Impact of the crisis caused by the coronavirus on Hungarian consumer behavior related to food purchases

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Abstract

Introduction. Due to the worldwide coronavirus epidemic, models of consumer behaviour related to the purchase of food need to be revised.

Materials and methods. An empirical study was conducted with a questionnaire survey. The research took place in Hungary in the summer of 2020, involving 724 consumers.

Results and discussion. A high percentage of consumers in Hungary reacted to the coronavirus crisis by panic buying. The consumption of healthier foods has spread in connection with the coronavirus crisis, and that the demand of Hungarian consumers for dairy products has also increased. Furthermore, there are differences between the products consumed by panic buyers and normal shoppers. The results showed those who were not afraid of the coronavirus paid less attention to their eating habits (Pearson's correlation: -0.119, sign.:0.01). Some 59.9% of respondents said that it was worth storing large quantities of food because of the coronavirus epidemic. Females and males did not differ on this issue (Chi-square 0.160, df: 2, sign.:0.923, $p>0.05$). Correlation tests showed that for dairy purchases, butter, cheese, fruit yoghurt and sour cream were significantly correlated with each other. By age, respondents aged 40–60 bought the most dairy products, while consumers aged 30 bought the least.

Conclusion. The coronavirus pandemic has seriously affected not only the global economy, but also the daily life of the world's population. Negative consequences were also reflected in the attitude to the purchase of food and there were significant changes in the composition of consumed products.

Introduction

Throughout history, infectious diseases have always been present in people's lives. The coronavirus epidemic is certainly not the first epidemic from the past period. At the same time, it cannot be denied that this virus has had the biggest impact on the global economy in the last twenty years. The coronavirus was declared a global epidemic by the World Health Organization on March 11, 2020.

The coronavirus caused serious economic damage worldwide, affecting not only national economies, but also people's everyday lives through massive job losses (Grueso-Hinestroza et al., 2022; Mostenska et al., 2022). Several economic sectors, such as tourism, hospitality, and retail were extremely negatively affected by the crisis (Nayak et al., 2020). The epidemic has had different economic impacts in each individual country, the main reason for this being that the public health and government measures taken to contain the Covid-19 epidemic have varied widely (Post et al., 2021; Ram et al., 2021).

The first waves of the epidemic affected both population centres and economic actors most unexpectedly (Ruiz Estrada, 2020). In addition to the sectors listed above, the epidemic also had an extremely negative impact on agriculture and the food industry due to illness and the loss of employees, government restrictions, changes in customer markets, and reductions in logistics services (Csiszárik-Kocsir et al., 2021a; 2021b; Gyenge et al., 2021; Khodakivska et al., 2020; Kitukutha et al, 2021; Reményik et al., 2020; Sokil et al., 2021).

The increase in demand and the appearance of food shortages have launched an inflationary process in certain sectors affected by the epidemic, including the food industry (Ghosh, 2021), while in the case of other – primarily convenience and luxury products – a price drop was experienced due to the sudden decline in demand (Akter, 2020; Victor et al., 2021). In China, where the epidemic began, the food problem was even more pronounced due to its large population (Lin and Huang, 2021; Marinova et al., 2022; Yang et al., 2022). Measures introduced to deal with the coronavirus crisis, such as working from home and social distancing, also changed people's food purchasing habits (Baarsma and Groenewegen, 2021; Güngördü Belbağ, 2021;Kolte et al., 2022; Maryati, 2020; Naz et al. 2020; Naz et al., 2022).

Panic buying began in stores around the world (David et al., 2021), and this panic buying fever appeared not only for hygienic products and medicines but also for food, which resulted in periodic shortages of certain food products (Bozsik et al., 2022; Chang and Mayerhoefer, 2020; Garai-Fodor and Csiszárik-Kocsir, 2022; Lehberger et al., 2021; Yu et al., 2020; Alshaabani et al., 2021). In addition to panic buying, another significant change in consumer behaviour was that fear of the coronavirus led consumers to online shopping, thereby increasing the number and frequency of online food purchases (Alaimo et al., 2020; Lu et al., 2021). Szymkowiak et al. (2020) examined shopping habits during the coronavirus epidemic. During their research, they distinguished eight factors that appeared as consumers' risk-reduction expectations during the pandemic. Such factors included, among others, the reduction of shopping opportunities, the emphasis on the importance of social distancing while shopping, the issue of food safety, the quality of product packaging, and the emphasis on personal safety. Nowadays, after the "fifth wave", we can no longer detect the panic purchases experienced in the first wave, but it is clear that online orders have stabilized at a high level and many people continue to buy less in traditional ways (Gu et al., 2021; Semerádová and Weinlich, 2022). According to Google Trends (2020) data, the proportion of online purchases has also increased significantly in Hungary (Figure 1).

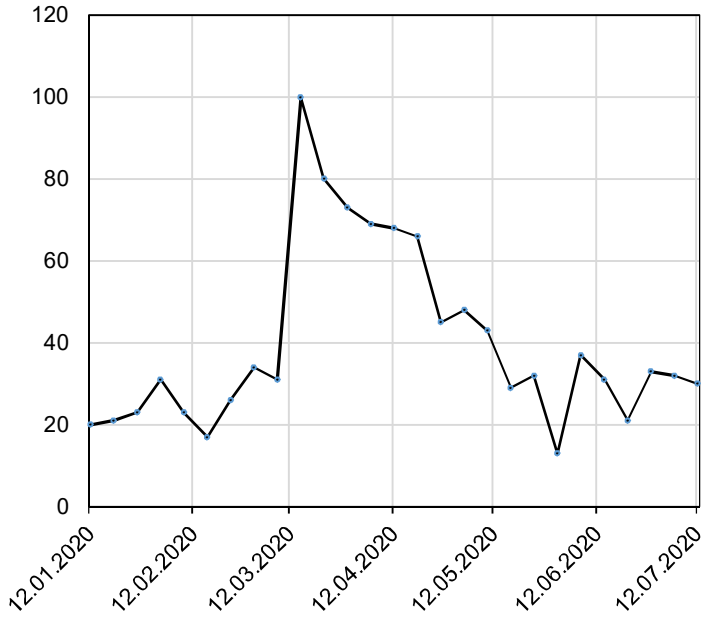

Figure 1. Percentage of searches for the keyword "Online shopping" in the first half of 2020 (percentage)
(Google search for 'online shopping' in the first 6 months of 2020)

All of this is well supported by the fact that 9% of the population in Hungary tried online grocery shopping for the first time in their lives. In addition, behavioural habits related to food safety have also changed, as for example, it is now less common to check baked goods by touch (Kasza et al., 2020). Even before the epidemic, supermarkets tried home delivery of food, but there was not much demand at the time. Soós (2020) in his research highlighted that 63% of online grocery shoppers liked "this method", but would return to traditional shopping as soon as possible. 11% of the participants in the mentioned research liked it very much, while 21% did not like the possibility of online shopping.

Taking into account the trends presented above and in international articles, the first hypothesis of the current research is as follows:

Hypothesis H1: The coronavirus crisis affected the shopping habits of Hungarian consumers, and this demonstrated differences in gender, age, and education.

Consumers are increasingly aware of values such as health, quality of life, food safety, and digital security (De and Giri, 2020; Ivanov et al., 2021; Megits et al., 2020; Brumă et al., 2021). Several international studies (Hall et al., 2021; Marty et al., 2021) also examined food-purchasing habits during the coronavirus. The researchers showed that the demand for dairy products, cereals, vegetables and fruits increased the most, which mainly benefited local producers (Cappelli and Cini, 2020; Palau-Saumell et al., 2021; Máté et al., 2022). In their research, Laguna et al. (2020) showed that the most frequently purchased products in Spain included pasta, vegetables, oil seeds, cheese, and chocolate.

On the other hand, the demand for foods considered unhealthy and fattening, such as desserts, decreased. In their publication, Xu et al. (2022) pointed out that the health awareness

of consumers increased during the coronavirus crisis, and the consumption of healthier products, including dairy products, increased significantly. According to the results of their research, 79% of consumers were willing to buy more dairy products after the outbreak of the epidemic, so that the purchase rate of dairy products increased by an average of 17.49% compared to the period prior to the outbreak of the epidemic.

This tendency is also confirmed by the 2022 study by Hambardzumyan and Gevorgyan, who found that the demand for dairy products among consumers in Armenia was significantly increased, especially in the first month after the declaration of the state of emergency.

Based on the above, the second hypothesis of research is the following:

Hypothesis H2: At the beginning of the outbreak of the coronavirus crisis, Hungarian consumers bought dairy products regardless of whether they were perishable goods or not.

The 2019 coronavirus epidemic affected not only our health, but also our shopping and food consumption habits. The current study was carried out in the initial phase of the emergency, so our goal was to demonstrate how and to what extent the sudden, high-impact changes affected the food consumption behaviour of Hungarian consumers. The research clearly illustrates the "circumstances" that characterized food consumption and shopping habits both in Hungary and globally in 2020.

Materials and methods

The research started in March 2020 and ended in June 2020. Consumers were contacted with the help of interviewers, who questioned research participants in shopping centres (Tesco, Metro, etc.), in smaller grocery stores (e.g. Coop), and in other larger stores that sell food (e.g. Lidl, Aldi). The empirical study was based on a questionnaire survey. The starting point for compiling the sample taken from the basic population was the most recent 2011 census data of the Central Statistical Office. The sample size, the subgroups formed on the basis of the various background variables, were the size of the statistical regulations, this number of elements is common in both international and domestic public opinion research.

When compiling the sample taken from the basic population, the goal was to achieve an accurate representation, so the authors implemented the following sampling procedure:

Hungary was divided into regions.

- Based on the population data of each region, it was determined how many of the 724 consumers should participate in the research from each region.
- The researchers selected one county per region, and then based on KSH (Central Statistical Office of Hungary) guidance, they determined the number of people living in the county, cities and villages with a smaller population, and their proportion.
- The population of the test settlements over the age of 16 was further grouped according to gender, age and education based on the KSH data, and the quota of persons to be interviewed was compiled on this basis. With the developed sampling procedure, the composition of the sample population in terms of gender, age, education and region is the same as that of the base population.
- Finally, the quota system of each region was established, and the questionnaire was divided accordingly.

Taking advantage of the possibility of random selection, the so-called random walking method was used, the important feature of which is that each person has the same chance of being included in the sample, while still striving for randomness. Thanks to the sampling procedure, 724 consumers were included in the analysis, and all of the questionnaires could be evaluated. The data of the questionnaire was analysed with the SPSS 28 program. The methods of analysis were frequency, mean, standard deviation, ANOVA.

The following Table 1 presents the demographic data of the consumers interviewed during the research.

Table 1

Demographic characteristics of the consumers (%)

Variables	Sample Size	%
By gender		
Male	335	46.30
Female	389	53.70
By age		
Between 15–29	161	22.20
Between 30–39	149	20.60
Between 40–59	236	32.60
60 and over	178	24.60
By education		
Elementary	427	59.00
High school	212	29.30
University	85	11.70
By region		
Central Hungary	185	25.60
Central Transdanubia	81	11.20
Western Transdanubia	90	12.40
Southern Transdanubia	84	11.60
Northern Hungary	93	12.80
Northern Great Plain	95	13.10
Southern Great Plains	96	13.30
By settlement type		
Capital city	250	34.50
City	242	33.40
Village	232	32.00

20.3% of the females in the sample are under 30 years old, 19.0% are in their 30's, 35.0% are over 40 years old, while every fourth respondent is over 60 years old. 24.5% of males are between 15 and 29 years old, 22.4% are between 30 and 39 years old, and 29.9% are older than 40 but younger than 60, while 23.3% of male respondents are older than 60 years. 55.8% of females have an elementary school education. This ratio is 62.7% for male, while 32.6% of female, and 25% of males have a high school degree. 11.6% of females and 11.9% of males have university diplomas. The questionnaire also asked about the average

monthly net income per person. This value was below HUF 20,000 in about 4.3% of the respondents, 39.9% of them were above HUF 20,000, but no more than HUF 40,000. For 33.6% of them, it was above HUF 40,000, but not more than HUF 60,000, while in the case of 16.9% it is an amount over HUF 60,000. The majority of people under the age of 20 (26.6%) live with income between HUF 30,000 and 40,000, while the largest proportion (20%) of people between the ages of 30 and 40 earn a similar amount. Regarding the place of residence and the average monthly income per capita, about 7% of the people living in the villages lived on amounts below HUF 20,000 per person, this ratio was only 2.6% in the case of cities.

Results and discussion

Respondents' opinions about the coronavirus situation and shopping habits

First the respondents had to decide how much they agreed with the given statement. They had to rate the definitions on a five-point Likert scale (1 – totally do not agree, 5 – totally agree). The responses to the statements are presented in Table 2:

Table 2

Respondents' opinions about the coronavirus situation and shopping habits (mean, standard deviation)

Claims	N		Mean	Std. Deviation
	Valid	Missing		
I am not afraid of the coronavirus	712	12	1.9846	1.56474
I like ready-to-cook products	712	12	2.8975	1.24807
Epidemiological regulations must be observed	715	9	3.5483	1.42854
What they think of me is important	713	11	3.2903	1.20095
I pay attention to my eating habits	718	6	3.5362	1.07498
My friends often ask me for advice	713	11	3.2202	1.13451
I believe in family traditions	714	10	3.8852	1.08966
I often worry about the future	713	11	3.6830	1.19360
If prices go up, I will buy less, but I will not go for the cheaper brands	717	7	2.9442	1.17098
I am one of the first to try new products	712	12	1.9228	1.10666
Comfort is important to me	710	14	3.8056	1.15826
I mostly buy well-known products	715	9	3.3441	1.15674
I usually pay attention to prices	719	5	3.8804	1.06718
I plan every purchase carefully	713	11	3.1683	1.26525

It is clear from the data that at the time of the investigation there was not yet a complete fear of the epidemic in Hungary. People knew that there would be rules to follow regarding the coronavirus, such as the wearing of masks, shopping schedules determined by age groups, digital education, and home office employment. At the same time, the majority were worried about the future, and this is not necessarily just due to Covid-19. The respondents consciously paid attention to prices, planned their purchases, and preferred well-known products, but it

was important for them that the product purchase was also a positive and comfortable experience. They pay attention to quality, which means that the rise in prices does not necessarily mean that the respondents will buy products of a lesser quality.

It was shown that those who were not afraid of the coronavirus paid less attention to their eating habits (Pearson's correlation: -.119 sign.:0.01). Those who believe that the epidemiological rules should be followed preferred ready-made meals less (Pearson's correlation: -.126 sign.: 0.00), paid attention to their eating habits (Pearson's correlation: .141 sign.: 0.00), they often worried about the future (Pearson's correlation: .183 sign.: 0.00), paid attention to prices (Pearson's correlation: .174 sign.:0.00), and planned purchases (Pearson's correlation: .137 sign.: 0.00). For those who are worried about the future, it was important what they thought about them (Pearson's correlation: .137 sign.: 0.00), and they mostly bought well-known brands (Pearson's correlation: .125 sign.: 0.

The authors used a non-parametric test (Mann-Whitney and Kruskal-Wallis) to analyse whether differences could be identified in the given sample based on gender, age, and education. In Table 3, the researchers highlighted the cases where any significant differences could be identified, as well as of which sample group the given statement is most typical.

The data in Table 3 clearly shows that for almost every statement a significant difference could be identified either according to gender, age, or educational level. According to gender, women were more afraid of the coronavirus than men were, they believed that the rules would have to be followed more stringently, they looked at prices and they planned their purchases more carefully. The younger age group was the least afraid of the coronavirus, while those over 60 felt greater uncertainty, so they rather measured their purchases and paid attention to prices. According to the educational level, those with a higher educational level believed that it was possible to protect oneself consciously by following the rules against the coronavirus, while those with an elementary educational level believed in well-known products and conscious price monitoring.

The questionnaire also asked whether it is worth storing large amounts of food due to the coronavirus epidemic. About 59.9% of respondents said the answer was yes, while 37.9% said no, and 2.2% could not answer the question. Females and males did not differ on this issue (Chi-square .160 df: 2 sign.: .923 $p>0.05$). 60% of females and males believed that food should be stored now. Based on educational level, 64.7% of those with a higher educational level, 71.6% of those with a secondary educational level, and 53.2% of those with an elementary educational level considered purchasing larger amounts of food. In these cases, the Chi-square test showed a significant difference (Chi-square .21.119 df: 4 sign.: .0.000 $p<0.05$). The tests did not show any differences in this question either based on where the respondents live or on the basis of their income.

Based on the results reported above the first hypothesis is accepted, according to which the coronavirus crisis had an impact on the shopping habits of Hungarian consumers, and this showed differences in gender, age, and education based on the examined sample.

Another focus of the research was the consumption of dairy products. First, the respondents had to answer what their habits are when purchasing dairy products. They had to answer on a five-point Likert scale (1 – not characteristic of me at all, 5 – completely characteristic of me). The average and standard deviation of the responses to the statements are summarized in Table 4.

Table 3

Respondents' opinions about the coronavirus situation and shopping habits in the light of gender, age, education

Claims	No	Age	Educational level
I am not afraid of the coronavirus	Mann-W.:57762. sign.:.019 Male	Kruskal-W:28.959 sign.:0.00 15–29-year-olds	
I like kitchen-ready, convenient products		Kruskal-W:14.225 sign.:0.00 15–29-year-olds	
Epidemiological regulations must be observed	Mann-W.:40955. sign.:.000 Female		Kruskal-W:7.194 sign.:0.027 University
What they think of me is important		Kruskal-W: 7.895 sign.: 0.048 40–59-year-olds	Kruskal-W:6.920 sign.:0.031 University
I pay attention to my eating habits	Mann-W.:52571. sign.:.000 Female	Kruskal-W:21.662 sign.:0.00 Over 60 years	
My friends often ask me for advice		Kruskal-W: 9.997 sign.: 0.019 15–29-year-olds	Kruskal-W:10.267 sign.:0.006 University
I believe in family traditions	Mann-W.:57305. sign.:.021 Female	Kruskal-W:33.026 sign.:0.00 Over 61 years	Kruskal-W:14.396 sign.:0.00 High school
I often worry about the future			Kruskal-W:6.781 sign.:0.034 High school
If prices go up, I will buy less, but I will not go for cheaper brands	Mann-W.:56662. sign.:.006 Female		Kruskal-W:10.008 sign.:0.007 University
I am one of the first to try new products		Kruskal-W:43.037 sign.:0.00 15–29-year-olds	Kruskal-W:11.421sign.:0.003 University
Comfort is important to me			Kruskal-W:10.868sign.:0.004 Elementary
I mostly buy well-known products		Kruskal-W:23.272 sign.:0.00 Over 60 years	Kruskal-W:7.901sign.:0.019 Elementary
I usually pay attention to prices	Mann-W.:55112 sign.:.000 Female	Kruskal-W:51.454 sign.:0.00 Over 60 years	Kruskal-W:16.044 sign.:0.001 Elementary
I plan every purchase carefully	Mann-W.:54570.5 sign.:.001 Female	Kruskal-W:76.271 sign.:0.00 Over 60 years	

Respondent statements regarding the consumption of dairy products

Table 4

Respondent statements regarding the consumption of dairy products (mean, standard deviation)?

	Mean	Standard deviation
I would not buy more dairy products even if they were cheaper	2.7143	1.60518
I prefer to buy lower priced products	3.2881	1.18028
Good quality dairy products are easily affordable	2.0505	1.14912
Dairy products are not very expensive compared to other foods	2.5676	1.10790
I am willing to pay more for better quality	3.2700	1.15194
I regularly consume functional food	3.7188	1.31244
Homemade products are expensive compared to other foods	3.2697	1.37502
Organic foods are healthier	4.0328	1.22983
I would rather buy functional food (e.g. probiotic yogurt, bread enriched with vitamins)	4.0942	1.14129
I consider dairy products healthy	4.4803	0.87127
Butter is healthier than margarine products	3.2645	1.37235
Food of local/regional origin gives me confidence	3.6667	1.46244
I am afraid of unknown diseases	3.1918	1.45248
I like convenience products (e.g. frozen Camembert cheese)	2.7806	1.04275
I buy branded foods	2.5221	1.12435
Consideration of advertising	2.0648	1.10456
I prefer to buy organic food/food from controlled farms	2.8200	1.64666

From the data in Table 4, it can be seen that the respondents consider foods made from milk to be healthy. Functional products are preferred, and organic products are also considered healthy. Dairy products are popular and prices influence the amount consumed.

For the purpose of further analysis, the given statements were compressed into factors by the authors. One variable was not suitable for factor formation: "I like convenience products (e.g. frozen Camembert cheese)", this statement was left out of the factor formation. Based on the KMO and Bartlett test, KMO: .628. Chi square: 956.755 df: 120 sign: .001. The factors were created with Varimax rotation, and the explained fraction was: 62.198%. 7 factors were created, whose names and component matrix with Cronbach Alpha values are presented in Table 5.

Table 5 shows that the following factors were formed: the health factor, the brand, functional foods, pricing, the dairy product is cheap and good, the organic choice, local trust. In the following, the authors examined whether differences could be identified according to gender, age, education, and place of residence.

Based on the examination by gender, significant differences could be identified for the following factors: health factor (F:5.018 sig.: .025 $p<0.05$), dairy products are cheap and good (F:10.243 sig.: .001 $p<0.05$). In both cases, female consumers were more strongly sensitive than male consumers were.

Table 5

Rotated component matrix

		Component						
		1	2	3	4	5	6	7
Health factor	H1 I consider dairy products healthy	0.801						
	H2 Organic foods are healthier	0.778						
	H3 I would rather buy functional food	0.718						
Cronbach's Alpha		0.672						
Brand	B1 Consideration of advertising		0.831					
	B2 I buy branded food		0.636					
Cronbach's Alpha			0.555					
Function Foodstuffs	F1 I regularly consume functional food			0.774				
	F2 Homemade products are expensive compared to other			0.700				
Cronbach's Alpha				0.524				
Pricing	P1 I prefer to buy the lower priced product				-0.740			
	P2 I am willing to pay more for better quality				0.636			
Cronbach's Alpha					0.597			
Dairy is cheap and good	D1 I would not buy more dairy products even if they were cheaper					0.711		
	D2 Dairy products are the other foods. They are not very expensive in comparison					0.598		
	D3 Among dairy products, good quality ones are easily affordable					0.547		
Cronbach's Alpha						0.331		
Boy selection	BIO1 I am afraid of unknown diseases						0.718	
	BIO2 I prefer to buy organic food/food from controlled farms						0.724	
Cronbach's Alpha							0.170	
Local trust	T1 Food of local/regional origin instils confidence in me							0.680
	T2 Butter is healthier than margarine products							0.691
Cronbach's Alpha								0.175

Based on age, the health factor (F:5.302 sig.: .001 p<0.05), functional foods (F:4.771 sig.: .003 p<0.05), and pricing (F:5.704 sig.: .001 p <0.05) there was a significant difference. The health aspect is the most important for the over 60 years old respondents, functional foods for the 40-50 years old, and pricing for the over 60 years old consumers.

Based on educational level, there was a significant difference in pricing (F:12.889 sig.: .001 p<0.05) and based on the perception of the product (F:5.726 sig.: .003 p<0.05). In both cases, the question was cardinal for those with university educational level.

Based on place of residence, the organic choice was significantly different (F: 5.126 sig.: .006 p<0.05) and cities were the strongest in this respect.

After that, the authors examined how the intention to accumulate due to Covid-19 is related to the given factors. ANOVA tests did not confirm the correlations.

Purchases of dairy products during the period

Part of the research was also how much the respondents bought on a given weekend and by what percentage on average this purchase exceeded a normal weekend purchase. The data in Table 6 shows that Hungarian consumers typically bought one and a half times more of the types of dairy products surveyed.

Table 6

By what percentage did purchases change on average during the first wave of the coronavirus epidemic (mean)?

Products	N	Mean
Butter	724	72.410
Sour cream	724	74.558
Cheeses (e.g. Trappist, Pannonian)	724	74.572
Fruit yogurts	724	76.107
Liquid milk	724	116,826

The correlation studies proved that dairy products are significantly related to each other (butter, cheese, fruit yogurt, sour cream). The authors looked at how purchases developed according to gender, age, education, and place of residence. Men bought more butter, yogurt, sour cream and cheese than women. By age, the 40-60-year-old respondents accumulated dairy products the most, while the 30-year-old consumers the least. City residents bought more of all five dairy products than rural residents. Based on educational level, those with elementary school educational level and those with university degree bought more dairy products.

It was also examined which foods are stored differently by those respondents who think that there is no need to stock up now, and those who decide to stock foods during the epidemic. Those who did not stock up on dairy products bought significantly less milk and butter. Overall, it can be concluded that the onset of the coronavirus had an impact on the procurement of dairy products, so the authors also accept their second hypothesis.

Conclusion

1. The coronavirus pandemic seriously affected not only economic factors, but also the everyday lives of consumers. The negative consequences also had an impact on consumer attitudes, consumer food purchasing habits, and significant changes took place in the composition of the products consumed. Even today, during crises, many people try to prepare for unexpected events by panic buying (Sim et al., 2020, Chua et al., 2021). Fear, panic, and uncertainty are direct human responses to crises, which depend on many individual and socio-economic factors (Shadiqi et al., 2020, Arafat et al., 2020). Panic buying is generally seen as a psychological reaction to stress, fear, and uncertainty (Sikos et al., 2021). According to Wang and Hao (2020), food stockpiling, as one example of this behaviour, represents an attempt to reduce the negative consequences caused by the crisis situation and therefore represents a coping mechanism for individuals (Janssen et al., 2021, Gunter, 2022). The current research also demonstrated that, like consumers living in other countries, Hungarian consumers reacted to the shock caused by the coronavirus crisis and the resulting fear by panic buying, and in this way, they now try to prepare for an uncertain future.
2. Since the epidemic caused by the coronavirus primarily affected people's health, consumers have become more aware of which foods they buy (Chowdhury and Nandi, 2021, Selvi, 2021). Health awareness and quality food of organic origin became the focus of consumers' purchases (Nandini, 2021). According to the data received on some of the products, Hungarian consumers, for example, typically bought one and a half times more dairy products at the outbreak of the coronavirus crisis than before. Men bought more butter, yogurt, sour cream and cheese than women did. According to age, people between 40 and 60 years of age stocked up on dairy products, while respondents in their 30's purchased larger quantities the least.
3. The results of current research also highlighted which foods the respondents differ in cumulating. Customers who did not panic bought significantly less milk and butter, so they were not fans of storing. The surveyed Hungarian consumers consider foods made from milk to be healthy and prefer buying functional products when shopping. Since this study was conducted, there has been a russian invasion of Ukraine, and now Hungarian clients now have to face new challenges. On the one hand, the drastic increase in food and energy prices, and on the other hand, in the case of certain foods, the quantitative restrictions imposed on one-time purchases. In addition, of course, we cannot forget that Covid-19 is still among us.

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