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IMPACT OF THE WORK MODEL ON FOOD CONSUMER BEHAVIOUR DURING THE COVID -19 PANDEMIC

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Abstract

The COVID-19 pandemic has affected all aspects of people's lives around the world. Restrictions on movement and social distancing have influenced consumer behavior and the emergence of various consumer trends, one of the most important of which is working from home. The main objectives of this study are (1) to identify changes in consumer behaviour in the purchase, preparation and consumption of food during the COVID-19 pandemic, (2) to investigate the impact of the work model on food consumer behaviour

during the COVID-19 pandemic. An online survey was conducted among a convenient sample of 625 respondents in the Republic of Croatia. The food categories in which consumption increased the most were flour, vegetables, and fruits, while the greatest decrease was in alcoholic beverages and in the category of sweets and salty snacks. The study confirms that work model during the COVID-19 pandemic influenced some aspects of food consumer behavior. Consumers who worked from home were more inclined to go to the grocery store less often, they tended to make more planned purchases, buy larger quantities of food and stocked up on food; they also placed more importance on the time available for food preparation compared to consumers who worked in the office. The findings suggest that uncertainty and exposure to risk have shaped the way consumers buy food, prepare, and consume food, but only with time will we be able to determine which changes in consumers are temporary and which persist over the long term.

Keywords: Covid-19 pandemic, work model, food, consumer behaviour

1. INTRODUCTION

The disease COVID-19 occurred in Wuhan, China, in late 2019, triggered by the newly discovered Corona virus (SARS-CoV-2), which spread rapidly around the world and had a major impact on human life and health (Ciotti, Ciccozzi, Terrinoni & Jiang, 2020). On 11 March 2020, the World Health Organization declared the epidemic of coronavirus COVID-19 a pandemic (WHO, 2020). In order to prevent the spread of the infection, measures to suppress and contain the infection have been presented, which include social distancing, restricting the movement of people, and partially closing stores, factories, banks, airports, seaports, roads, and other facilities, which has almost brought the world economy to a standstill (Torero, 2020). Due to the above constraints, working from home, lower income, and more free time, consumers are changing their shopping habits and the way they prepare and consume food (Sato, Kobayashi, Yamaguchi, Sakata, Sasaki, Murayama & Kondo, 2021; Celik and Dane, 2020; Acosta, 2020; Restrepo and Zeballos, 2020; European Institute of Innovation and Technology (EIT), 2020; Chenarides, Grebitus, Lusk & Printezis, 2020). These changes are consistent with Kirk and Rifkin's (2020) assertion that scientific research on historical crises shows that times of crisis are perceived as stimuli for significant social change. When consumers become aware of a potential crisis, they initially respond by attempting to defend themselves against perceived threats and regain control over lost freedom. Over time, people cope by gaining control in other areas and adopting new behaviors.

Numerous studies have found that there are significant differences in food consumer behavior before and after the pandemic outbreak COVID-19. Due to the lack of information about the virus and its unknown effects, consumers focused on panic buying at the beginning of the pandemic to mitigate the risk of potential food shortages and price increases, which led to difficulties in the supply of basic food and hygiene products (Wang, Yeoh, Yung, Wong, Dong & Chen, 2020; Hobbs, 2020).

According to Leone, Fleischhacker, Anderson-Steeves, Harper, Winkler, Racine, Baquero & Gittelsohn (2020), consumers had to visit multiple stores to find the foods and beverages they wanted, but still had difficulty finding specific foods they preferred.

Another trend that has emerged in the wake of the pandemic is the significant increase in online grocery shopping (Forbes, 2020; Lund, Madgavkar, Mischke & Remes 2020; McKinsey and Company, 2022). Brand et al. (2020) define online grocery shopping as the online purchase of food using click-and-collect or home delivery services. According to Forbes (2020, p. 1), in 2019, 81% of US consumers had never purchased groceries online. However, with the outbreak of the COVID-19 pandemic, online grocery sales in the US increased from 1.2 billion USD in August 2019 to 7.2 billion USD in June 2020. McKinsey (2020) reports that 15% of European surveyed EU-5 consumers have shopped for groceries on a website that they had never used before.

Many studies have shown that people were more inclined to stockpile food during the pandemic and bought larger quantities of food because they feared they would not be able to buy food later and to reduce the number of visits to stores (Chenarides et al., 2020; Wang et al., 2020; Leone et al., 2020). According to Wang et al. (2020), before the pandemic outbreak, respondents in China accumulated food stocks sufficient for 3.4 days, and after the pandemic outbreak, they accumulated food stocks sufficient for 7.4 days. The use of single-use plastic packaging was also increased during the pandemic to reduce the risk of infection and increase food safety (Bologaro, 2020; IFIC 2020).

The pandemic has made consumers more concerned about their own health. As a result, they have sought to boost their immunity to reduce the risk of infection, which has led to changes in the consumption of certain food categories (Enriquez-Martinez et al., 2021). Many studies report an increase in fruit and vegetable consumption (Sato et al., 2020; Celik & Dane 2020; Liton & Beavers, 2020, Hassen et al., 2020; Chenarides et al., 2020; Wang et al., 2020; EIT, 2020; Scarmozzino & Visioli, 2020). On the other hand, the consumption of meat products, bakery products, sweets and snacks decreased in some countries (Hassen et al., 2020; Di Renzo, Gualtieri, Pivari, Soldati, Cinelli, Leggeri, Caparello, Barrea, Scerbo, Esposito & Lorenzo, 2020). The opposite was shown by studies from the U.S. (Bin Zarah et al., 2020) and China (Jia et al., 2021), which reported that the frequency of consumption of fresh vegetables and fruits decreased, while the consumption of sweets and snacks increased during the lockdown (Bin Zarah et al., 2020; Scarmozzino & Visioli, 2020; Sato et al., 2020). Di Renzo et al. (2020), identified that during pandemic Italians cooked and baked at home more often, which led to an increase in the consumption of homemade sweets, bread, and pizza.

During the COVID-19 pandemic, there were also changes in the frequency of preparing meals at home and eating together (Di Renzo et al., 2020; Hammons & Robart, 2021; Monitor Deloitte, 2020). According to the results of these studies, the frequency of preparing meals at home increased, and many

families ate dinner together more often than before the pandemic. As noted Hammons & Robart (2021) this may be associated by schooling and working from home.

Working from home (WFH) was one of the most important preventive measures against the spread of infection at the beginning of the pandemic. According to Chau, Harn Pan & Jen Chen (2017) employment and work environment influence eating habits, which was confirmed in the study of American adults by Restrepo & Zeballos, (2020) who found that those who work from home spend 1.7 times more minutes cooking and 2.6 times more minutes eating and drinking at home than the average. Sato et al. (2020) reported that working from home was associated with increased intake of vegetables, fruits, dairy products, and snacks but decreased intake of seaweeds, meats, and alcohol. Although working from home is a global trend, there is still a lack of research and a need to study the relationship between the work pattern and food consumer behavior.

Taking this into consideration, the main objectives of this study are (1) to identify changes in consumer behavior in purchasing, preparing, and consuming food during the COVID -19 pandemic, (2) to investigate impact of the work model on food consumer behavior during the COVID -19 pandemic.

The remainder of this paper is organised as follows. It begins with an introduction and a research question that explains the motivation for this study. Section 2 present the research methodology, along with the data analysis and Section 3 present obtained results and discussion. Finally, we highlight the main contributions to practice as well as the limitations and future research directions of the study.

2. RESEARCH METODOLOGY

For the purpose of this work, a search for secondary data sources was conducted by searching and analyzing scientific and professional literature on the topic of impact of the pandemic COVID -19 on consumer behavior in purchasing, preparing and consuming food. The 42 articles were analysed. The analysis included articles that deal with two to three keywords in parallel such as effect of COVID-19, food consumption behaviour, eating habits, working model during the COVID-19 pandemic. Data were collected through an online questionnaire created using the Google Form software (Google Forms, Google Inc.). The survey link was distributed to respondents via email and social networks and took participants 7 to 10 minutes to complete. The survey was administered from March 8 to March 25, 2021. The snowball method was used as a non-probability sampling method based on the purposive selection of a narrow group of people who then pass on the sample and refer the researcher to other people who could be interviewed (Goodman, 1961; Johnson, 2014). Before sending out, the questionnaire was tested on 10 respondents to correct any ambiguities in the order and wording of the questions.

For the purposes of this study only respondents involved in food procurement for their households were included in the final convenient sample. A total of 625 respondents completed the questionnaire in Republic of Croatia.

Although the survey was conducted in March 2021, all questions about changes in food purchasing and consumption behavior were asked for the period during the initial quarantine period of the pandemic COVID -19 compared to the time before the COVID-19 pandemic.

The questionnaire consisted of the following groups of questions which was adapted from previous study.

- Consumer habits in buying food during the pandemic (Chenarides et al., 2020),
- Consumer habits in consumptions behaviors during COVID-19 (EIT, 2020),
- Consumer behavior regarding food packaging during the pandemic (EIT, 2020),
- Consumer behavior related to food preparation and meal time behavior during the COVID-19 pandemic (EIT, 2020; Chenarides et al., 2020),
- The influence of the pandemic on respondents employment, work model consumers income, and the amount of their leisure time (Acosta, 2020; Restrepo and Zeballos, 2020; Sato et al., 2021).
- Self-reported sociodemographic characteristics (gender, age, place of growing up, education, work status, marital status, number of household members, and monthly income).

Work model during COVID-19 pandemic are defined through three categories (work from home, work at the office, combination of work from and work at the office).

Consumer behaviour and attitudes towards the impact of the COVID -19 pandemic on food purchasing, consumption and preparation behavior were measured using statements from the relevant literature (EIT Food, 2020, Chenarides et al., 2020), with respondents indicating their level of agreement with each statement. 5-point scale was used (1- not at all important to me, 5- very important to me; 1- strongly disagree, 5- strongly agree).

The study data were analyzed using the Statistical Package for the Social Sciences - SPSS, v. 21.0 statistical software. The frequencies of consumer responses were determined by use of univariate analysis. Consumers behaviour and attitudes were estimated by calculating mean responses to particular statements. Differences in consumer responses were analysed by bivariate analysis (ANOVA test, chi-square test). Difference at the level of $p < 0.05$ was considered significant in all tests.

3. RESULTS AND DISCUSSION

3.1. Description of the sample

Table 1 shows descriptive statistics for the basic socio-demographic characteristics of the sample. Majority of the sample (88.5%) are female and 11.5% of the participants are male. It is assumed that such a ratio is the result of the fact

that most often women do the shopping (Dholakia, 1999) and women are also more inclined to fill out online surveys (Curtin et al., 2000; Moore & Tarnai, 2002; Singer et al., 2000). Most of the respondents (37.9%) are between 30 and 39 years old, while the respondents between 18 and 30 years old (33.6%). About 55% of the respondents grew up in rural areas and about 45% in urban areas. The majority of respondents, 62.4%, have high school education, 66.6% are employed, while 20.6% are unemployed. More than 65% of respondents live in a household with 4 or more family members. Most households have a monthly income of EUR 1.061 to 1.560, followed by households with an income of EUR 531 to 1.060.

Table 1.

Sociodemographic characteristics of the respondents

	<i>Characteristics of respondents</i>	<i>N</i>	<i>%</i>
<i>Sex</i>	Female	553	88.50%
	Male	72	11.50%
<i>Age</i>	18-29	210	33.60%
	30-39	237	37.90%
	40-49	118	18.90%
	50-59	44	7.00%
	More than 60	16	2.60%
<i>Place of birth/growing up</i>	Village	345	55.20%
	City	280	44.80%
<i>Education</i>	Elementary school	21	3.40%
	High school education	390	62.40%
	College education	103	16.50%
	University diploma, Phd	111	17.80%
<i>Working status</i>	Student	69	11.00%
	Unemployed	129	20.60%
	Employed	416	66.60%
	Retiree	11	1.80%
<i>Number of household members</i>	1	15	2.40%
	2	70	11.20%
	3	132	21.10%
	4	211	33.80%
	5 or more	197	31.50%
<i>Monthly income of the household (in EUR)</i>	Less than 530	48	7.70%
	531 – 1.060	187	29.90%
	1.061 – 1.560	196	31.40%
	1.561 – 2.120	113	18.10%
	>2.120	81	13.00%

3.2. Work model, leisure time and income in COVID -19 pandemic

The pandemic has affected the way people performed work. According to the data in Figure 1, 45% of respondents worked at the office, 33% of respondents performed their job partially working from home and in the office (in a combined manner), and 22% of respondents worked from home during the pandemic COVID-19.

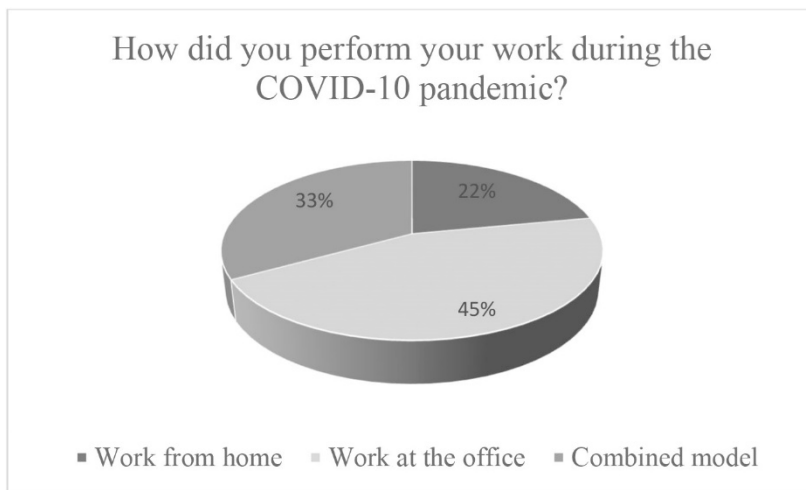


Figure 1 Type of work model during the COVID-19 pandemic

The Covid 19 pandemic has affected respondents' leisure time: 16% of respondents said they have less leisure time, while 29% have more leisure time and 55% believe nothing has changed. The pandemic has also affected consumers' financial stability. More than half of respondents answered that the pandemic COVID - 19 had no impact on their income levels. Just over one-third of respondents indicated that their income level decreased during the pandemic, and only 5% of respondents indicated that their income level increased during the pandemic COVID -19 (Figure 2). Almost 70% of respondents were satisfied with their monthly income, a quarter had difficulty meeting their monthly needs, and almost 7% did not have enough income.

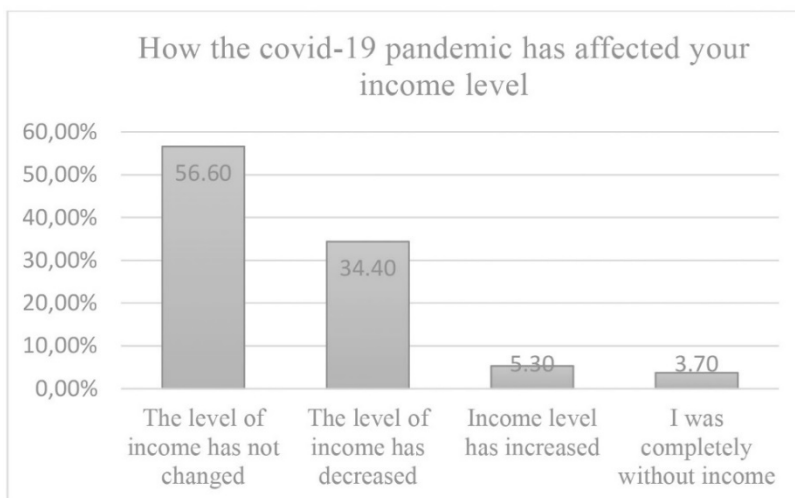


Figure 2 The impact of the COVID-19 pandemic on the level of income

3.3. Consumer behavior in buying food during the pandemic COVID -19

A high percentage of respondents (76%) reported that they had not experienced difficulties in obtaining food since the beginning of COVID -19, while 24% had experienced some difficulties. It was found that consumers decreased their food purchases in supermarkets, while they bought more food in neighborhood stores. And although Croatians rarely buy food online, unlike residents of Western countries, results show that online food purchases increased significantly during the pandemic COVID-19. (Table 2). The growth of online grocery shopping in the food and beverage category is already confirmed in the Croatian study by Topolko Herceg (2021). The increase in online grocery shopping during COVID -19 was also noted in many countries around the world (Forbes, 2020; Lund et al., 2020; McKinsey and Company, 2022). McKinsey and Company (2022), reported that online sales in North America increased by 50% during the pandemic. However, the authors point out that despite such an increase, the overall percentage of the population shopping for groceries online is still low. Similarly, the study by Lund et al. (2020) reported that online commerce increased two- to fivefold in eight countries representing 45% of the world's population compared with the pre-pandemic period. According to Chenarides et al. (2020), the increasing interest in online grocery shopping could be explained mainly by consumers' fear of COVID -19 and the feeling of insecurity when visiting stores.

Table 2

Differences in the place of buying food before and during the outbreak of the COVID-19 pandemic

The place of buying food	Before the COVID-19	During the COVID-19	p
	%		
Supermarket	82.4	69.6	< 0.05
Neighbourhood store	11.4	20.5	
City market	3.5	1.3	
Specialized store	1.6	1.4	
Buying directly from producers	0.8	1.6	
Online grocery shopping	0.3	6.0	

Table 3 shows how food purchasing behavior and habits changed during COVID -19 compared to the pre-pandemic period. The results show that participants agreed with the statement that they plan food purchases more carefully ($\bar{x}=3.54$), which is consistent with the results of a study conducted with 5,000 consumers in ten European countries (EIT, 2020). They also partially agree with the statement that they ate food from their stocks and restocked it ($\bar{x}= 3.42$) and went shopping less often compared to the pre-pandemic period ($\bar{x}=3.29$). This result is consistent with previous research that found consumers are more likely to not shop inside the grocery store when COVID -19 is actively spreading (Chenarides et al., 2020; Grashuis et al., 2020). Respondents disagreed with the statement that they bought everything they could before the stores ran out of

supplies ($\bar{x} = 2.21$). This is in contrast to the results of the survey conducted with 861 respondents in the U.S., which showed that the highest percentage of consumers in the U.S. agreed with this statement (Chenarides et al., 2020). These differences can be explained by the fact that in Croatia there were no COVID restrictions as strict as in the USA and there were no long-term problems with food supply in stores.

Table 3

Changes in food buying behaviors during COVID-19

Question: During COVID -19, how important was it for you?	Mean	SD
Planned to buy food.	3.54	1.19
Eaten from your stockpile and restocked it.	3.42	1.12
Gone to the store less often.	3.29	1.27
Stockpiled food and tried to consume it rationally.	2.77	1.20
Bought more food than usual.	2.57	1.21
Stockpiled food.	2.51	1.26
Bought everything you could buy due to empty shelves.	2.21	1.09
Bought less food than usual.	2.18	0.96
Eaten from your stockpile without restocking it.	2.09	0.95
Gone to the food store more often.	1.92	0.96

We also analysed consumers' responses according to changes in packaging related shopping behaviours during COVID-19 (Table 4). Respondents agree with the statement that they checked the product's packaging date and expiration date more often ($\bar{x}=3.63$). Due to hygiene reasons, a similar trend of more pronounced preferences for pre-packaged goods has been found in many EU country (EIT, 2020). They are less in agreement with the statement that they prefer to buy food in large quantities or in environmentally friendly packaging ($\bar{x}=3.22$) while they least agree with the statement that they prefer to buy food in bulk or in environmentally friendly packaging ($\bar{x}=2.87$).

Table 4

Changes in packaging related shopping behaviours during COVID-19

Question: During COVID -19, how important was it for you?	Mean	SD
I check the packaging date and expiration date of the product more often.	3.63	1.17
Prefer to buy prepackaged food for hygiene reasons.	3.22	1.11
Prefer to buy food in bulk or in environmentally friendly packaging.	2.87	1.03

3.4. Consumer behavior in food consumption and in food preparation during the pandemic COVID -19

The majority of respondents (78%) indicated that the pandemic did not affect the amount of food they consumed. Only 7% of respondents consumed smaller amounts of food, while 15% of them consumed larger amounts of food compared to the pre-pandemic period (Figure 3).

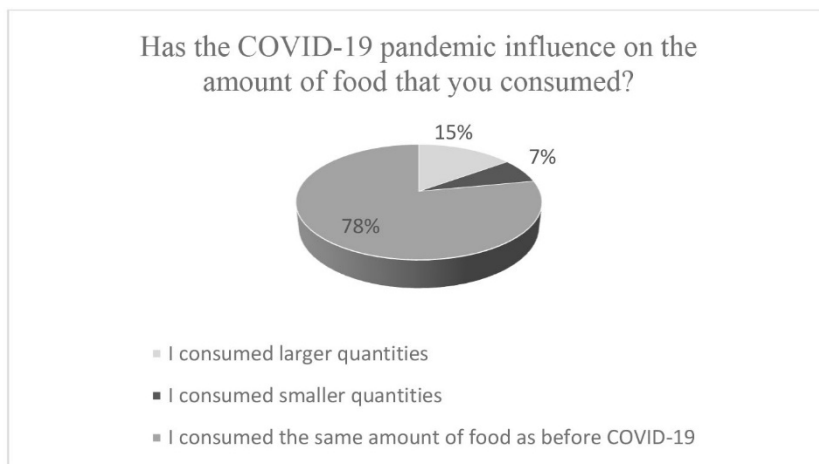


Figure 3 The impact of the COVID-19 pandemic on the amount of consumed food

To statements presented in Table 5, respondents partially agreed that they paid more attention to the price of products during the pandemic ($\bar{x}=3.42$) and bought cheaper products more often ($\bar{x}=3.17$). They do not agree with the statements that they bought more delicacies and treats (mean 2.20) and that they more often buy expensive products during the pandemic ($\bar{x}= 1.97$). Similar trend were obtained in the EU study (EIT, 2020).

Table 5

Changes in food consumptions behaviors during COVID-19 pandemic

Question: During the COVID-19 pandemic, how did your consumption change?	Mean	SD
During the purchase I pay more attention to the price of the product.	3.42	1.13
I buy cheaper products more often.	3.17	1.14
I buy products from lesser-known brands more often.	2.75	1.04
I buy products from well-known brands more often.	2.44	1.02
I buy more delicacies and treats.	2.20	1.00
I buy more expensive products more often.	1.97	0.82

Figure 4 shows the changes in consumption of certain food categories. The food categories in which consumption increased the most were flour (26% increased consumption vs 4.6% that decreased), vegetables (25.6% increased consumption vs 4% that decreased), and fruits (25% increased consumption vs 6.4% that decreased), followed by dairy products (21.4% increased vs 4% decreased). A smaller percentage of respondents recorded an increase in the consumption of poultry meat (15.20%), while fish consumption decreased in 19.80% of consumers. According to EU study (EIT, 2020) all countries reported a

rise in consumption of flour with 27% overall saying they consumed more flour (vs 9% less). In Italy almost half of respondents (49%) used more flour (vs 7% less). Also, in the same study the food categories showing the largest rises were fruit (32% increased consumption) and vegetables & legumes (27% increased). The same trend of increasing fruit and vegetable consumption was confirmed in the following studies (Sato et al., 2020; Celik & Dane 2020; Liton & Beavers, 2020; Hassen et al., 2020; Chenarides et al., 2020; Wang et al., 2020; EIT, 2020; Scarmozzino & Visioli, 2020). According to Celik and Dane (2020), consumers ate more fruit for a reason they believe that fruits and vegetables, as nutrient-rich foods that contain greater amounts of vitamins, are a good weapon against viruses.

In Croatian study the greatest decrease was recorded in alcoholic beverages (33.60%) and in the category of sweets (26% less vs 17% more) and salty snacks (26% less vs 13% more). In EU study was reported similar results: “Alcohol was one of only two categories which show a general decline in consumption. This trend was opposite in the UK, Finland and Sweden, and overall in the 18-35 age group“ (p.11, EIT, 2020).

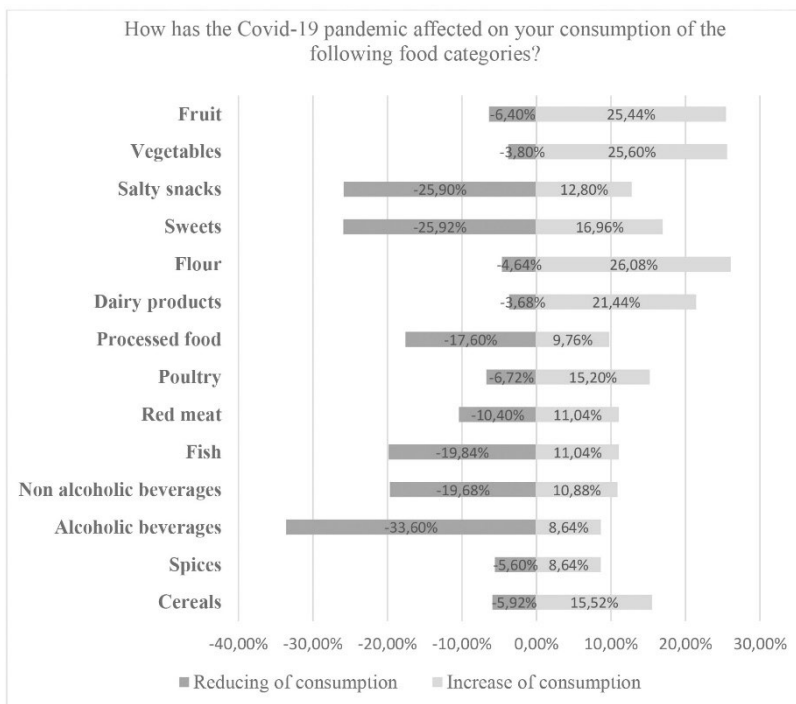


Figure 4 Changes in the consumption of certain food categories during the COVID-19 pandemic

As shown in Table 6, consumers have the highest level of agreement with the statement that they eat together at the table with the family more often ($\bar{x}=3.41$)

and that they tend to avoid products with artificial additives and preservatives ($\bar{x}=3.31$). Eating together at the table in the home has consistently increased across the board - overall, 29% reported doing so more often, compared to 12% less (highest in Spain at 44% compared to 7%) (EIT, 2020). Hassen et al. (2020) reported that 43% of respondents in Qatar ate more often with family during the COVID-19 pandemic. Other results show, that respondents disagree with the statement that they like to spend more time cooking ($\bar{x}=2.96$), while they completely disagree with the statement that they eat more ready made food.

Table 6

Changes in food preparation and consumption behavior during the COVID-19 pandemic

<i>Question: During COVID -19, how important was it for you?</i>	Mean	SD
Dining more at the table as a household.	3.41	1.15
I avoid products with artificial additives and preservatives more.	3.31	1.19
Experimenting more with new recipes.	3.10	1.14
Eating and food an important part of social life.	2.98	1.15
Enjoying spending time cooking.	2.96	1.07
Eating ready-made foods.	1.95	0.97

Respondents mostly agree with the statement that the availability of fresh food ($\bar{x}=3.94$) and consumption of variety food ($\bar{x}=3.87$) was important to them during the pandemic COVID -19. To a lesser extent, they agree with the statements that it was important for them to have good cooking skills, to have all the necessary equipment to facilitate cooking, and to have products that can be prepared quickly and easily (Table 7).

Table 7

The importance of food preparation during the COVID-19 pandemic

<i>Question: During COVID -19, how important was it for you?</i>	Mean	SD
Availability of fresh food.	3.94	0.97
Consume a variety of food.	3.87	0.96
Have time to cook meals.	3.26	1.07
Have good cooking skills.	3.24	1.06
Have right equipment to make cooking easier.	3.24	1.06
Have products that are prepared quickly and easily.	3.20	1.06

3.5. The relationship between the work model and the behavior of consumers in buying, consuming and preparing food during Covid -19 pandemic

The chi-square test and univariate analysis of variance (ANOVA) were used to determine the relationship between work model and food consumption behavior during the COVID -19 pandemic. The study results showed that the work model during the pandemic COVID -19 was not related to the amount of food consumed or to changes in the consumption of specific food categories ($p > 0.05$).

The results are inconsistent with research by Sato et al. (2021), who found that individuals who working from home during the pandemic increased consumption of vegetables, fruits, dairy products, and snacks but decreased intake of seaweeds, meats, and alcohol. Also, Wang et al. (2021) found that consumers who working from home had more time to prepare meals, which allowed them to include greater amounts of fruits and vegetables in their meals.

Analysis revealed a statistically significant relationship between work model and consumer buying behavior (Table 8). It was found that respondents who work from home went to the store less often than before pandemic and they tended to make more planned purchases compared to those who worked at the office. Also, respondents who had a combined model of work and those who worked from home were also more prone to mass shopping and stockpiled food to a much greater extent compared to those who work at the office ($p < 0,05$).

Table 8

The relationship between the type of work model and the behavior of consumers in buying food during the COVID-19 pandemic

<i>Buying food during the COVID-19 pandemic</i>	Working from home	At the office	Combined work model	p
	Mean (SD)			
Planned to buy food.	3.86 (1.12) ^a	3.38 (1.20) ^b	3.55 (1.20)	<0.05
Gone to the store less often.	3.45 (1.46) ^a	3.15 (1.21) ^b	3.38 (1.19)	
Stockpiled food.	2.50 (1.27)	2.39 (1.23) ^a	2.69 (1.26) ^b	
Bought everything you could buy due to empty shelves.	2.18 (1.19)	2.10 (1.04) ^a	2.38 (1.09) ^b	

During the pandemic, respondents who have combined work model and those who working from home, were more inclined to buy food in bulk or in environmentally friendly packaging. Respondents who working from home were more likely to check the packaging date and the expiration date of the product compared to consumers who worked at the office or in a combined work model ($p < 0.05$) - (Table 9).

Table 9

The relationship between the type of work model and the consumer preferences towards food packaging during the COVID-19 pandemic

<i>Changes in packaging related shopping behaviours during COVID-19</i>	Working from home	At the office	Combined work model	p
	Mean (SD)			
I prefer to buy food in bulk or in environmentally friendly packaging.	2.94 (1.16) ^a	2.76 (1.00) ^b	2.98 (0.96) ^a	<0.05
I check the packaging date and expiration date of the product more often.	3.86 (1.16) ^a	3.57 (1.15) ^b	3.56 (1.17) ^b	

Regarding the importance of food preparation in the pandemic period, it was found that consumers who work from home place more importance on the availability of fresh food and the consumption of a variety of foods. In addition,

having enough time to cook, having the right equipment to facilitate cooking, and having products that are quick and easy to prepare are more important to them than to consumers who work at the office ($p < 0.05$) - Table 10.

Table 10

The relationship between the type of work model and the importance of food preparation in pandemic period

<i>The importance of food preparation in pandemic period</i>	Working from home	Work at the office	Combined work model	p
	Mean (SD)			
Availability of fresh food.	4.26 (0.83) ^a	3.84 (1.03) ^b	3.87 (0.93) ^b	<0.05
Consume a variety of food.	4.16 (0.90) ^a	3.76 (1.00) ^b	3.82 (0.90) ^b	
Have time to cook meals.	3.45 (1.12) ^a	3.23 (1.07) ^b	3.17 (1.02) ^b	
Have right equipment to make cooking easier.	3.43 (1.07) ^a	3.22 (1.08) ^b	3.14 (1.02) ^b	
Have products that are prepared quickly and easily.	3.37 (1.09) ^a	3.09 (1.08) ^b	3.24 (1.00)	

4. CONCLUSION

The COVID -19 pandemic has affected all aspects of people's lives around the world. Restrictions on movement, social distancing, and especially working from home have influenced consumer behaviour and the emergence of various consumer trends. Since consumption is tied to a specific time and place (Sheth, 2020) and consumers were forced to stay at home due to the pandemic, they adapting their behaviour and activities to the new situation.

Research shows that consumers are buying less food in supermarkets, while buying food in neighborhood stores and online food shopping is increasing. The food quantity during the pandemic remained the same as before the pandemic, but the share of certain food categories in consumption changed. The pandemic has made consumers more concerned about their own health. To stay healthy and reduce the risk of infection, consumers consumed nutritionally healthier foods such as fruits and vegetables, while reducing consumption of sweets, salty snacks, and alcoholic beverages. As people spent more time at home, more meals were prepared at home, but respondents partially agreed that they ate at the table with family more often.

The work model during the pandemic influenced some aspects of food consumer behavior in the Republic of Croatia. Consumers who worked from home were more likely to go to the store less often, tended to make more planned purchases, bought larger quantities of food, and stocked up more than consumers who worked in their office. Respondents who work from home were more likely to check package dates and expiration dates on products than consumers who work in the office. Because it is very difficult for consumers who work from home to draw a line between business and personal/everyday activities, in terms of food preparation during the pandemic, the availability of fresh food and consumption of a variety of foods, the time available for food preparation, and having the necessary

equipment for easier preparation were more important for consumers who work from home than for consumers who work in the office.

In conclusion, the uncertainty and exposure to risk have shaped the way consumers buy, prepare, and consume food. In time, we will know whether consumers will return to old habits or maintain new ones.

4.1. Limitations and recommendations for future research

Due to limited movement and mandatory social distancing, only an online survey was conducted, making it impossible to collect data on a representative sample. The sample is dominated by women and a younger age group, which is a characteristic of online surveys and it is the fact that most often women do the shopping in Croatian society.

Another limitation of the study is the timing of the survey; the survey was conducted at a time when movement restrictions were relaxed, so we relied on the recall of our participants. Future research could be conducted on a nationally representative sample and could also examine the influence of sociodemographic factors on consumer behavior in food purchase, consumption, and preparation.

4.2. Implications for business practice

The COVID-19 pandemic forced consumers to change their consumption patterns and shopping habits in a short period of time, which will continue to change, but will also partially return to the way things were before the pandemic. While some consumers are trying to reduce the frequency of store visits to reduce the risk of infection, on the other hand, they continue to buy the foods they love from the stores they also preferred before the pandemic. For some consumers, the work model has also changed, affecting their leisure time and disrupting their daily routines, forcing consumers to change their purchasing behavior. The way consumers make food purchasing decisions in times of uncertainty has important implications for food retailers, but also for food producers, who will need to invest more in alternative distribution channels (Internet sales and short supply chains) in the future.

For the agricultural industry, the event has raised awareness of the cyclical nature of the food market, particularly for food production and retail. The pandemic has led agricultural producers to adapt their production in terms of quantity and type to the local market, where consumers also expect a greater supply of fresh and authentic products. In such delicate situations, the issue of self-sufficiency and the increasing dependence of domestic food consumption on imports come to the fore. Therefore, it is important to promote domestic food production to reduce dependence on imports.

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UTJECAJ MODELA RADA NA PONAŠANJE POTROŠAČA HRANE TIJEKOM PANDEMIJE COVID-19

Sažetak

Pandemija COVID-19 utjecala je na sve segmente života ljudi diljem svijeta. Ograničenje kretanja i socijalno distanciranje utjecali su na ponašanje potrošača i pojavu različitih potrošačkih trendova od kojih je jedan od najvažnijih rad od kuće. Glavni ciljevi ovog rada su (1) identificirati promjene u ponašanju potrošača pri kupnji, pripremi i konzumiranju hrane tijekom pandemije COVID-19, (2) istražiti utjecaj modela rada na ponašanje potrošača hrane tijekom pandemije. Provedeno je online istraživanje na prigodnom uzorku od 625 ispitanika u Republici Hrvatskoj. Kategorije hrane u kojima se najviše povećala potrošnja su brašno, povrće i voće, dok je najveći pad zabilježen u kategoriji alkoholnih pića te u kategoriji slatkiša i slanih grickalica. Studija potvrđuje da je model rada tijekom pandemije utjecao na neke aspekte ponašanja potrošača hrane. Potrošači koji su radili od kuće rjeđe su odlazili u trgovinu i bili su skloniji planiranoj kupnji hrane, kupovali su veće količine i stvarali zalihe hrane, a pridavali su i veću važnost vremenu dostupnom za pripremu hrane od potrošača koji su radili u uredu.

Rezultati pozuju da su neizvjesnost i izloženost riziku tijekom pandemije COVID-19 oblikovali način na koji potrošači kupuju, pripremaju i konzumiraju hranu, no tek s vremenom ćemo moći odrediti koje su promjene u potrošača privremene, a koje će se održati dugoročno.

Ključne riječi: pandemija COVID-19, model obavljanja rada, hrana, ponašanje potrošača.

JEL klasifikacija: D12, L66, L81, I12, M31.