PERCEIVED SOCIAL DISTANCING AND HYGIENIC PRACTICES IN THE RESTAURANTS DURING COVID-19 PANDEMIC: EVALUATION OF RESTAURANTS' FUTURE

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ABSTRACT

This study was carried out to examine the applicability of COVID-19 pandemic rules and measures and the future of the restaurant sector in a Turkish context. In this survey, a total number of 218 usable questionnaires were personally retrieved via online from the respondents in the research location. A quantitative approach was adopted in this study that SPSS version 23 was employed in order to explain the data. In general, the results show that the people are mostly careful of the rules and guidelines. Significantly, some respondents around 30% did not agree on some items such as SD4, SD2 and H25 which should be taken into account. Demographically, the result shows that the individuals with graduate degree scored the items of the survey lower than the others. This paper provides implications for authorities in terms of minimizing the effect of pandemic and maximizing the hygienic practices among restaurant operators in future. Theoretically, the current study by examining the applicability of COVID-19 pandemic rules and measures lends further contribution to the related literature.

Keywords: *Covid-19, hygiene practices, restaurant services*

INTRODUCTION

COVID-19 virus, which started to be seen in Wuhan, China, spread rapidly to thousands of people and spread without borders. Governments have tried to minimize the human mobility that caused the transmission of the virus by taking

restrictive measures to prevent the epidemic. On the other hand, the measures had deep negative effects on the economies of the country. In particular, the tourism and travel industry, which is based on human mobility, has been hit hard by the Covid-19 global epidemic (Gallego, Font, 2020; Gössling, Scott, Hall, 2020; Lew, Cheer, Haywood, Brouder, Salazar, 2020; Williams, Kayaoglu, 2020). The United Nations World Tourism Organization (UNWTO) announced that international tourist mobility decreased by 72% over the first ten months of 2020. Hospitality and entertainment-oriented service businesses in the tourism sector in many countries have been completely or temporarily closed.

Food and beverage businesses are among the most affected businesses in the hospitality industry. Restaurants globally lost billions of dollars, millions lost their jobs and many small restaurants closed. Only 11% of restaurants could sustain their services as usual during this period, due to COVID-19 restrictions in China as of February 2020 (Statista, 2020). In the USA the restaurant and food service industry lost more than $240 billion in sales by the end of 2020 USA (National Restaurant Association, 2021).

Despite the pleasing developments regarding the COVID-19 vaccine at the end of 2020, restrictions and measures such as social distancing and self-isolation have continued to control the pandemic (Kim, Kim, Wang, 2021). The governments have requested and monitored the restaurants and other service firms to self-preventive practices (Kim, Lee, 2020). Restaurant businesses are allowed to continue their activities during the pandemic period with regulations that include rules such as cleaning, hygiene, ventilation, and distance covering operational service processes. Because people stay in their homes due to quarantine and measures, converting to online food ordering is started to be essential for the food and beverage service business (Brewer, Sebby, 2021). In some geographies, restaurants are allowed to offer indoor dining, but there are seating restrictions to ensure social distance. In addition to hand disinfectants and masks, some operational hygiene rules are introduced in the kitchen and service areas. On the other hand, digital applications such as QR code menus are being used to provide touchless service as much as possible.

Under the direction of governments, businesses must accept restrictions and comply with regulations to avoid human contact. All these practices oblige businesses to bear operational and financial costs and to strive to adapt. Another variable is the perception of consumers. Growing concerns about product safety require wide transparency and visibility among food and beverage consumers. Also, the restaurant industry is regarded as having a widely embedded, high level of risk (Song, Yeon, Lee, 2021). The risk perceptions and concerns of consumers about getting the disease affect their food and beverage service preferences (Kim, Lee, 2020; Byrd, Her, Fan, Almanza, Liu, Leitch, 2021). Accordingly, for consumers, businesses need to implement the pandemic rules set by governments. It can be considered that businesses that strictly implement pandemic rules will have a reliable business image and reliability will be a reason for preference. Moreover, consumers' evaluations of business practices can provide valuable information for government officials. Thus, the research aims to reveal the consumer perspective regarding the applicability of the rules and measures under COVID-19 in food and

beverage businesses.

Pioneering studies in the restaurant industry focusing on the effects of the COVID-19 pandemic emphasize that more research is needed to reveal different perspectives in different geographies, various restaurant types, to discover global dynamics (Kim, Kim, Wang, 2021; Brizek, Frash, McLeod, Patience, 2021). Besides, the study findings can provide insight into government and business management regarding the applicability of rules and measures.

The perception of customers regarding safe and healthy food service can provide an advantage on competition in the post-pandemic period. Thus, it is useful to examine the service provided by restaurants in terms of health and food safety from the consumer point of view. At this point, the epidemic measures put into action by governments can be considered as a remarkable reference. Thus, this study researches the consumer perspective regarding the applicability of the COVID-19 pandemic rules and measures which are constituted by The Ministry of Health, in food and beverage businesses in Amasya City, Turkey.

The city of Amasya, located in the Central Black Sea Region of Turkey's Black Sea Region, is a city where cultural tourism is intense with its historical urban texture, traditional Ottoman House examples, Yeşilırmak River and Valley, legends, natural and cultural values. City; It is almost like an open-air museum with the existence of the Yeşilırmak River flowing through it, the traditional housing texture and civil architectural examples that have been preserved from the past to a great extent, and its deep-rooted cultural level. Thanks to the Harşena Mountain located in the north of the city and the Pontus King Rock Tombs, which are among the largest rock tombs in Anatolia, the city has been on the UNESCO World Heritage Tentative List since 2015 (Pala & Daşkın, 2021).

In the literature review section below, it is explained in the light of past studies how the Covid-19 pandemic will shape and affect the food and beverage services in the tourism sector.

LITERATURE REVIEW

As the COVID-19 into a pandemic spreading all over the world, the need the studies that explain or estimate the sectoral effects of the pandemic emerge in tourism literature. Studies focusing on the COVID-19 pandemic in restaurants try to clarify the effects of the pandemic on restaurants and how restaurants should adapt to the epidemic measures. Kim, Kim, and Wang (2021) examined the restaurants in China and explains the financial sustainability of restaurants with factors such as delivery, discounts, and service type. In another hand, Kim and Lee (2020) focused on the private dining facilities in restaurants as a strategy to recover from the negative effects of the COVID-19 pandemic. Okat, Bahçeci, and Ocak (2020) studied the impact on the food and beverage business of the COVID-19 pandemic in Turkey has studied in terms of crisis management perspective.

Similarly, Brizek, Frash, McLeod, and Patience (2021) investigated restaurant operators' perceptions of the operational and economic impacts of the

COVID-19 pandemic in South Carolina. These studies emphasized participatory collaborations and permanent operational arrangements as well as government support to minimize the effects of the pandemic. Moreover, it is considered that issues such as secure high-quality food, packaging, and delivery technology will maintain their importance for restaurant businesses due to health and safety concerns in the post-epidemic period (Kim, Kim, Wang, 2021). In this context, operational suggestions such as online booking tools, contactless payment methods, portable healthy new products, digital menus, and expanded delivery networks are offered to restaurants (Deloitte, 2020).

All recommended operational practices are related to the provision of appropriate food safety conditions to prevent the spread of the disease. At this point, consumer perceptions provide an important perspective to explain post-pandemic demand changes. For example, Byrd et al. (2021), in an online survey study conducted in the U.S., revealed that consumers are more concerned about consuming food served in the restaurant rather than takeaway food. Similarly, Brewer and Sebyy (2021) point out that the perceived convenience of online food ordering has a positive effect on purchase intention during the pandemic period. According to another study in Turkey by the İflazoğlu and Aksoy (2020), the biggest concern of consumers about eating at the restaurant due to the epidemic is hygiene. These studies are useful in understanding the foodservice preference of the consumer in general. However, more detailed explanations are needed especially about the food service in the restaurant. In addition to ensuring hygienic service conditions by pandemic measures of restaurants, it must also convince consumers. Businesses that already have to deal with enormous financial difficulties due to the covid pandemic may face the problem of customer misperceptions (Byrd et al., 2021).

METHODOLOGY

3.1. SAMPLING AND DATA COLLECTION

This descriptive study was performed to the participants who facilitate the food consumption in the restaurants in Amasya Province/Turkey. The current work aimed to determine the perception of the participants about if the food consumption areas comply with the rules and the regulations which are established by Ministry of Health Turkey for prevention from COVID-19 pandemic. The population of the study was estimated as the residents who have eating behavior at the restaurants during COVID-19 pandemic in Amasya. In order to keep social distance due to dangers of the pandemic, the questionnaire items were created on Google Forms in Turkish and posted to the residents in Amasya by online. The research team aimed to reach a maximum participant level as much as possible. The on-line data were collected from November 2020 to January of 2021. In the current study, 222 participants were attained in the survey and 218 questionnaires were used in statistical analysis since 4 of 222 had insufficient data. To reach accurate results, one control question (HP20) was inserted into the scale items and this item was excluded from the data to be analyzed.

3.2. MEASURES

In this study, the survey instrument used for the present study was adopted from Ministry of Health Turkey (2020). The questionnaire consisted of two sections. In the first section, 10 items provided the data about designing of social distancing and the latter 18 items were about hygienic practices in food consumption areas during COVID-19. For this purpose, 5-point likert scale ranging from "Absolutely agree" to "Absolutely disagree" was conducted in questionnaire study. The second part of the survey was composed of profile of the survey sample such as gender, age, education, and etc.

3.3. STATISTICAL ANALYSIS

The Statistical Package for Social Sciences (SPSS) Version 23 was used to explore the data. Prior to descriptive statistics, the collected data were check if normality in distribution or not. Then, as for statistical techniques, firstly, reliability (Cronbach's alpha) and validity tests were conducted. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was determined to assess if the distribution of the items was acceptable for further testing. The exploratory factor analyses were performed to test the assumptions for issues of dimensionality and convergent validity. Next, the mean scores were employed to observe average responses.

Finally, the results were subjected to analysis of variance (ANOVA) with descriptive statistics and crosstabs were executed among the demographic data (crosstabs' results were not presented in the tables). Then, the values were presented as mean ± standard deviation (n=3). Independent t-test was performed to compare results of less than three groups (gender and marital status). When a significant treatment effect was detected, a Hochberg's GT2 was performed for equal variance assumptions, but for non-equal variance existence Games-Howell test was carried out to compare means.

RESULTS AND DISCUSSION

4.1. DESCRIPTIVE STATISTICS

Table 1 shows that most of the participants (57.4%) in this study were females. More than half of the respondents (65%) were younger than 35 years old. Most of the participants (59.7%) were composed of single marital status since the students constituted high ratio (46.3%) of the population in the current work.

Table 1. Demographic characteristics of the participants.

	Groups	Frequency	Percentage (%)
Gender	Female	124	57.4
	Male	92	42.6
Age	20 and below	56	25.9
	21-35	86	39.8
	36-49	45	20.8
	50 and above	29	13.4
Marital status	Married	87	40.3
	Single	129	59.7
Occupation	Civil servant	53	24.5
	Private sector employee	29	13.4
	Retired	13	6.0
	Employer	14	6.5
	Student	100	46.3
	Unemployed	7	3.2
Education	Primary education	5	2.3
	High school	61	28.2
	Undergraduate	123	56.9
	Graduate	27	12.5
Frequency of eating out	Rarely	55	25.5
	Sometimes	102	47.2
	Frequently	59	27.3

Nearly 45% participants employed actively (employer or work either in government or private jobs) whereas almost 10% of the population consisted of either retired or unemployed individuals. Approximately 70% of the respondents had graduated from university and above as illustrated in Table 1. In this study, 47% of the participants declared frequency of their eating out as "sometimes". It was followed by "frequently" with 27.3%.

4.2. PSYCHOMETRIC PROPERTIES

As listed in Table 2, Cronbach's Alpha value for each factor was detected as exceed 0.70, accepted as good in reliability (Nunnally, 1978). Average Variance Extracted (AVE) for each factor (0.566, 0.511) and Composite Reliability (CR) of measurement items (0.921, 0.948) were also found to be greater than 0.5 and 0.7, respectively (Bagozzi, Yi, 1988; Hair, Black, Babin, Anderson, 2010). For further analysis, the Kaiser-Meyer-Olkin (KMO) measure of sampling was checked if the distribution of values was adequate for each construct and as a result each of them exceeded the threshold value of (Social Distance = 0.944, Hygienic Practices = 0.958) as suggested by Field (2000).

All the factor loadings were greater than 0.5 as suggested by Barclay, Thompson, and Higgins (1995), except SD10 which was omitted for further analysis. Therefore, the convergent validity was established for the scale of this research. The most effective item among all the constructs was determined as "*Did the staff who receives payment at the cash register use the personal protective equipment (masks, visors etc.)? Is there any marking to specify the social distance at least 1 meter? Disinfectants are available at payment points?*" (HP22) with 0.896 factor loading. It was followed by HP25 item (0.847). Overall, the resulting solution yielded two components with an eigenvalue greater than one. The first factor accounted for 59.319% of the variance and all the scale items explained 64.282% of total variance.

Table 2. Psychometric properties of the scale.

Goal directed	Item	Factor loading	AVE*	CR**	Cronbach's Alpha
Social Distance (SD)			.566	.921	.941
	SD1	.753			
	SD2	.802			
	SD3	.792			
	SD4	.845			
	SD5	.676			
	SD6	.796			
	SD7	.663			
	SD8	.715			
	SD9	.711			
Hygienic Practices (HP)			.511	.948	.960

HP10	*.405*		
HP11	.622		
HP12	.608		
HP13	.791		
HP14	.650		
HP15	.717		
HP16	.611		
HP17	.750		
HP18	.730		
HP19	.696		
HP21	.829		
HP22	.896		
HP23	.761		
HP24	.623		
HP25	.847		
HP26	.738		
HP27	.727		
HP28	.712		
All items included		.962	.972

*Average Variance Extracted. **Composite Reliability.

4.3. THE MEAN SCORES

In Table 3, all the mean scores showing the perceptions of the participants towards each item in the scale were demonstrated with the standard deviations. The average mean value of all the items was calculated as 3.986. According to the mean scores and the average value of all the responses, the participants mostly had positive perception on social distancing rules and hygienic practices carried out by the hotel, restaurant, and cafes during the pandemic. However, some items were scored as strongly agree and agree in lower than 70% rate, such as SD4 and HP25. *"The layout of the tables was executed according to the social distance rules"* (SD4) was scored positively in 69.5% rate. In fact, the participants weakly agreed with it as compared to the other responses. Moreover, it might be stated that the individuals were less confirmed the item of *"the photocell machines, which reduce contact to prevent contamination, were sufficient in foodservice and consumption areas"*

(HP25) due to preferring to agree and strongly agree in 69% percentage.

On the other hand, the individuals have negative perceptions on the obeyed of the pandemic rules by the foodservice areas. The low-scored item (HP25) as abovementioned, 19.5% of the participants thought that the photocell machines were insufficient in food areas. Addition to HP25, the other low-scored items were SD2 and SD3 based on 17.6% and below rate, the participants stated that *"the guest seats did not place at far from the critical social distance"*.

Table 3. Analysis of variance in the perception scores of the social distance rules and hygienic practices.

Goal directed	Source	Disagree	%	Agree	%	Mean score	Standard deviation
Social Distance (SD)	**SD1**	20	9.2	169	78.2	4.065	1.072
	SD2	38	17.5	153	70.8	3.787	1.205
	SD3	38	17.6	158	73.1	3.833	1.153
	SD4	27	12.5	150	69.5	3.810	1.055
	SD5	35	16.2	159	73.6	3.852	1.136
	SD6	23	10.6	169	78.3	3.810	1.055
	SD7	26	12	161	74.6	4.019	1.112
	SD8	22	10.2	170	78.7	4.032	1.018
	SD9	15	6.9	181	83.8	4.171	0.896
Hygienic Practices (HP)	**HP11**	22	10.2	169	78.2	3.977	0.995
	HP12	28	13	172	79.7	4.005	1.050
	HP13	18	8.3	156	72.3	3.958	0.951
	HP14	22	10.2	157	72.7	3.949	1.022
	HP15	17	7.9	164	75.9	3.968	0.952
	HP16	20	9.3	179	82.9	4.204	0.995
	HP17	33	15.3	152	70.3	3.884	1.141
	HP18	24	11.1	155	71.7	3.949	1.101
	HP19	21	9.7	153	70.8	3.903	1.072
	HP21	23	10.7	178	82.4	4.111	0.982

HP22	15	6.9	188	87	4.199	0.836
HP23	16	7.5	154	71.3	3.954	0.968
HP24	18	8.3	186	86.1	4.185	0.922
HP25	42	19.5	149	69	3.806	1.193
HP26	17	7.9	178	82.4	4.088	0.943
HP27	22	10.2	175	81.1	4.074	1.013
HP28	17	7.9	159	73.6	3.944	0.963

4.4. ANALYSIS OF THE VARIANCES

One-way ANOVA was employed to evaluate the perceptional differences among demographical groups statistically. The differences among the education levels and in occupation categories were found significant ($p < 0.01$) as illustrated in Table 4 whereas no differences were detected in the results according to age, marital status, frequency of eating out.

Table 4. Multiple comparisons over average score between in-groups those of the occupation categories and the education degree.

Demographical properties		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
(I) Occupation	**(J) Occupation**					
Civil servant	Private sector employee	0.090	0.217	0.998	-0.557	0.738
	Retired	-.424*	0.131	0.026	-0.816	-0.033
	Employer	-0.281	0.293	0.925	-1.222	0.661
	Student	-0.295	0.119	0.142	-0.642	0.051
	Unemployed	-0.167	0.223	0.970	-0.959	0.625
(I) Education	**(J) Education**					
Graduate	Primary	-1.148*	0.352	0.008	-2.083	-0.213

High school	-.826*	0.167	0.000	-1.270	-0.383
Undergraduate	-.793*	0.154	0.000	-1.201	-0.385

*The mean difference is significant at the 0.05 level.

According to the data in Table 4, the retired individuals evaluated the social distancing rules and hygienic practices differently than the civil servants. Private sector employees, students, employers, and unemployed preferred similar options to assess hotels, restaurants, and cafeterias of obeying the rules. As declared in Table 4, mean difference of the scores between the civil servants and the retired people was found negative. It denoted that the retired ones gave higher scores to the items of the survey than the civil servants. That might be relation between the retirement age in the Turkey and the age of the restricted people during the pandemic. It was estimated that most of the retired people were 65-year-old and above. According to the crosstabulation results, the age of 92.7% among the occupation groups was 50-year-old and above. Additionally, this group of people was limited by the strict rules of the Health Ministry during the pandemic. Due to the fact that the eating out rate of these participants was low, their experiences on the social distance rules and hygienic practices of the food consumption areas might be optimistic regarding those who have a regular working life.

On the other hand, it might be assumed that those who continued their regular working life during the pandemic (civil servants) ate out a rate of 22.6% more frequently (not presented in the tables), thus observing that fulfillment of pandemic rules, or not. Accordingly, their scores were lower than the others`.

From the educational degree aspect, no difference was found statistically among the individuals having different education degrees except the graduate level (Table 4). The graduate degree was different from each level in educations (p < 0.01), such as primary, high school, and undergraduate. However, the difference in scoring of the questionnaire could not found among these education groups. As listed in Table 4, mean difference of the scores of between the respondents having graduate degree and the others was found negative. It implied that the individuals with graduate degree scored the items of the survey lower than the others.

These differences between the other groups increased with decreased education level.

Considering the cross-tabulation result, 85.4% of the civil servants had a graduate level. Since most of the civil servants having graduate degrees, the same participants created differences in the scores statistically.

CONCLUSIONS

In Turkey, serious developments and investments are seen in food and beverage industry with the impact of achievements in tourism. With the increasing consumer habits of eating out, the number of restaurants (hotel restaurant, fast-food restaurant, take-out restaurant) has exceeded 100 thousand today. Another factor

that played an important role in this change in the restaurant sector is the developments in the tourism industry. Ready meals sector which consists of four main parts: hotel, restaurant, fast-food restaurants and table d'hote (corporate food services) and another name of this sector is Out-of-Home Food Sector. Benefiting from a fast food retailing in Turkey (eating meals outside the home) is about 8 million people. This figure is around 65-70 million in the EU countries (Germany, France, the United Kingdom) where the population close to Turkey. All indicators show that the restaurant sector will grow at least 20-25% each year (Anatolian Agent, 2020).

However, on the verge of these developments, COVID-19 pandemic unexpectedly disrupted the industry in the whole world. In Turkey, the sector with nearly 2 million employees closed 2019 with a turnover of 110 billion TL, but shrank by 70 percent in 2020. In parallel to the negative health impacts of the COVID-19 pandemic, the Ministry of Health Turkey has announced a number of rules and measures that should be implemented in restaurants within the scope of combating COVID-19. Some of these measures include regulating the distance between tables, steps to be followed in daily routine cleaning and hygiene rules, and training restaurant staff etc. In addition to these measures, it is stated that open buffet services are risky due to physical contact and that the service should be given by employees in open buffet applications.

In this regard, as a case in point, the current work aimed to explore the applicability of these rules and measures in Amasya province and the future of the sector. In general, the results show that the people are mostly careful of the rules and guidelines. However, the participants seemed slightly agree on some items such as the 30.5% were not agree or strongly agree on items SD4 and SD2 regarding the layout of tables and social distance rules that should be checked and designed again: Social distance markings should be made at 1.5 meters intervals wherever rows may occur (in front of the washbasins, smoking areas, etc.). The distance between the tables where food is served should be 1.5 meters in all directions and 60 centimeters between the chairs next to each other. If table combinations are made for customers coming in groups, the distance between other tables should be 1.5 meters. Tables should only be seated opposite each other and a chair should not be placed next to the table. Cross-seating should be applied to tables with a width of less than 70 centimeters in mutual seating, or two tables should be used by combining them in order to increase the mutual seating distance and etc.

The other item that should be reviewed is H25 which is related to the photocell machines in foodservice and consumption areas. 31% of the participants were not agreeing on this item and this is not a low rate indeed. In parallel with the transition to a more controlled and sustainable order, the new trends observed in consumer behavior in the post-pandemic food and beverage sector will provide us with a better understanding of the present and the future by providing insights on how the epidemic affects the industry and consumers. We hope that our passion to use technology to make the world a better place and shape the future by taking responsibility will shed light on the industry in the fight against the Covid-19 epidemic and contribute to the solidarity of building a better future.

Along with this, the Ministry of Culture and Tourism should plan to activate

an internationally accepted certification system within the scope of COVID-19 measures. Within the scope of the study, it is aimed to take many measures such as having health personnel and equipment equipped with the necessary equipment in restaurants, using thermal control systems, and providing action plan training and etc.

This study aimed to reach 500 respondents but due to the social distance restrictions, the data was collected via the online environment and so it would not be possible to reach expected number. The current study is a preliminary one limited to Amasya province Turkey where the infected people of COVID-19 is high. The further studies are needed to be conducted at all regions with different aspects such the new future trends in restaurant industry and touristic behaviours.

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