

Influence of Consumers' Sanitary Practices on Purchasing and Dining-out amidst the COVID-19 Pandemic

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Abstract. Food safety has become increasingly important during the COVID-19 pandemic, with heightened concerns about food security in Asia and the Pacific. This study aimed to analyze consumers' sanitary practices while shopping and dining out during the pandemic, utilizing a descriptive method with a correlational technique. The researchers employed a convenience sampling technique, gathering data from 258 respondents. The survey, conducted among those affected by the pandemic, revealed that respondents strongly agreed they adhered to proper food safety measures when shopping at grocery stores and dining at restaurants. The majority of respondents were female college graduates employed in the private sector. The respondents also strongly agreed that they followed appropriate eating practices in terms of attitudes, subjective norms, perceived behavioral control, and intentions. Interestingly, the study found no significant correlation between the socio-demographic profiles of the respondents and their attitudes and behaviors related to shopping and dining out during the pandemic. This suggests that people were taking necessary precautions regardless of their background. Moreover, the findings indicated that respondents with higher food safety attitudes and practices were more likely to adhere to those practices while shopping and dining out during the pandemic. This highlights the importance of promoting food safety measures consistently across different demographic groups to ensure public health during such crises.

Keywords: Hospitality management; Consumers' sanitary practices; COVID-19 pandemic; Purchasing and dining-out, Correlational analysis; Dumaguete City.

1.0 Introduction

On March 11, 2020, the World Health Organization (WHO) officially classified COVID-19 as a worldwide pandemic. As of early July, the total number of confirmed cases had surpassed 12 million, with over 550,000 fatalities. This has substantially impacted frontline workers, such as those in the food service industry. Both food operators and consumers are advised to take primary responsibility and exercise caution and prudence. Consequently, this research aims to assess consumers' hygiene when buying food and dining out amid the COVID-19 pandemic.

The COVID-19 outbreak has led to widespread "social distancing," devastating the tourism and travel industries and significantly impacting various sectors, including hospitality, food processing, education, fashion, and retail industries (Chowdhury et al., 2020). It is crucial to deploy resources to prevent food contamination at every stage of the food chain, from harvest to consumption (Uçar et al., 2016). Therefore, emphasizing consumers' sanitary practices when purchasing and dining out amidst the COVID-19 pandemic is necessary.

Food safety has become increasingly important during the COVID-19 pandemic. The pandemic has escalated food security risks in Asia and the Pacific, disrupting domestic and international food supply chains and undermining food availability and accessibility (Kim et al., 2020). An efficient food safety management system is essential to guarantee the safety of both food and services. Achieving this necessitates the development of skills and a strong commitment from the organization.

The International Food Policy Research Institute (IFPRI) emphasizes the global focus on food safety because of its fundamental connection to health. Improving food safety is vital for enhancing food security and guaranteeing adequate and healthy food availability for communities. With the expansion of the global food trade, ensuring food safety has become a shared priority for both developed and developing nations, creating new organizations, regulations, and approaches to oversee food safety (Unnevehr, 2003).

The study explore how long-term behavioral changes in sanitary practices persist post-pandemic and their impact on consumer behavior over time. Additionally, examining variations across different demographic groups would provide a more comprehensive understanding of the influence of sanitary practices on purchasing and dining-out behaviors. Research by Shariff and Al-Malki (2010) emphasizes that knowledge, attitude, and practice of food handlers are critical in preventing food poisoning outbreaks. Furthermore, education and training programs have been shown to support improving safe food handling practices (Sneed et al., 2004). As stated by Kotler and Keller (2011), understanding consumer buyer behavior is integral to satisfying consumer needs and wants. This study intends to specifically explore consumers' sanitary practices when purchasing and dining out amidst the COVID-19 pandemic.

2.0 Methodology

2.1 Research Design

This study employed descriptive research methods and correlational techniques to understand the population's characteristics and examine relationships between variables. Correlational methods were used by the researchers to discover the relationship between the variables and how strong they may be. It determines the degree to which the movement of two variables is associated.

2.2 Research Participants

A convenience sampling procedure was used to arrive at the number of respondents. The study's respondents are the consumers who determine their sanitary practices on purchasing and dining out amidst the COVID-19 pandemic. A total of 258 respondents who frequently go to the supermarkets and restaurants in Dumaguete City participated in the survey.

2.3 Research Instrument

The questionnaire checklist was used as the main instrument for data gathering. Part I asks socio-demographic questions such as age, gender, highest educational attainment, and occupation. Part II focuses on the food safety attitude and practices of consumers in purchasing, and Part III on the consumers' eating out practices during COVID-19. The survey questionnaire was adapted from the study of Soon et al. (2021). Slight modifications were made to reflect the exact situation of the study.

2.4 Data Gathering Procedure

Questionnaires were personally distributed and retrieved by the researchers from the respondents. The researchers also utilized Google Forms to send soft copies of questionnaires to the respondents.

2.5 Data Analysis

Upon retrieval of the questionnaires from the respective respondents, the results were tabulated and appropriate statistical tools were applied. The data collection process involved utilizing a convenience sampling technique, and reliability assessments utilized Cronbach's α coefficient. Data analysis included descriptive statistics, Spearman Rho, and Chi-square.

2.6 Ethical Considerations

To protect respondents' rights, the researchers obtained consent and adhered to the Data Privacy Act of 2012.

3.0 Results and Discussion

3.1 Profile of the Respondents

The profile of the respondents indicated that young adults, particularly females, constituted the majority of participants, and most respondents were college graduates and private employees. Data in Table 1 presents the profile of the respondents of this study. The data shows that aged 21 to 25 made up the majority of the respondents. This explains that young adults spend more money on food than any other age group, with dining out and take-out accounting for this expenditure. This is also supported by the findings of Klineberg et al. (1998, p. 749), who discovered that "younger and more educated members of the public tend to be more worried about concerns of environmental quality and more devoted to environmental conservation." This table made it clear that the number of females far exceeded that of males. Because women undertake various tasks at work and home, it seems imperative to consider their literacy level of food safety practices and attitude when going out to dine during the COVID-19 pandemic. Hence, women were dominant decision-makers when selecting restaurants to dine at (Cullen, 2012). The table also shows that most respondents are college graduates and work as private employees.

Table 1. Descriptive statistics of the profile of the respondents

Variable	Frequency	Percentage
Age		
18-20	67	25.97
21-25	117	45.35
26-30	24	9.30
31-35	23	8.91
36-40	14	5.43
41-45	4	1.55
46-50	4	1.55
51-55	4	1.55
56-above	1	0.39
Sex		
Male	68	26.36
Female	187	72.48
Prefer not to say	3	1.16
Educational Attainment		
High School Graduate	40	15.50
College undergrad/Vocational	4	1.55
College Graduate	199	77.13
Full-fledged MA	1	0.39
Postgraduate/Doctor of Ed.	14	5.43
Occupation		
Student	63	24.42
Private Employees	84	32.56
Skilled Worker	9	3.49
Assistant, Staff, Secretary	32	12.40
Teacher	26	10.08
Housewife	33	12.79
Business/seller	2	0.78
Government Employee	6	2.33

N= 258

3.2 Food Safety Attitude and Practices of Consumers in Purchasing

As indicated in Table 2, consumers exhibit a variety of food safety attitudes and practices. Furthermore, most of the participants expressed strong agreement with the following: selecting visibly clean food and packaging, sanitizing surfaces such as shopping carts or baskets before using them, washing all meats, fresh fruits, and vegetables before preparing and serving them, removing all food packaging carefully to avoid contamination with COVID-19, washing hands with water and soap before and after food preparation, and avoiding crowded restaurants by choosing to eat at home. These results are consistent with Jeinie, Nor, Saad, and Sharif's (2017) study, which emphasizes the importance of sufficient food safety and diligence during food handling for food safety and hygiene practices.

Table 2. Descriptive statistics of the food safety attitude and practices of consumers in purchasing

Indicators	Mean	Interpretation
Attitude	4.46	Strongly Agree
1. When shopping, I will select visibly clean food and food packaging.	4.78	Strongly Agree
2. When shopping, I will sanitize surfaces such as shopping carts or baskets before using them.	4.20	Strongly Agree
3. I shop as quickly as possible to minimize contact with staff and customers.	4.18	Agree
4. Before preparing and serving, I wash all meats, fresh fruits, and vegetables.	4.83	Strongly Agree
5. I remove all food packaging carefully to avoid contamination with COVID-19.	4.62	Strongly Agree
6. I wash my hands with water and soap before and after food preparation.	4.83	Strongly Agree
7. I will avoid crowded restaurants and choose to eat at home.	4.36	Strongly Agree
8. I will order takeaways or deliveries where possible.	4.18	Agree
9. I will use apps to order food at restaurants to minimize contact with other people.	4.18	Agree
Practices	4.51	Always
1. I shop from well-ventilated supermarkets or stalls.	4.25	Always
2. I follow social distancing measures while shopping.	4.67	Always
3. Before using them in shops, I sanitize surfaces such as cart or basket handles with sanitizing wipes.	4.16	Very Often
4. I wash or wipe food jars and cans before using them.	4.59	Always
5. I disinfect kitchen surfaces after meal preparation.	4.48	Always
6. I wash meats, fruits, and vegetables before cooking or eating.	4.84	Always
7. If I am eating out, I will choose well-ventilated restaurants that follow social distancing rules.	4.51	Always
8. I wash my hands at the restaurant.	4.74	Always
9. I sanitize the utensils and table surfaces before dining at restaurants.	4.34	Always

Furthermore, as Soon et al. (2021) explained, hand washing with water and soap and practicing social distancing in restaurants may reduce the risk of COVID-19 transmission. The respondents always adhere to food safety practices such as shopping in well-ventilated supermarkets or stalls and following social distancing measures. In contrast, when shopping, they wash or wipe food jars and cans before using them, disinfect kitchen surfaces after meal preparation, wash meats, fruits, and vegetables before cooking or eating, choose well-ventilated restaurants that follow social distancing rules, wash hands at the restaurant, and sanitize the utensils and table surfaces before dining at restaurants. These findings align with the study conducted by Soon et al. (2021), which suggests that consumers with a positive food safety attitude and strong family norms are more likely to adhere to safe eating out measures (For instance, choosing sanitary and spacious dining establishments, maintaining hand hygiene, donning masks, and observing social distancing.). Restaurants and other food providers have also made substantial changes to implement recommended social distancing. Nepumoceno (2020) pointed out that strict adherence to stringent protocols can minimize physical contact and thwart virus transmission, provided everyone diligently adheres to and complies with quarantine regulations.

3.3 Consumers Eating Out Practices during COVID-19

Table 3 presents the data on consumers' eating practices, focusing on their attitudes, subjective norms, perceived behavioral control, and intentions. The majority of respondents strongly agree that considering the cleanliness of restaurants and adhering to social distancing measures is very important in reducing the transmission of COVID-19. Adhering to proper hand-washing steps before eating is vital in preventing COVID-19. It is imperative not to eat out if experiencing COVID-19 symptoms, and wearing masks before and after eating in a restaurant is essential. Edmunds (2020) highlights the impact of COVID-19 on most food firms, with some excelling, others struggling, and some adapting their customer engagement strategies to survive. Rustia et al. (2021) emphasize the crucial role of food hygiene in ensuring food safety, with supportive sanitation systems being implemented. Cross (2020) emphasizes the importance of maintaining physical distance in indoor and outdoor environments as a successful strategy for reducing the transmission of COVID-19. Cross (2020) emphasizes the importance of maintaining physical distance in indoor and outdoor environments as a successful strategy for reducing the transmission of COVID-19. Cross (2020) emphasizes the importance of maintaining physical distance in indoor and outdoor environments as a successful strategy for reducing the transmission of COVID-19.

Regarding subjective norms, respondents agree that their families would disapprove if they failed to wash or sanitize their hands properly when eating at restaurants. Furthermore, they acknowledge hand-washing before dining out and the importance of sanitizing themselves before returning home. Moreb et al. (2017) and Weiler and

Fernandez (2019) provide insights into long-standing concerns about food safety, emphasizing the responsibility of food producers and the potential for food contamination across the supply chain.

Table 3. Descriptive statistics of the consumers eating out practices during COVID-19

Indicators	Mean	Interpretation
Attitude	4.79	Strongly Agree
1. Restaurants' cleanliness and social distancing measures are essential to reduce the transmission of COVID-19.	4.83	Strongly Agree
2. Following proper hand-washing steps before eating is essential to prevent COVID-19.	4.81	Strongly Agree
3. I mustn't eat out if I have COVID-19 symptoms (fever, cough, breathing difficulty).	4.65	Strongly Agree
4. Wearing masks before and after eating in the restaurant is essential.	4.87	Strongly Agree
Subjective Norms	4.15	Agree
1. My family will only approve if I wash or sanitize my hands properly while eating at restaurants.	4.47	Strongly Agree
2. I am required to wash my hands before eating at restaurants.	4.69	Strongly Agree
3. I sanitize myself properly before going home after eating at the restaurants.	4.63	Strongly Agree
4. I ignore the practice of proper hand washing before eating in the restaurant.	2.80	Neither
Perceived Behavioral Control	4.13	Agree
1. It is up to me to select clean restaurants that follow social distancing rules.	4.37	Strongly Agree
2. Not having enough support from restaurant staff to ensure social distancing measures would make it difficult for me to eat out at restaurants.	4.03	Agree
3. It is entirely up to me to wash my hands at the restaurants.	4.14	Agree
4. Not having enough hand-washing facilities at the restaurant would make it difficult for me to wash my hands.	4.87	Strongly Agree
5. It is entirely up to me to sanitize utensils and table surfaces at the restaurant.	4.27	Strongly Agree
6. Not having support from staff would make it difficult for me to clean surfaces before eating.	3.96	Agree
Intentions	4.68	Strongly Agree
1. I will always wash my hands before eating at a restaurant.	4.78	Strongly Agree
2. I will always avoid eating out if I have COVID-19 symptoms (fever, cough)	4.71	Strongly Agree
3. I will always choose restaurants that look clean and follow social distancing measures.	4.71	Strongly Agree
4. I will always sanitize utensils and table surfaces before eating in restaurants.	4.50	Strongly Agree

Regarding perceived behavioral control, respondents feel responsible for choosing clean restaurants that adhere to social distancing rules. They also expressed difficulty maintaining hand hygiene if sufficient facilities were unavailable at the restaurant. Their responsibility extends to sanitizing utensils and table surfaces at the restaurant. Ceylan et al. (2020) and Untaru and Han (2021) discuss how consumer attitudes have shifted during the pandemic, influencing purchase behavior. Despite ongoing efforts to promote hand hygiene, the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO) observe persistent inadequacies in access to hand hygiene facilities.

Furthermore, in terms of intentions, respondents strongly agree that they always wash their hands before dining out, avoid eating at restaurants when experiencing COVID-19 symptoms, consistently opt for clean restaurants that adhere to social distancing measures, and regularly sanitize utensils and table surfaces when dining out. Kaswengi and Diallo (2015) emphasize the heightened sensitivity of consumer attitudes and behaviors during recessions. Nepumoceno (2020) and Shin and Kang (2020) underscore the importance of following strict protocols, maintaining hygiene, and adhering to quarantine rules to reduce the transmission of viruses and prevent life-threatening illnesses.

3.4 Relationship Between Respondent's Profile and Consumer's Sanitary Practices

Table 4 presents the relationship between the respondents' profiles and consumers' sanitary practices when purchasing and dining out during the COVID-19 pandemic. The results indicate no significant relationship between consumer attitudes and purchasing and dining out practices during the COVID-19 pandemic. As a result, we accept the null hypothesis of no relationship. This suggests that the socio-demographic profile of the respondents did not impact their sanitary attitudes and practices when purchasing and dining out during the COVID-19 pandemic. This is supported by Moreb et al.'s study (2017), which indicates that food safety concerns are longstanding. The respondents' awareness of food safety measures remained consistent based on their profiles. In 2021, UNICEF and WHO observed that despite efforts to promote hand hygiene, there is still a need to improve access to hand hygiene facilities. Nepumoceno (2020) explains that following strict protocols reduces physical contact and prevents virus transmission, provided everyone strictly adheres to and complies with the quarantine

rules. Additionally, the study by Tayco et al. (2023) explains that accommodation facilities and F&B establishments faced a lot of challenges during the COVID-19 pandemic, and there is an increasing customer demand for high-quality service while adhering to safety protocols.

Table 4. Analysis for the relationship between the respondent's profile and consumer's sanitary practices

Variables Tested		Chi-Square Test (χ^2 value) & r value	p-value	Interpretations
Dependent	Independent			
Attitude	Age	$r=.09$	.14	Not Significant
	Sex	$\chi^2=6.77$	.34	Not Significant
	Educational Attainment	$\chi^2=7.86$	.80	Not Significant
	Occupation	$\chi^2=18.42$	.78	Not Significant
Practices	Age	$r=.012$	.76	Not Significant
	Sex	$\chi^2=3.43$	.75	Not Significant
	Educational Attainment	$\chi^2=5.65$	.93	Not Significant
	Occupation	$\chi^2=27.56$	.28	Not Significant

Significant at .05 alpha

3.5 Relationship Between Consumer Sanitary Practices on Purchasing and Dining Out

Table 5. Analysis for the relationship between the consumer's sanitary practices on purchasing and dining out

Variables Tested		r value	p-value	Interpretations	Decision Rule
Attitude	Dining Attitude	0.40	.00	Present but slight	Reject Null
	Dining Subjective Norm	0.48	.00	Substantial	Reject Null
	Dining Perceived behavioral control	0.32	.00	Present but slight	Reject Null
	Dining Intention	0.51	.00	Substantial	Reject Null
Practices	Dining Attitude	0.37	.00	Present but slight	Reject Null
	Dining Subjective Norm	0.53	.00	Substantial	Reject Null
	Dining Perceived behavioral control	0.29	.00	Present but slight	Reject Null
	Dining Intention	0.59	.00	Substantial	Reject Null

Table 5 presents the correlation between consumers' sanitary practices when purchasing and dining out amid the COVID-19 pandemic. The data reveals a significant correlation between consumers' sanitary practices and purchasing and dining out behaviors during the COVID-19 pandemic, with a significance level of 0.05. This indicates that higher food safety attitudes are linked to increased sanitary practices when purchasing and dining out amid the COVID-19 pandemic. As a result, the null hypothesis of no relationship is rejected. The emergence of COVID-19 has led to a dramatic shift in the variables consumers consider most important when purchasing products and services, significantly impacting the entire industry. Suh, Kang, and Moon's (2022) study suggests that the global upheaval caused by COVID-19 has strongly influenced consumers' practices, attitudes, and sensibilities. Additionally, Russia et al. (2021) emphasized the importance of food hygiene in ensuring food safety, and measures to support sanitation systems were implemented to guarantee the safety of the food supply.

4.0 Conclusion

Generally, the respondents of the study are mature enough to make purchases of goods and go out to dine out amidst the COVID-19 pandemic. Most are female, have college degrees, and are employed in the private sector. Regarding food safety attitudes and practices, the respondents strongly affirmed their adherence to proper food safety measures when buying food at supermarkets and dining out at restaurants. They also emphasized consistently following food safety protocols when visiting stores and restaurants.

When it comes to eating habits and attitudes, the majority of participants highlighted the significance of considering the cleanliness of restaurants and practicing social distancing to prevent the spread of COVID-19. Concerning their subjective norms, the respondents acknowledged the importance of observing proper sanitation practices before dining out and returning home. Furthermore, they expressed that selecting hygienic restaurants that adhere to social distancing rules is within their control.

As for their routines, the survey participants strongly agreed that they consistently wash their hands before eating at a restaurant and ensure that the utensils and tables are clean. The findings also indicate no correlation between the respondents' socio-demographic profiles and their attitudes and practices regarding purchasing and dining out during the COVID-19 pandemic. However, a significant correlation exists between the respondents' sanitary practices when purchasing and dining out during the pandemic, suggesting that those with higher levels of food safety attitudes and practices are more likely to adhere to these practices during the pandemic.

The study is of course not free from limitations, considering the scope of the exploration. The researchers report the following limitations: 1. the study was limited to the selected consumers who determine their sanitary practices on purchasing and dining out amidst the COVID-19 pandemic; 2. the study utilized a convenience sampling technique, the researchers did not consider picking consumers from the different barangays within the city; and 3. the study was conducted in Dumaguete City only.

The researcher proposed the following recommendations: 1. further studies can be conducted utilizing the proposed indicators to measure consumers' sanitary practices on purchasing and dining out and in a different setting; and 2. the researchers also recommend a dialogue with the supermarkets and food establishments owners to continue to adhere to the IATF (Inter-Agency Task Force) guidelines, which require strict implementation and monitoring to ensure the cleanliness of their products and workplaces. Similarly, establishments should continue to observe social distance.

5.0 Contributions of Authors

Glennen Y. Zamora: Conceptualization, Writing – original draft, Writing – review and editing. **Ryan O. Tayco:** Conceptualization, Writing – original draft, Writing – review and editing. **Ma. Leroz P. Rizada:** Conceptualization, Writing – original draft, Writing – review and editing.

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7.0 Conflict of Interests

The authors have no conflict of interest to declare.

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