy		
	n	%	n	%	n	%	n	%	
Gender									
Male	50	34	9	31	20	24.7	10	31	p=0.155
Female	97	66	20	69	61	73.5	43	81.1	
Age									
18-30	95	64.6	13	44.8	44	54.3	29	54.7	p=0.300
31-45	27	18.4	8	27.6	20	24.7	16	302	
Over 45	25	17	8	27.6	17	21	8	15.1	
Income									
Below average	46	31.3	8	27.6	19	23.5	12	22.6	p=0.162
Average	48	32.7	9	31	19	23.5	22	41.5	
Above average	53	36.1	12	41.4	43	53.1	19	35.8	

Table 5.
Analysis of consumer habits when consuming bread

Characteristics	Consumer segment								p
	Enthusiasts		Tasteless		Non-nutritious		Unhealthy		
	n	%	n	%	n	%	n	%	
Place of bread purchase									
Bakery	51	34.7	11	37.9	30	37	14	26.4	p=0.452
Artisan bakery	5	3.4	2	6.9	7	8.6	5	9.4	
Grocery store	78	53.1	13	44.8	38	46.9	25	47.2	
I don't buy it, I make it myself	13	8.8	3	10.3	6	7.4	9	17	
Daily consumption of bread									
Less than 100 g	56	38.1	19	65.5	50	67.1	33	62.3	p=0.005*
100-200 g	75	51	8	27.6	26	32.1	16	30.2	
More than 200 g	16	10.9	2	6.9	5	6.2	4	7.5	

* *p<0.05*

These findings indicate a notable decrease in per capita bread consumption in Serbia, a trend also confirmed by previous research conducted by the former Statistical Office of the Republic of Serbia. When considering the place of purchase and bread consumption in the context of economic factors, the results obtained are consistent with expectations.

Globally, bread consumption tends to rise during economic crises; however, in Serbia, it is in decline. In 2007, the average bread consumption was 109.5 kilograms. Research conducted in 2015 found that a three-member family consumed an average of 282 kilograms of bread annually, equating to 97 kilograms per person (Stamenković, Gulan & Dragaš, 2007). This downward trend in bread consumption is corroborated by data from the Republic Institute of Statistics, attributed primarily to poverty. Each new governmental strategy has led to declines in food production, resulting in reduced consumption. The rising poverty levels also contribute to decreased consumption of other food items, contrary to global trends. As Stamenković et al. (2007) state, some citizens in Serbia can no longer afford bread.

Comparative research by Brkić and Ignjatijević analyzed food prices in the Visegrad Group countries (Czech Republic, Slovakia, Poland, and Hungary) relative to Serbia. Although Serbia has the lowest absolute prices for most products, it has relatively high prices for items

such as milk, eggs, oil, potatoes, bread, sugar, coffee, and beer (Brkić & Ignjatijević, 2017). Research by Stošić, Vujasinović, Bajkanović and Gagić-Jaraković (2024) focused on the influence of sociodemographic characteristics on the nutritional habits of students at the University of Novi Sad. Among 157 respondents, 26.3% of those consuming white bread reported occasionally thinking about their health, compared to 14.6% of those consuming mixed bread types. Globally, artisanal bakeries, which primarily produce sourdough bread, are gaining popularity. However, such bakeries remain rare in Serbia, where the average price of a loaf ranges from 200 to 350 dinars. Although economic factors do not heavily influence bread purchasing decisions, consumption of artisanal bread remains low.

CONCLUSIONS

The consumer groups identified include "enthusiasts," who hold a favourable view of bread across all three quality factors. The second group comprises consumers who view bread as bland, lacking in nutrition, and unhealthy. In contrast, for the "enthusiasts," bread is considered healthy, nutritious, and delicious. For this group, the price of bread does not significantly influence their purchasing decisions; they acknowledge that artisanal bread, usually more expensive than bakery and supermarket options, is of higher quality. Given that this group comprises consumers with above-average incomes, they can afford more expensive bread. This economic capability positively influences their perception of bread quality.

A group of consumers who perceive bread as tasteless still maintains a positive attitude toward its nutritional aspects. Even though they do not find the taste of bread particularly engaging or significant, this is supported by their evaluations of whether sandwiches are popular and whether special types of bread complement festive meals. Furthermore, regarding daily bread consumption, most respondents in this group eat less than 100 grams of bread. Consequently, it can be inferred that this group considers bread to be nutritious but lacking in flavour.

For the third consumer group, bread is not perceived as a nutritious or fundamental food source. Instead, this group places a higher value on the taste of bread. Their evaluations of the sensory aspects of bread as a food property are notably high for the relevant statements. Consequently, the quality of bread for these consumers is perceived to be enhanced when paired with sandwiches, fillings, or special types of bread. This preference is supported by the analysis of bread purchase locations, which shows that a significant proportion of this group buys bread from artisanal bakeries.

The last consumer group does not perceive brown bread as healthier than white bread. However, the obtained ratings reveal that this group has a positive attitude towards the sensory aspects of bread. Their perception of bread as unhealthy may stem from worries about weight gain from eating bread and sandwiches or from conflicting and confusing information about bread's health and nutritional benefits.

This research identifies the factors influencing the perception of bread quality. From the collected and analyzed data, it can be concluded that among the attributes related to food properties, only sensory attributes significantly impact all four consumer segments, thus confirming the third hypothesis. Conversely, concerning health attributes, the respondents demonstrated limited knowledge about the nutritional value of bread, which means that the first hypothesis was not confirmed. This finding is consistent with the general conclusion that respondents are often unaware of the nutritional value of bread due to the availability of conflicting and varied information.

Regarding external factors, there are no significant statistical differences between the cluster groups concerning economic factors, thus the second hypothesis was not confirmed. Notably, respondents do not have a clear stance on all three statements related to economic factors.

Considering marketing factors, the results indicate that some consumers perceive bread from artisanal bakeries as a higher-quality product. However, the description of the bread/product does not appear to be a significant factor, as consumers lack a definitive opinion on this aspect. This implies that even with their limited understanding of nutritional information, consumers prioritize nutritional claims over product descriptions.

AUTHOR CONTRIBUTIONS

Conceptualization, J.B.; Methodology, J.B. and V.V.; Investigation, formal analysis, validation, writing-original draft preparation, J.B., K.N.; Writing-review and editing, J.B., V.V., K.N.; Supervision, V.V.

DATA AVAILABILITY STATEMENT

Data contained within the article.

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CONFLICT OF INTEREST

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

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PERCEPCIJA KVALITETA HLEBA OD STRANE POTROŠAČA U SRBIJI

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Sažetak: Hleb kakav danas poznajemo nastao je 10.000 pre nove ere. Životni ciklus ove namirnice menjao se tokom vremena. Od toga da je prihvaćen kao Božiji dar, do potpune demonizacije i krivca za mnoge bolesti savremenog čoveka. Cilj ovog istraživanja je da sagleda koji to faktori imaju najveći uticaj na percepciju kvaliteta hleba od strane potrošača, uzimajući u obzir činjenicu da je u Srbiji poslednjih godina došlo do pada tražnje za ovom namirnicom. Nakon prikupljenih i obrađenih podataka u istraživanju je učestvovalo 310 ispitanika. Anketa je bila anonimna, a istraživanje je sprovedeno on-line putem „Google Form". Dobijeni rezultati upućuju na to da senzorni atributi imaju najveći uticaj na percepciju kvaliteta. Međutim, istraživanjem se došlo i do saznanja da ispitanici nisu upućeni u nutritivni i zdravstveni aspekt ove namirnice. S obzirom na to da je Srbija zemlja u kojoj skoro svaki kraj ima svoj tradicionalni hleb, zemlja u kojoj se veština pravljenja ove namirnice prenosi s kolena na koleno, kroz neka buduća istraživanja trebalo bi ukazati potrošačima na nutritivni i zdravstveni aspekt ove namirnice.

Ključne reči: hleb, hrana, potrošači, percepcija kvaliteta

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