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CHANGES IN THE ONLINE FOOD AND MEAT SHOPPING HABITS OF TURKISH ADULTS DURING COVID-19 PANDEMIC

COVID-19 SALGIN SÜRECINDE TÜRKIYE'DE YAŞAYAN YETIŞKINLERIN ONLINE GIDA VE ET ALIŞVERIŞ ALIŞKANLIKLARINDAKI DEĞIŞIKLIKLER

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ABSTRACT

In the current study, food and meat shopping/online shopping behavior of Turkish adults were investigated and analyzed comprehensively, during COVID-19 pandemic. For that purpose, a survey with 19 questions was administered with the attendance of 494 people from Turkey. According to the findings, 42.8% of the participants did online shopping for food and 28.5% of them bought meat and meat products online, before the COVID-19 pandemic. These figures rose to 44.7% and 44.32%, respectively, after the COVID-19 pandemic. Online meat shopping has increased during COVID-19 pandemic. However, more than half of the participants did not prefer to buy meat products online, because of the concerns about the spoilage of meat until the products were delivered. If there was a mobile tracking system which allows users to track the conditions of the product during transportation, 56% of the participants who did not initially prefer to do online meat shopping reported that they would have ordered meat online. This study has shown that; it is very important to implement mobile tracking systems in terms of the continuity of the food chain in processes such as pandemics. This study will contribute to the creation of mobile tracking systems to be established in the future, for the food industry.

Keywords: Online food supply, Online meat shopping, Mobile tracking system, COVID-19

ÖZET

Bu çalışmada, Türkiye'de yaşayan yetişkin bireylerin COVİD-19 salgını sürecindeki online gıda ve et alışveriş davranışları kapsamlı bir şekilde araştırılmış ve analiz edilmiştir. Bu amaçla Türkiye'den 494 katılımcıya 19 soruluk bir anket uygulanmıştır. Bulgulara göre, katılımcıların %42,8'i COVİD-19 salgınından önce online gıda alışverişi yaparken bunların %28,5'inin online olarak et ve et ürünleri satın aldığı gözlenmiştir. COVİD-19 salgınından sonra bu rakamlar sırasıyla %44,7 ve %44,32'ye yükselmiştir. COVİD-19 salgını sırasında

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katılımcıların online et alışverişleri artmıştır. Ancak katılımcıların yarısından fazlası, ürünlerin teslim edilene kadar bozulmasından endişe duydukları için online et alışverişi yapmamayı tercih etmediklerini bildirmişler. Başlangıçta online et alışverişi yapmayı tercih etmeyen katılımcıların %56'sı eğer nakliye sırasında ürünlerin taşınma koşullarını takip etmelerine olanak sağlayan bir mobil takip sistemi olsaydı, online olarak et alışverişi yapacaklarını bildirmişlerdir. Bu çalışma göstermiştir ki; pandemi gibi süreçlerde gıda zincirinin devamlılığı açısından mobil takip sistemlerinin uygulanması oldukça önemlidir. Ayrıca çalışma, gelecekte gıda sektörü için kurulacak mobil takip sistemlerinin oluşturulmasına katkı sağlayacaktır.

Anahtar kelimeler: Online gıda alışverişi, Online et alışverişi, Mobil takip sistemi, COVID-19

1. INTRODUCTION

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which is a new type of coronavirus, first appeared in Wuhan City, Hubei Province of China through the end of 2019 (Sohrabi et al., 2020). Upon World Health Organization’s (WHO) declaration of a public health emergency of international concern, the disease was named as Coronavirus Disease 2019 (COVID-19) by the WHO on February 11, 2020 (WHO, 2020a). In this word; CO and VI originate from ‘coronavirus’, D originates from ‘disease’ and 19 originates from 2019, the year when the disease began to appear (Evren and Us, 2020). One month later, COVID-19 was declared as a pandemic by WHO on March 11, 2020 (WHO, 2020b). Since it first appeared, the virus has spread rapidly and has infected a lot of people all around the world. By 7 September 2020, there had been 27 032 617 confirmed cases of COVID-19, including 881 464 deaths and the number of cases is still increasing (WHO, 2020c). According to these results, 3.26% of the confirmed cases have lost their lives across the world. The number of cases and the rate of fatality vary according to the country. Although all the countries had taken precautions against COVID-19 like abiding by general hygiene rules, social distancing and staying home, many people died due to the virus and unfortunately the 2nd wave is thought to come. Also, this pandemic affected countries’ main economic sectors including tourism, food and beverage sector and automotive sector (Anonymous, 2020a).

The first COVID-19 case was seen on March 11, 2020 in Turkey (Anonymous, 2020b). Following the appearance of the disease in our country, several precautions were taken by authorities against COVID-19. One of these was the closure of restaurants and cafes to maintain social distance on March 21, and only home delivery of food was allowed. However, people ordered ready meals less than they did before COVID-19 because they worried that they could get infected (Anonymous, 2020a). They preferred to cook at home instead of ordering online.

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On the other hand, in this period of time, people also gave importance to protecting their immunity by eating healthy foods. Due to its high protein, vitamin and mineral content, meat plays a major role in human nutrition. Meat consumption has been regarded as an essential part of a healthy diet, and it is believed to have many benefits to human health when included in a diet. Therefore, either for their nutritional value or taste, meat and meat products have been the main dietary source of people throughout the history whether they are manufactured from cattle, poultry, or fish. However, meat and meat products are foods that are highly susceptible to spoilage because they have high water content and can contain pathogenic microorganisms, which are the source of microbiological spoilage. During the first part of the pandemic (between the March and June, 2020), many people have tried using online shopping in places where there is online shopping opportunity and most of them still go on online shopping in their daily lives. But, there were some disruptions such as melting of frozen foods, during the delivery of online food orders. Since the meat and meat products are the goods which are spoilt easily, a special attention should be paid for their transportation. Also, as demonstrated by Haskaraca and Bostancı (2020), most of the consumers who did online shopping reduced their meat and meat product consumption due to their worries about spoilage of meat and meat products during transportation (Haskaraca and Bostancı, 2020).

Although some of the researchers thought that the normalization steps of governments brought back eating out habits (Sheth, 2020), some of them believe that many habits as well as eating habits can be changed after COVID-19 pandemic (Hailu, 2020). In the new normal order after COVID-19, it is thought that there will be changes in many supply chains and especially the food supply is expected to take on a different dimension. At this point, online shopping is expected to become increasingly popular. In this type of shopping, it is of great importance to transport perishable foods such as meat and meat products without breaking the cold chains. The first wave of the COVID-19 outbreak has shown that; the need for controlled online shopping is high especially during stay-at-home calls. Thus, the public food supply chain must be improved and made more controlled, both to adapt to the new normal and to prepare for future epidemics. In the light of that results, we wanted to know the effects of COVID -19 pandemic on food shopping habits, the tendency of individuals about online food and meat shopping, and the improvable points of online shopping taking into account consumer wishes. This study was aimed to reveal the results of these parameters and to shed light on the improvements to be made in this field in the future.

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2. MATERIALS AND METHODS

In the current study, a survey study was conducted in order to determine the effects of the COVID-19 pandemic on online food supply and meat shopping habits of Turkish adults during the COVID-19 pandemic. To that end, an online survey was created by using Google forms and the results were collected online. The survey was carried out between 6th and 17th of July 2020 in Turkey, with the attendance of 494 people. In total, 19 different questions, including both multiple-choice questions and open-ended questions, were asked to the participants to determine the consumer profile, their online shopping habits, their shopping habits for meat and meat product supply and the effects of the COVID-19 pandemic on their online shopping habits for food and meat products in specific. Among the 19 questions, one of them was specifically asked to determine whether they would prefer to shop for meat and meat products online if there was a mobile tracking system where they could track their orders. The data were analyzed through descriptive statistics by using the Microsoft Office 365 program.

3. RESULTS AND DISCUSSION

The demographic profile of the participants was presented in Figure 1 (a-e). It was observed that 34% of the participants were male, and 66% were female while 61% of the participants were single and 39% were married. The majority of the participants (73%) were aged between 18 and 34, 18% were between 35 and 44. 7% were between 45 and 54, and only 2% of the participants were over the age of 55. A great majority of the participants (58%) live in a big city, while 26% of them live in a province or a city, 14% live in a town and only 2% live in a village. In addition, among 494 participants, 436 (88.26%) have at least one university or higher education degree while 9.1% and 2.6% of them have a high school and elementary school degree, respectively.

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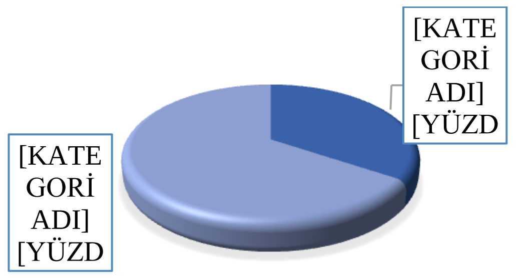

Figure 1a. Gender distribution of the participants

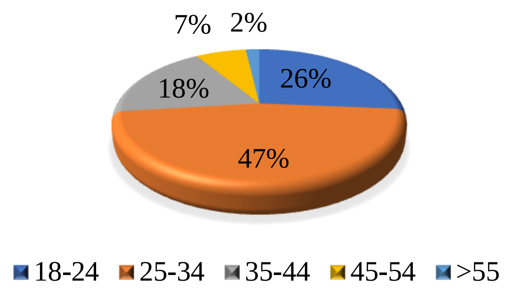

Figure 1b. Age distribution of the participants

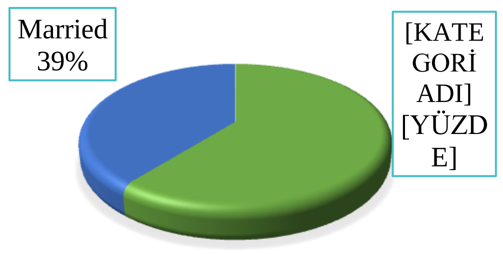

Figure 1c. Marital status of the participants

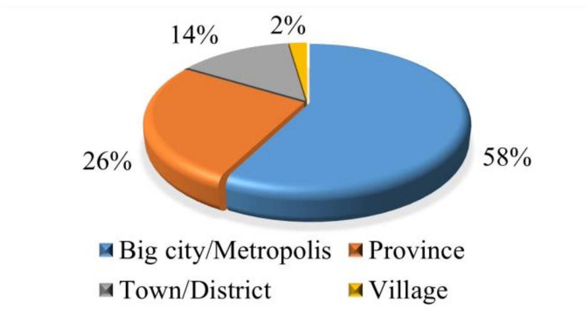

Figure 1d. The size of the area where the participants live

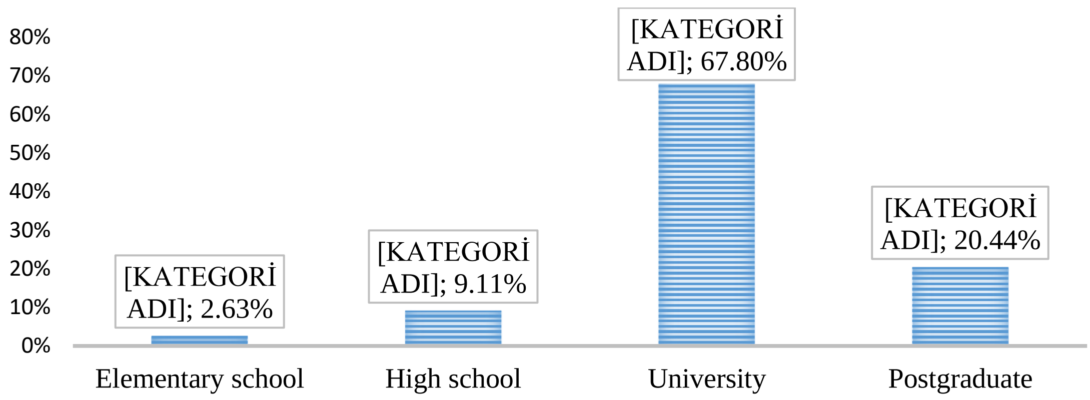

Figure 1e. Educational background of the participants

Figure 1. Demographic profile of participants

Figure 2 (a-b) shows the socio-economic status of the participants surveyed and whether they shop online for their general needs such as clothing, electronics, groceries, kitchen items and so on. It was observed that while most of the participants evaluated their socio-economic status as either average (52%) or good (42%); 2%, 3% and 1% of the participants evaluated

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their status as very good, bad, and very bad, respectively. It was determined that while 83.8% of the participants shop online for their general needs such as textile, electronics, or food; 16.2% of them do not shop online for their general needs. According to the findings, it was observed that 92% of the participants who did online shopping for general needs were university graduates and postgraduates. And also, it was observed that 95% of the participants who did online shopping for general needs evaluate their socio-economic status as good and average.

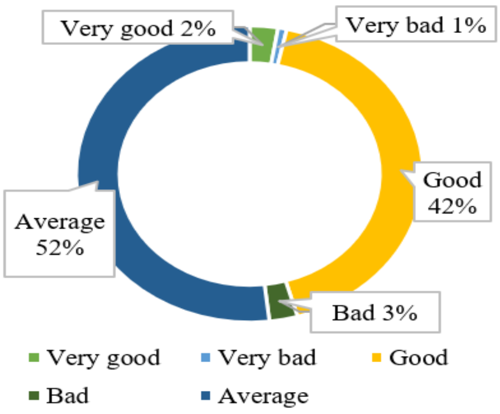

Figure 2a. Socioeconomic status of the participants

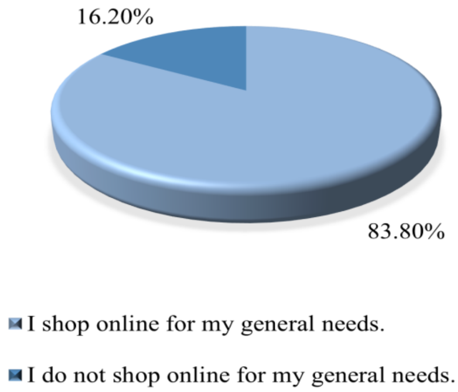

Figure 2b. Participants' online shopping habits

Figure 2. Socioeconomic status and online shopping habits of the participants

Authorities reported that one of the most important ways of preventing the spread of the coronavirus is practicing social distancing with people. According to their view social distancing should be practiced by staying 1 to 2 meters away from other people (Çöl and Güneş, 2020). There is scientific evidence that both asymptomatic and symptomatic people can spread the virus via surface contact or droplets in the air. People can be contaminated by the virus via aerosols spread from the lungs of infected people (Doremalen et al., 2020). Being in closed and crowded places such as markets and restaurants will increase the possibility of the virus infecting individuals. Thus, in order to comply with the social distancing rule required to protect against the COVID-19 in Turkey, as of March 22, 2020, all cafes, restaurants and similar businesses started to serve only without allowing customers to sit (Anonymous, 2020c). Also, a curfew was implemented first for people over 65 and then those under 20 and people that are at higher risk in all over Turkey (Anonymous, 2020d) and was implemented for all citizens only on weekends in some cities (Anonymous, 2020e). These precautions naturally led to an increase in online shopping for general needs, especially for foods. According to the survey results, online shopping habits of the participants increase

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after COVID-19 pandemic and 44.7% of the participants reported that they did online food shopping after the pandemic broke out. Similarly to our findings, Kunst (2020) reported that 18 years and older people who lived in Germany, United Kingdom (UK) and United States (US) did online shopping more 30, 46 and 52%, respectively (Kunst, 2020). In another study, Danışmaz (2020) reported that online grocery shopping has increased significantly during the pandemic process, applications where urgent needs are delivered to home are used. Also, it is stated that the most purchased product group online was food products after the COVID-19 pandemic, despite the most purchased product group online were clothing industry products before the COVID-19 pandemic (Danışmaz, 2020). Sabanoglu (2020) investigated the impact of the COVID-19 on online shopping for different categories such as electronics, clothing, take-away foods and groceries in the UK in the week ended May 6, by shopping activity. Finding of the study shows that because of the busy and overwhelmed services 13.12% of the people in UK stopped completely online shopping for grocery, 12.93% of them reduced online shopping for grocery, 32.38% of them increased online shopping for grocery and the rest of the people did not do any change in their online shopping for grocery. And also study shows that more than one-third of UK people who took part in this survey stopped ordering take-away food online completely and 21.57% of the people reduced ordering take-away foods (Sabanoglu, 2020). According to the study which was conducted from Li et al. (2020), there was a decline in purchases from farmers markets about 13%. In contrast, online food shopping became the most popular channel during the COVID-19 pandemic. The percentage of online food shopping, which was 11% before the COVID-19 pandemic, increased to 38% together after the COVID-19 pandemic. Also, local independent small shops had an increase during the COVID-19 pandemic about 5% (Li et al., 2020).

When the participants, who do not do online shopping, were asked under what circumstances they would buy food online, the answers in Table 1 were gotten. The most common answer was “if I had no other option (33.7%)” followed by “if I was sure that the foods would be delivered safely (in regards to proper temperature and time) (28.3%)”, “if I lived in an area where I could shop online (7.2%)”. In addition, 4.8% of the participants said that they would shop for food online if it was cheaper or if they earned more money. Another 4.8% said they would buy food online if they could see the pictures of the food and 2.4% of the participants said they would do so if the pandemic did not end. On the other hand, there was a group of participants (14.4%) who were against doing online shopping. According to the answers, it is seen that the great majority of the participants are likely to do online food shopping if some improvements are made.

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Table 1. Participants' answers to the question "Under what circumstances would you shop for food online?"

Answers	**Percentages**
I would not buy food online under any circumstances	14.4%
If the products were cheaper/if I earned more	4.8%
1.1.1.1.1.1 If I could see the pictures of the products	4.8%
If I was sure that foods would be delivered safely	28.3%
If I had no other option; for example, if the supermarkets were closed	33.7%
If I lived in an area where I could shop online	7.2%
If the pandemic ended	2.4%
Other	4.2%

Li et al. (2020) investigated the food categories most demanded by consumers in China at the onset of the COVID-19 outbreak. Their findings show that vegetables, rice and meat were the most wanted food categories in the beginning of the COVID-19 pandemic (Li et al., 2020). In our study, when the participants who did online shopping for food were asked if they bought meat and meat products online, 28.5% of them said that they bought meat and meat products online before the COVID-19 pandemic and this value increased to 44.32% after the COVID-19 pandemic. Furthermore, 70% of the participants who ordered meat and meat products online said that they preferred packaged meat products before the COVID-19 pandemic, and 4% of the participants reported to have bought unpackaged meat and meat products online while 26% of the participants said that they preferred both.

Figure 3 demonstrates the reasons why the participants did not shop for meat and meat products online. A great majority of the participants said that they did not prefer to buy meat products online because they could not see the products and they were concerned about their spoilage until they were delivered. In addition, 9.7% of the participants reported that the store where they shop meat and meat products did not offer home delivery. It is very important to

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serve or deliver safe food to consumers in a reliable way under all circumstances. That's why developing mobile tracking systems/programs which allow to serve, follow and deliver easy to deteriorate food materials safely, has great importance.

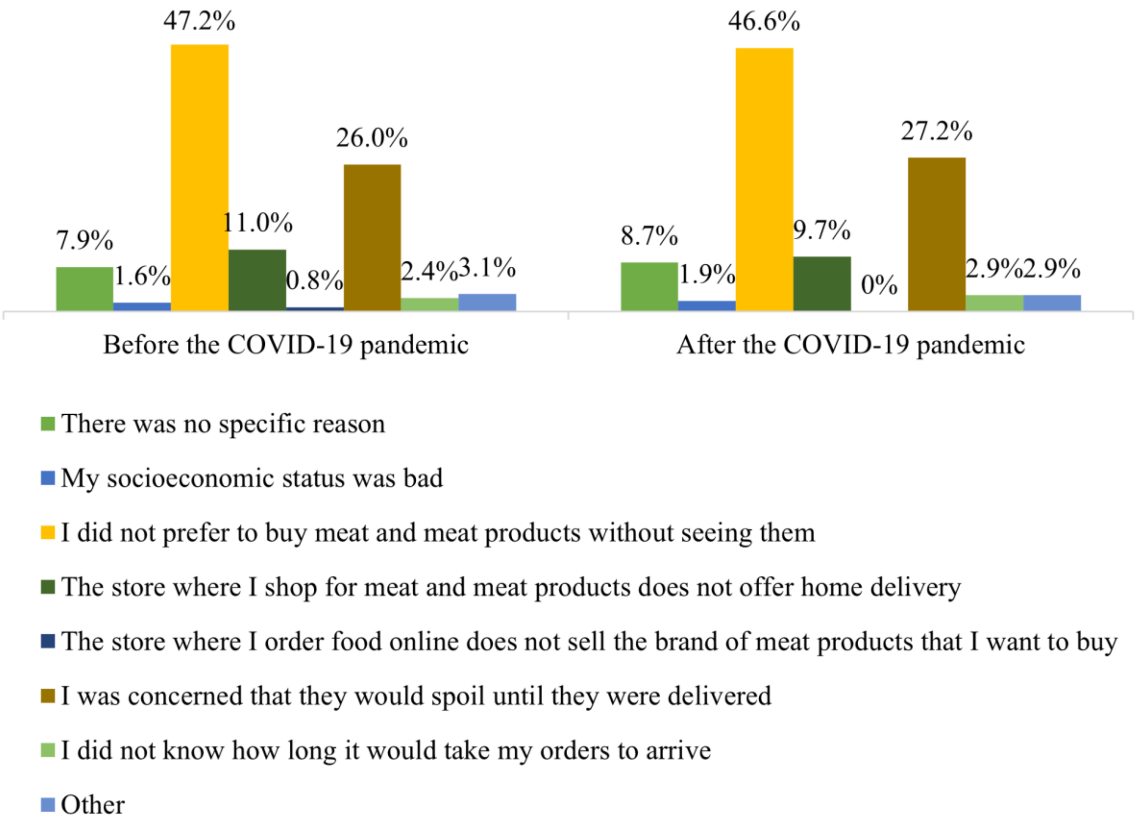

Figure 3. The reasons why the participants did not buy meat and products online

In addition, the participants were asked under what circumstances they would shop for meat and meat products online. As can be seen in Table 2, 58.1% of the participants said that they would buy meat and meat products online if they were sure that they would arrive in safe conditions. Twelve percent of the participants said that they would order meat and meat products online if the market where they always shopped for food, had an online ordering system. Another 11.6% said that they would never order meat and meat products online while 9.3% of them reported they could order meat and meat products online if there was a platform where they can see a picture of the products they wanted to order. Two percent of the participants said they would order meat and meat products online if they were assured that they could return the products when they did not like them. And also, this figure shows that the great majority of the participants are likely to do online shopping for meat and meat products if some improvements are made.

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Table 2. Participants' answers to the question "Under circumstances would you shop for meat and meat products online?"

Answers	*1.1.1.1.2* ***Percentages***
1.1.2 I would never buy meat and meat products online	11.6%
If the products were cheaper/If I earned more	4.6%
If I had the chance to see the pictures of the meat and meat products	9.3%
If I was sure that the meat and meat products would arrive in safe conditions	58.1%
If the store accepted returns	2.3%
If the store where I shop for meat products offered home delivery	11.6%
Other	2.3%

The participants were asked whether they would include meat and meat products in their online orders if there was a mobile tracking system which allows them to track the conditions under which the products are transported (temperature, duration, etc.). It was observed that 54% of the participants who did not order meat and meat products online said that they would order them if there was a mobile tracking system, and 46% of them said they would not order meat products online even if there was a tracking system. In addition, 85% of the participants said that the fact that a market has a mobile tracking system for online orders would affect their preference for online shopping from that market, and 15% of them said their preference would not be affected.

A significant number of the participants reported that they did not buy meat and meat products online because of without seeing them and worried about the spoilage of the products until they delivered. At this point, it is thought that a new tracking system will be necessary in increasing the online meat shopping by avoiding these worries. With this tracking system, people can see when the orders were dispatched by the markets, where the

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transportation vehicle is at that specific moment and photos of the products at that moment. This new system must also keep track of what temperature, and for how long, the products are exposed to until the delivery. About half of the participants who did not buy meat and meat products online said that if such a system existed, they would include meat and meat products in their online shopping. This situation once again emphasizes the necessity of the mobile tracking system. Also these systems are believed to provide the social distance, which is very important in preventing the pandemic, in the supermarkets.

4. CONCLUSION

According to the findings of this study, there was a slight increase in the number of the participants who did online food shopping after the COVID-19 pandemic. Although the increase in online food shopping was very little, the number of the participants who included meat and meat products in their shopping rose significantly. We believe that more people preferred to buy meat and meat products online during the pandemic because they wanted to protect themselves and others from the disease while they chose to buy meat by seeing it before the pandemic. Still, more than half of the participants did not buy meat and meat products online during the COVID-19 pandemic. The main reasons why the participants did not prefer to buy meat and meat products online were because they wanted to see the products before buying it and they were concerned about the spoilage of the products until delivery. The findings reveal that food safety is an important factor in the participants' decision to buy food online as more than half of the participants stated that they would buy meat and meat products online if they were sure that the products would arrive in safe conditions. An important implication emerging from the findings of this study is the need for a mobile tracking system to be used in online food shopping which allows the users to track under which conditions the products are transported such as the temperature, the time of dispatch or the image of the product that is to be delivered. A majority of the participants stated that they would buy meat and meat products online if they were informed about such conditions under which their order was delivered. However, as the COVID-19 pandemic is ongoing, new investigations should be done in regards to food consumption and supply habits of consumers, and also, long term effects of COVID-19 on consumers' food consumption habits in future with more extensive population studies.

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