



FOOD ACCESS AND INSECURITY DURING COVID-19

- Overview
- Approach & Methods
- Call for Action
- Results

FOOD DECISIONS RESEARCH LABORATORY

Penn State's School of
Hospitality Management

MAY 15, 2020



Suggested Citation:

Sharma, Amit, Yu, Chandler, Lin, Michael, & Jung, InHaeng. (2020). Food Access and Insecurity During COVID-19: Evidence from US During April and May 2020. ScholarSphere.
<https://doi.org/10.26207/EZX7-3K02>

Food Access and Insecurity During COVID-19: Evidence from US During April and May 2020

Amit Sharma, Ph.D.

Associate Director & Professor
Director, Food Decisions Research Laboratory
School of Hospitality Management
Penn State University (USA)
aus22@psu.edu

Chandler Yu, Ph.D.

Assistant Professor
Affiliate Faculty, Food Decisions Research Laboratory
School of Hospitality Management
Penn State University (USA)
hvy5095@psu.edu

Michael Lin

Doctoral Student
School of Hospitality Management
Penn State University (USA)

InHaeng Jung

Doctoral Student
School of Hospitality Management
Penn State University (USA)

Global Task Force

This project includes the following colleagues. We thank them for providing feedback on the data collection instrument, and for joining this global effort to assess food access and food insecurity during the COVID-19 crisis. (In alphabetical order):

Victor Motta, Ph.D.

Assistant Professor, Sao Paulo School of Business Administration, Fundação Getúlio Vargas (FGV) (Brazil)

Robin DiPietro, Ph.D., M.B.A.

Professor & Ph.D. Program Director, Director of International Institute for Foodservice Research and Education, University of South Carolina (USA)

Agnes Giboreau, Ph.D.

Research Director and Director, Center for Food and Hospitality Research, the Institut Paul Bocuse (France)

Angeline Jeyakumar, Ph.D.

Assistant Professor, Interdisciplinary School of Health Sciences, Savitribai Phule Pune University (India)

Bendegul Okumus, Ph.D.

Assistant Professor, Rosen College of Hospitality Management, University of Central Florida (USA)

Kevin Roberts, Ph.D.

Professor, Director of Hospitality Management Program, Department of Hospitality Management, Kansas State University (USA)

Laure Saulais, Ph.D.

Associate Professor, FSAA – EAC, Université Laval (Canada)

Food access and insecurity during COVID-19

Overview

Do individuals have access to food during the current COVID-19 crisis? The current crisis provides a unique (albeit unfortunate) circumstances to investigate how risk, uncertainty, and preparedness of individuals and communities impact food access. The purpose of this study is to investigate how the current COVID-19 pandemic is impacting food access and food security. Furthermore, this study also highlights factors that will reassure consumers of the uncertainty during the COVID-19 pandemic outbreak. Our study will contribute to an understanding of these issues in the midst of such an event to help communities respond to food access needs, and also to more reliably assess revival of consumer demand post this crisis.

Approach and Methods

The survey instrument for this study was developed by referencing past literature. The following is a summary of the relevant constructs that were operationalized to in the survey instrument: consumer confidence (Jonge et al., 2010), risk perceptions (Seo et al., 2015), and measures of switching intentions (Antón, Camarero, & Carrero, 2007). Questions that inquired about individuals' food access and insecurity were all adapted using the US Association of International Development's (USAID) Household Food Insecurity Access Scale (HFIAS) for Measurement of Food Access (Coates, Swindale, & Bilinsky, 2007). The reliability of HFIAS has been validated globally (Knueppel, Demment, & Kaiser, 2010) and therefore, it provided a reliable approach to measure food insecurity during the COVID-19 crisis.

Once the survey instrument was developed, it was reviewed by a task force of international researchers. A list of these colleagues is presented earlier in this report. Feedback from the Task Force was incorporated into the survey. Survey was then pilot tested. Data for this report was collected between April 14 - May 10th 2020 in three 'waves', resulting in n=621 usable observations. Results presented in this report is a descriptive analysis of the responses.

Call for Action

This study has been launched as a global effort to assess the level of food access and security during the crisis so as to provide relevant information for policy makers and local action groups. We understand the data collected so far is not entirely representative of even the US population, let alone to in anyway provide generalizable findings for other nations. As a consequence, we are inviting other colleagues to join this effort to add to this database. For further details on how to participate in this effort and join the global Task Force, please contact Amit Sharma at aus22@psu.edu. Your contribution to the database will result in several potential outcomes, including separate country, regional, and city level reports on this crucial topic of public and community importance.

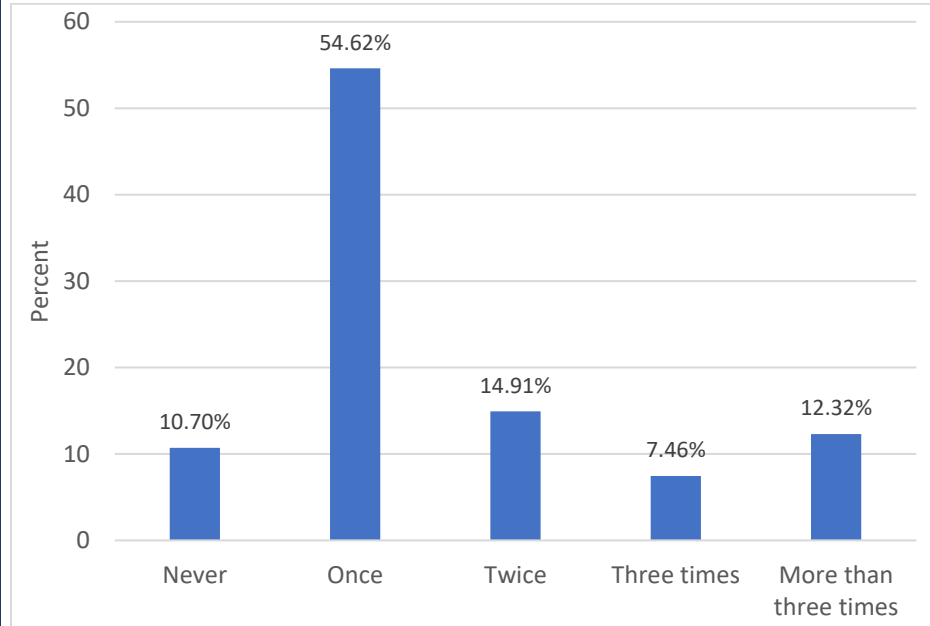
MAIN FINDINGS and HIGHLIGHTS

- Approximately **55% reported visiting the grocery store 'Once'**, versus 12% visiting over three times during the past week.
- More than 50% of the respondents never purchased food from **grocery store online**.
- Approximately **one-third of the respondents never ordered food from restaurants**, and another one-third of the respondents ordered food once a week.
- Majority of **free and donated meals** were being sourced from family and friends (37.50%), followed by food banks, food pantries, food shelves, and local schools (7.70%).
- Respondents rated the **response of the food industry to make food accessible** higher than that of the Government; and respondents showed higher levels of trust toward the food industry than Government.
- Almost 50% of the respondents (49.60%) indicated that members of their household **lost a part or full source of income**.
- Respondents **perceived food from restaurants were generally riskier** than those from grocery stores.
- Respondents agreed they **washed their hands and cleaned and sanitized the high-touch surfaces more frequently during the COVID-19 pandemic** than before the crisis.

DESCRIPTIVE RESULTS

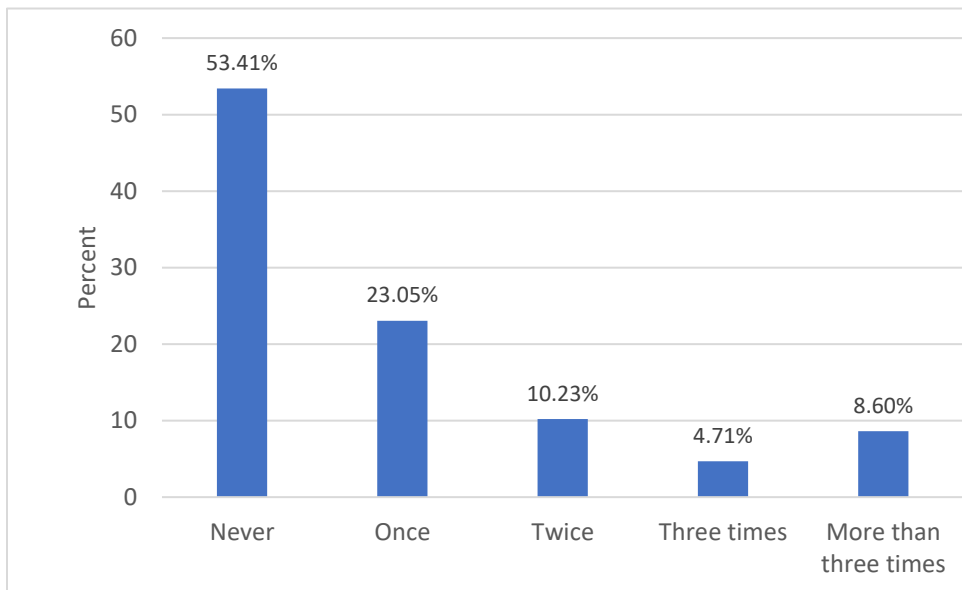
Section I. Food Accessibility Away From Home

Frequency of visiting grocery store to purchase food for yourself or your family per week during the COVID-19 crisis



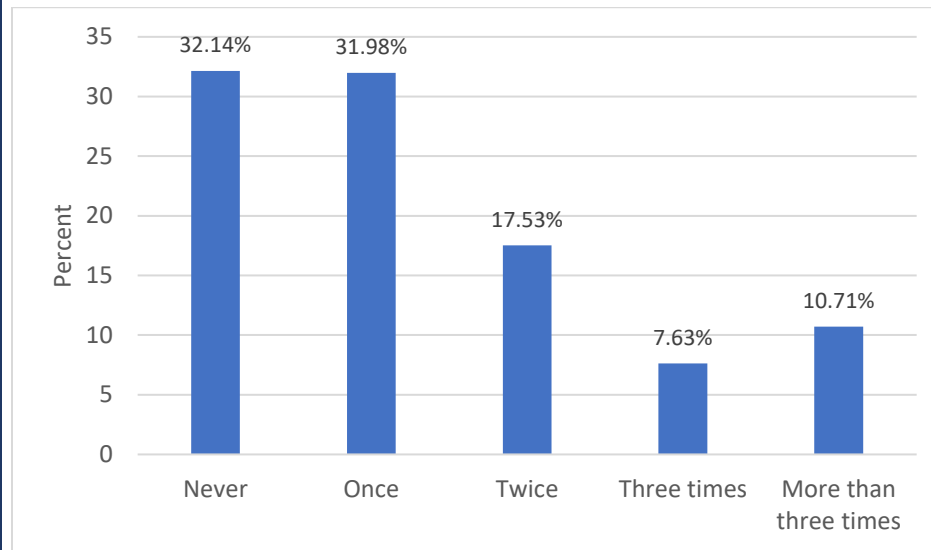
Almost 55% reported visiting the grocery store 'Once', versus 12% visiting over three times during the past week. A significantly greater proportion of the sample reported infrequent visits to the grocery store.

Frequency of purchasing grocery online for yourself or your family per week during the COVID-19 crisis



More than 50% of the respondents never purchased food from grocery store online, suggesting that most of the sample still visited grocery stores to purchase food for themselves and their families.

Frequency of ordering food from restaurants for yourself or your family per week during the COVID-19 crisis



Approximately one-third of the respondents never ordered food from restaurants, and another one-third of the respondents ordered food once a week. Respondents ordered food from restaurants less frequently than purchasing food from grocery stores.

Section II. Food Security From Other Sources

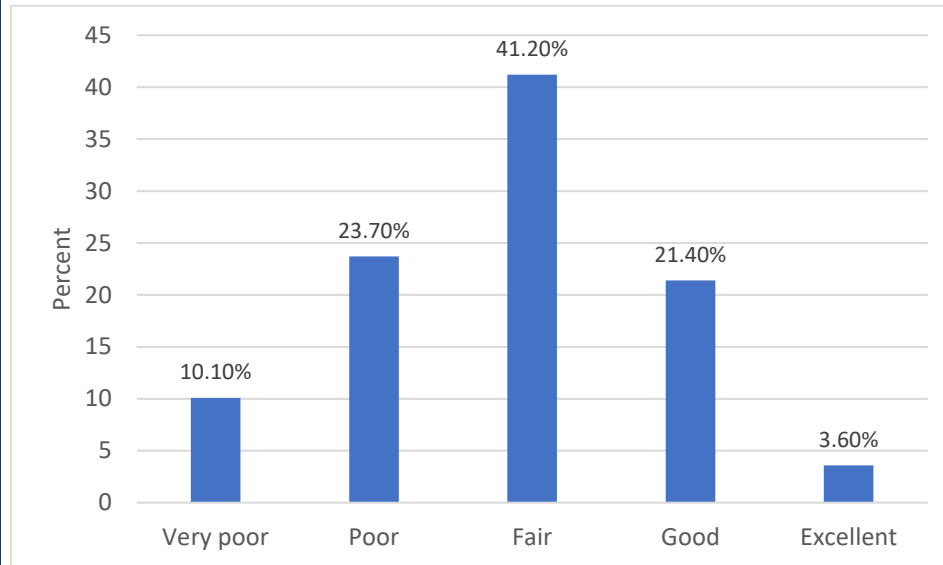
Access to free (donated) food from any of the following sources

Sources of free (donated) food	Frequency (in %)
Meals from family	27.50
Meals from friends	10.00
Local food bank/food pantry/food shelf	7.70
Local schools	5.00
Free meals from other public sources	4.50
Free meals from restaurants	4.00
Free meals from places of religion	3.50
Not Applicable	37.80

Respondents were asked to indicate whether they or their household had to get free (donated) food from any sources. Majority of free and donated meals were being sourced from family and friends (37.50%), followed by food banks, food pantries, food shelves, and local schools (7.70%).

Section III. Trust in Government and Food Industry

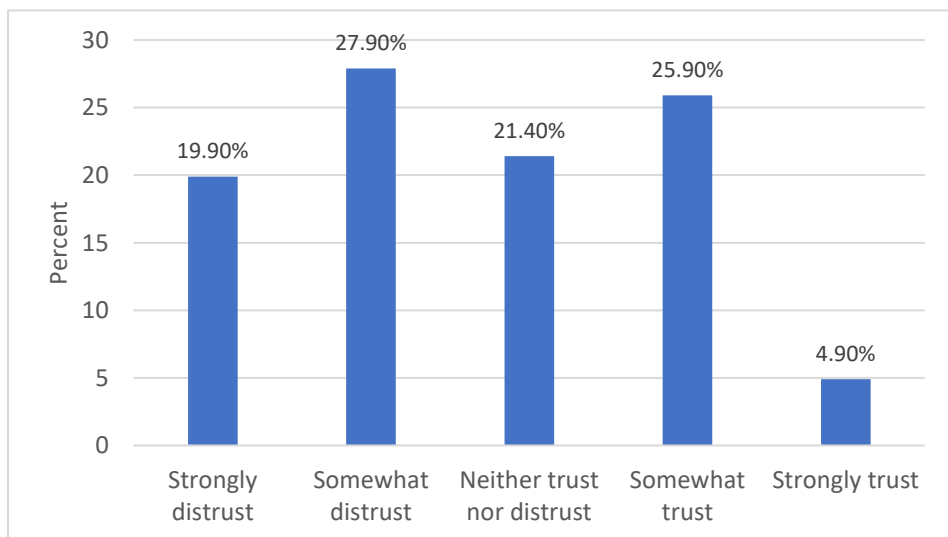
Response of the Government to make food accessible for its citizens during the coronavirus outbreak is...



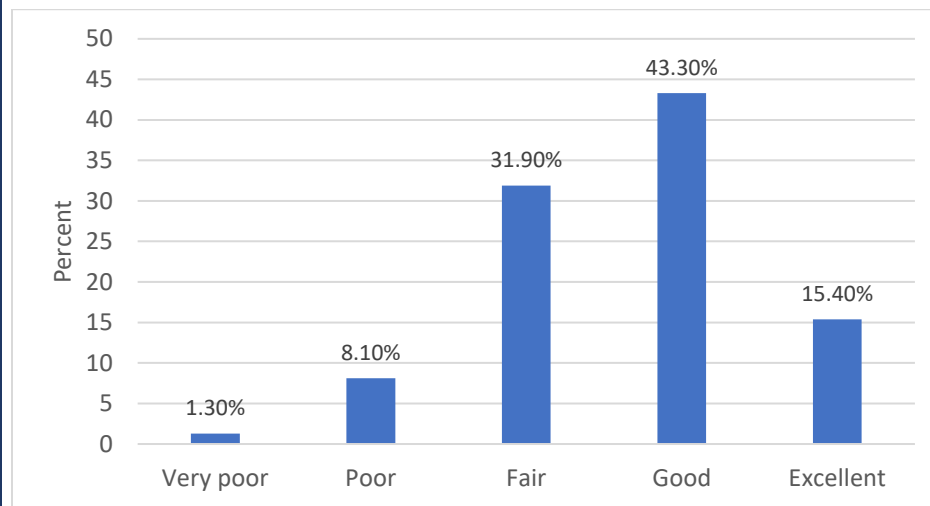
Respondents were asked to rate the response of the Government to make food accessible during the COVID19 pandemic. Majority of the respondents rated the government's response as fair (41.20%). An approximately equal proportion of the sample rated government's response as "poor" and "good".

Level of trust that the Government will take care of its citizen's food access needs during the coronavirus outbreak

Respondents were asked to indicate to what extent they trusted the Government would take care of its citizens. The results showed that only 4.90% of the sample indicated that they strongly trusted the Government whereas 19.90% of respondents indicated that they strongly distrusted the Government.

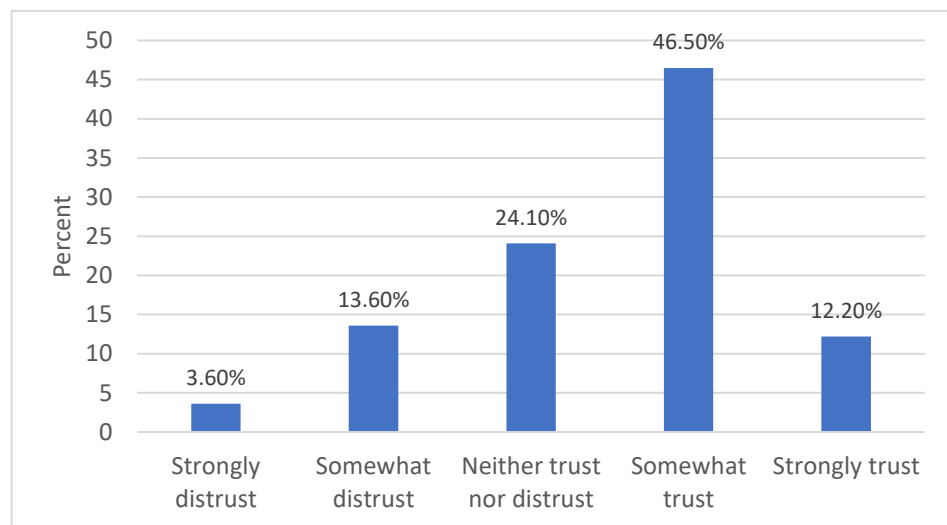


Response of the food industry (such as grocery, retails, and restaurants) to make food accessible for its consumers during the coronavirus outbreak is...



Respondents were asked to rate the response of the food industry to make food accessible during the COVID19 pandemic. Majority of the respondents rated the response of the food industry as "good" (43.30%) and "fair" (31.90%). Only 1.30% of the sample rated the response of the food industry as "very poor". Results showed that respondents rated the response of the food industry higher than that of the Government.

Level of trust that the country's food industry (such as grocery, retails, and restaurants) will take care of its citizens' food access needs during the coronavirus outbreak



Respondents were asked to indicate to what extent they trusted the food industry would take care of its citizens. Majority of the respondents indicated that they somewhat trusted the food industry (46.50%), followed by the respondents who indicated they neither trusted nor distrusted the food industry. Only 3.60% of the sample indicated they strongly distrusted the food industry. Consistent with the pattern of the previous results, respondents showed higher levels of trust toward the food industry than the Government.

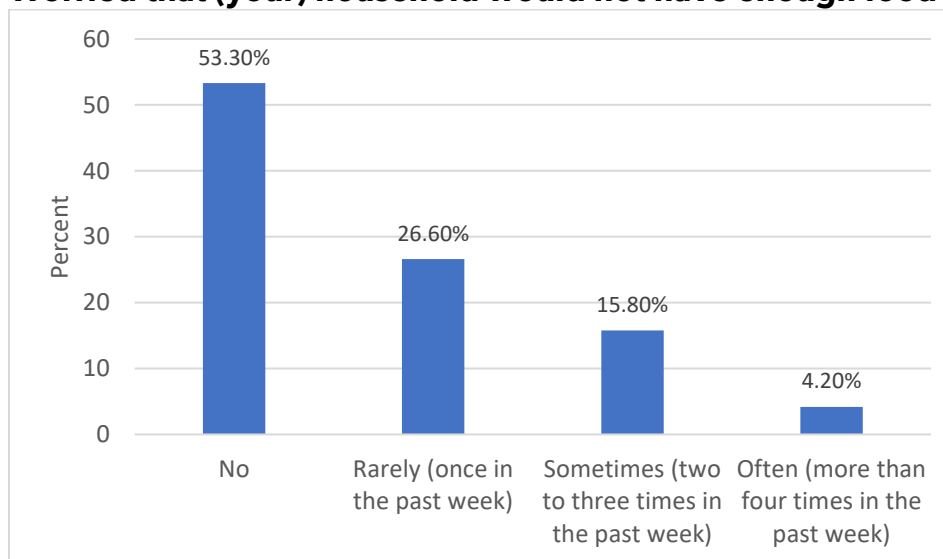
Section IV. Preparedness to Ensure Food Access

Ways in which (you) could have been better prepared to make sure you (and your family) have better access to food during the coronavirus

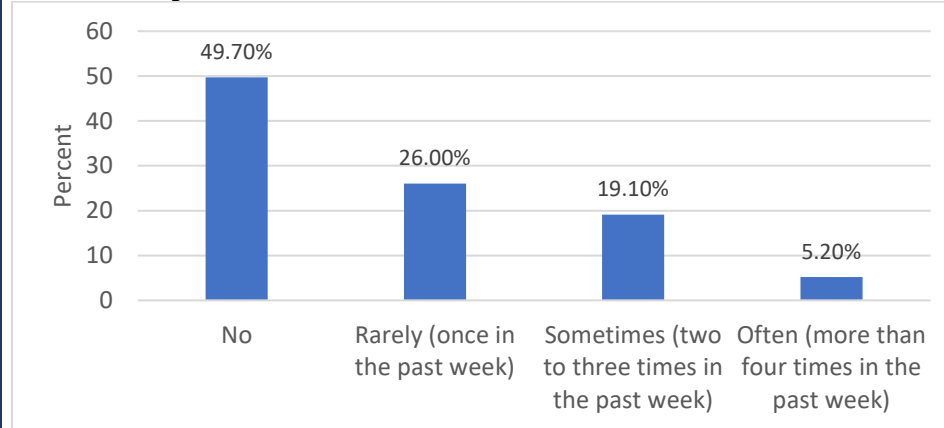
Way to have better access to food during COVID-19	Frequency (in %)
I need to know how much quantity of food is appropriate for us to survive during such a crisis.	24.27%
I need to know all that is needed in a well-stocked pantry.	19.76%
I need to know how to better cook from scratch.	15.95%
I need to know more about food safety when bringing food from grocery stores and restaurants.	14.70%
I need to know more about how much I spend on food per week.	13.87%
I need to better stock my kitchen with appropriate cooking utensils and appliances.	7.28%
Others	4.16%

Respondents were asked to choose ways in which could have been better prepared to ensure themselves or their family can have better access to food during the COVID19 pandemic. Approximately 24.70% of the sample would like to know the appropriate quantity of food to survive, followed by items that are needed in a well-stocked pantry (19.76%), and how to cook from scratches (15.95%).

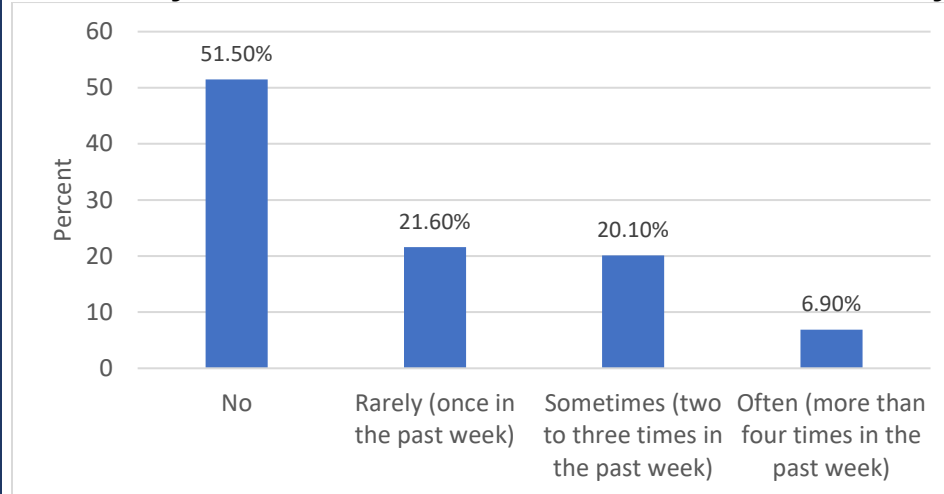
Worried that (your) household would not have enough food



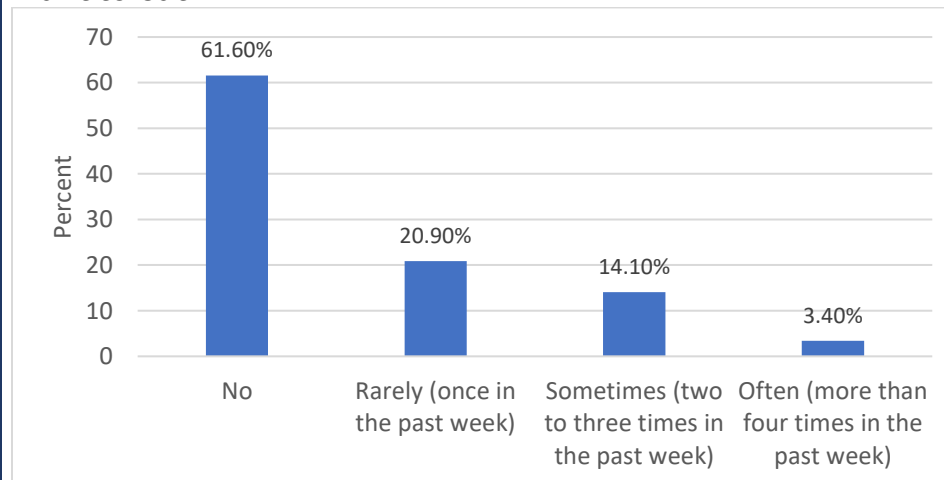
Respondents were asked to indicate whether they were worried their household would not have enough food. More than 50% of the sample indicated that they were not worried about food insecurity, while 20% of the sample indicated that they 'sometimes worried' and 'worried' about food insecurity.

(You or any) household member unable to eat the kinds of foods you preferred

Majority of the sample reported that they were able to access the food they preferred (49.70%), while 24.30% of the sample reported that they 'sometimes' and 'often' could not eat the food they preferred.

(You or any) household member have to eat a limited variety of foods

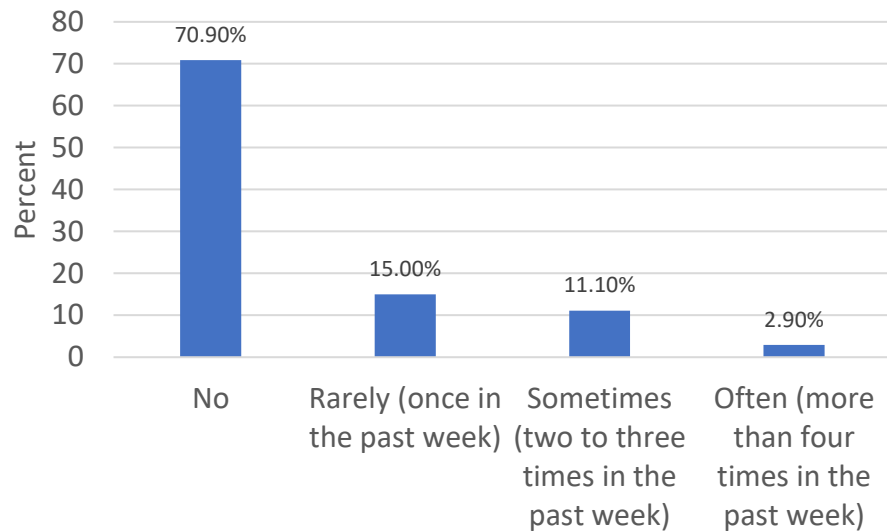
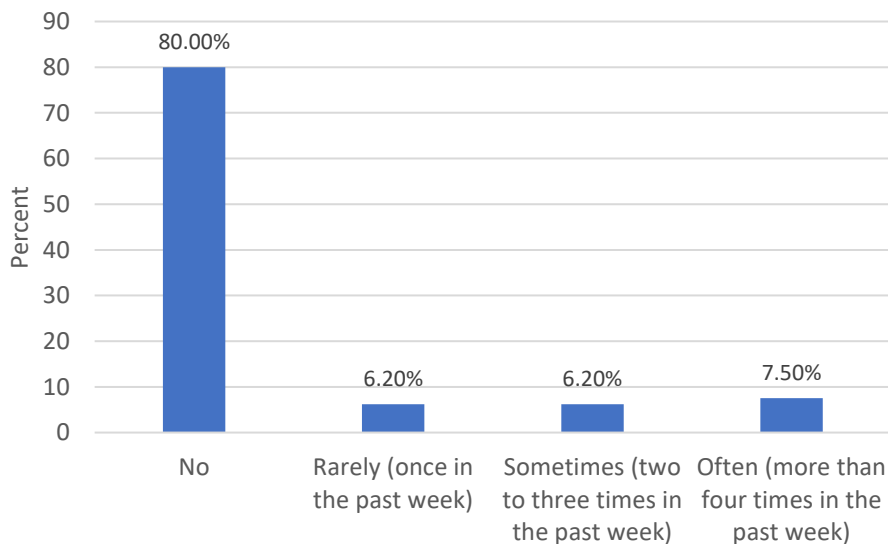
Consistent with the results of the last question, more than 50% of the sample indicated they did not have to consume a limited variety of food items. Approximately 27% of the sample reported that they 'sometimes' and 'often' had to consume a limited variety of foods.

(You or any) household member have to eat some foods that you really did not want to eat

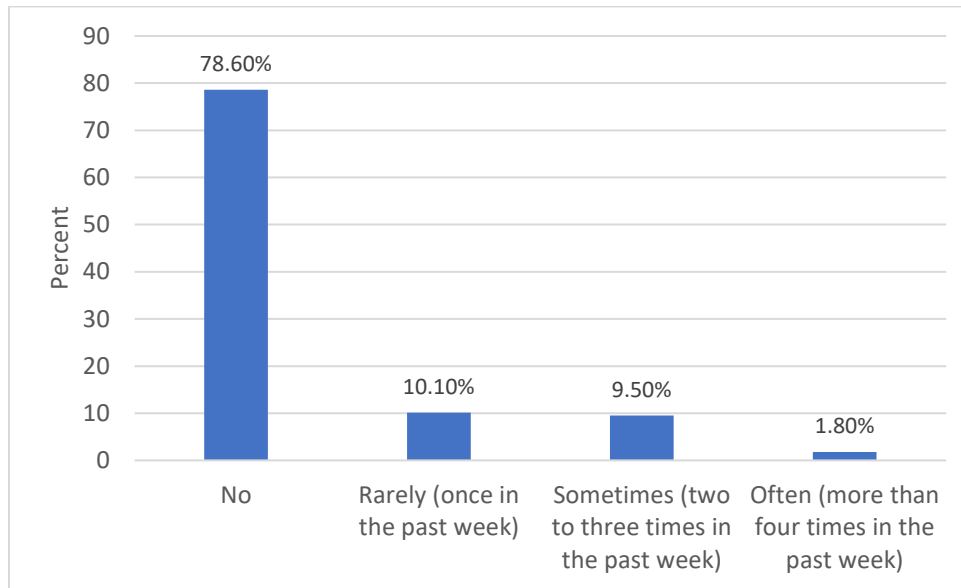
Majority of the sample indicated that they did not have to consume food that they did not want to eat. Additionally, 17.50% of the respondents reported that they 'sometimes' and 'often' had to consume some food items they did not want to eat during the COVID19 pandemic.

(You or any) household member have to eat a smaller meal than you felt you needed

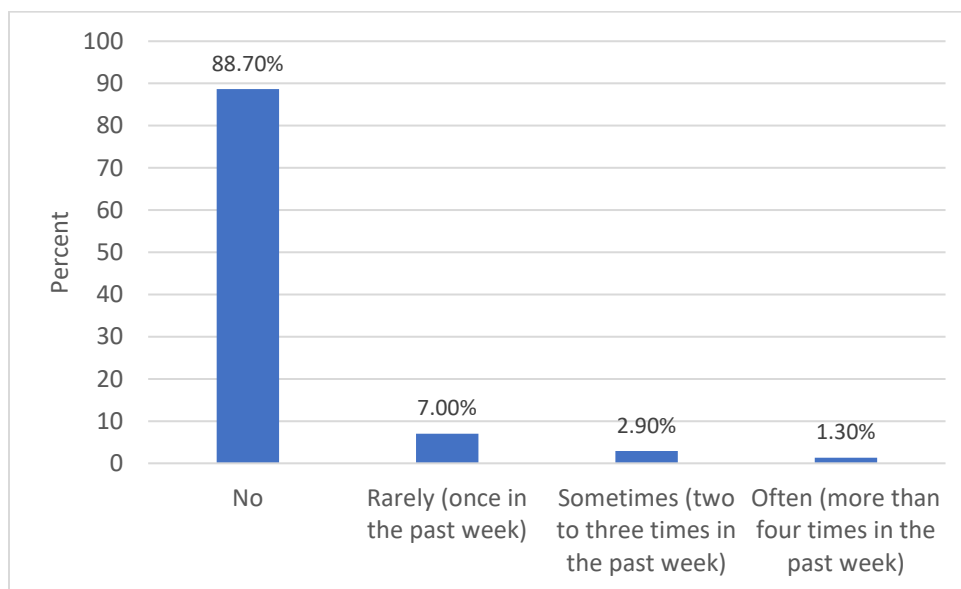
More than 70% of the sample indicated that they did not have to eat a smaller meal than they needed, while 14% of the sample 'sometimes' or 'often' had to consume a smaller meal.

**Section V. Impact of Food Access & Insecurity****Unable to find special food items for restricted diet due to health reasons (gluten intolerance, food sensitivity, diabetes, hypertension)**

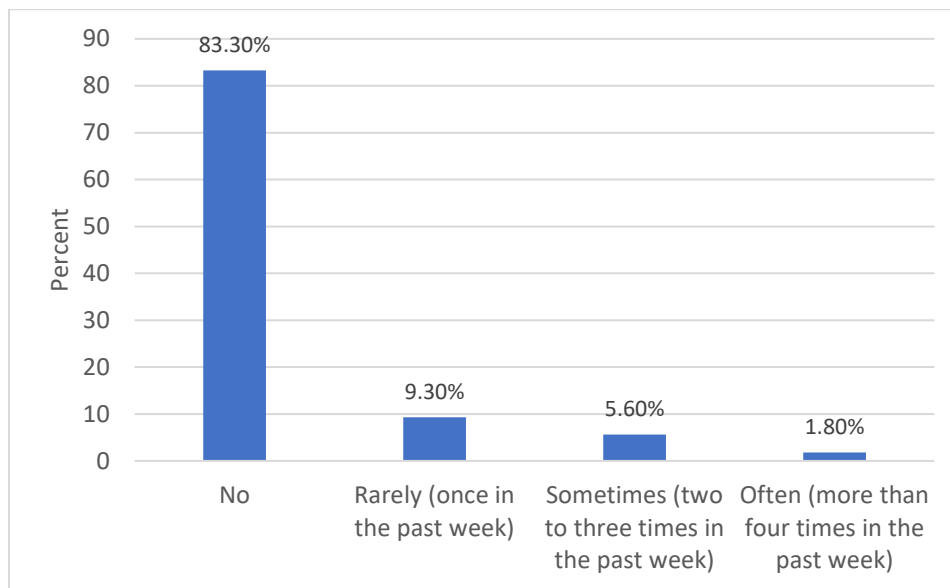
Results showed that 80% of the respondents could find special food items for restricted diet, while 13.70% of the respondents were 'sometimes' and 'often' unable to find special food item for their restricted diet.

(You or any) household member had to eat fewer meals in a day

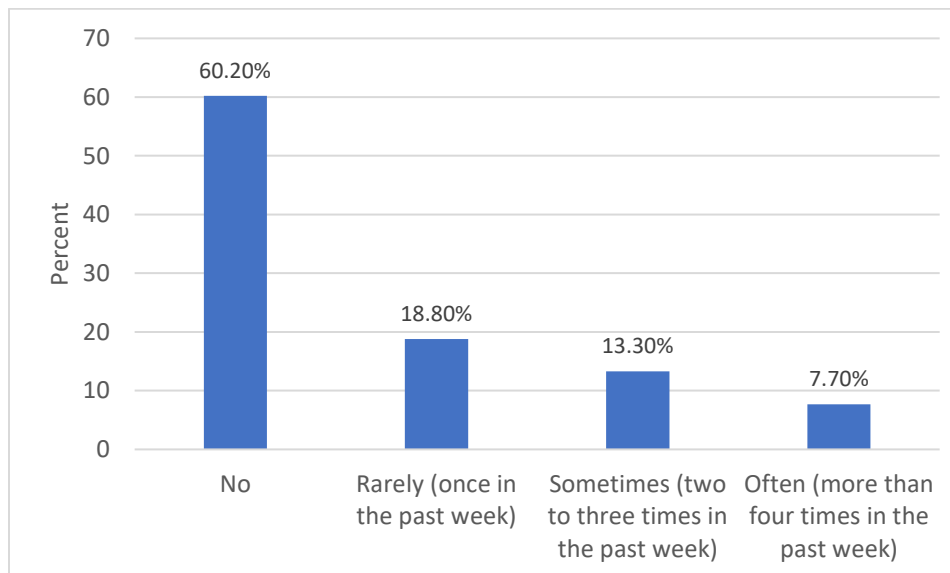
Over three-fourths of the sample indicated they did not have to eat fewer meals in a day (78.60%). Approximately 11.30% of the sample 'sometimes' or 'often' had to eat fewer meals in a day during the COVID19 pandemic.

Ever a situation with no food to eat of any kind in your household

Consistent with the results of the previous question, 88.70% of the sample was not in the situation that they had no food to eat in their household. Approximately 4.20% of the sample indicated that they 'sometimes' or 'often' suffered from no food to eat in their household.

(You or family) will likely skip meals due to a lack of money to buy food during the crisis

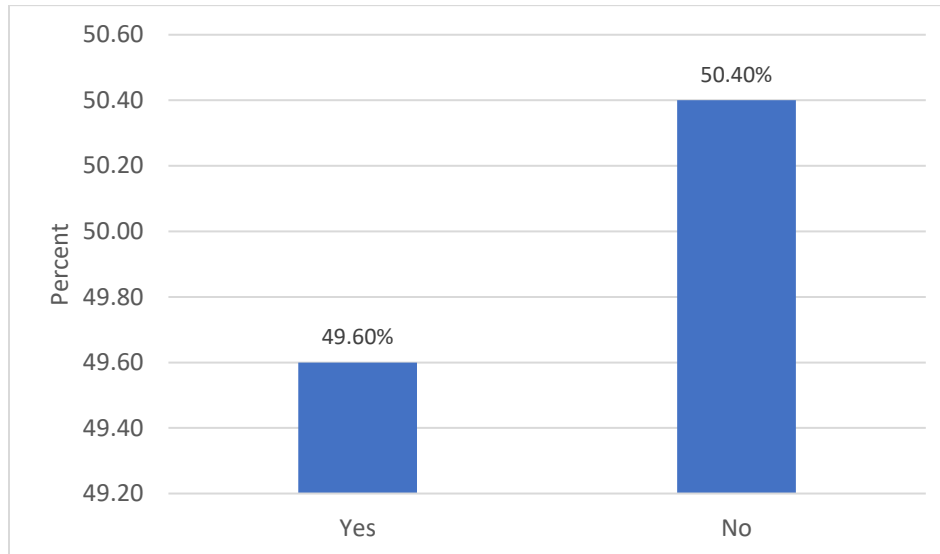
Approximately 7.40% of the respondents reported that they and their families would skip meals due to a lack of money to purchase food more than twice a week during the COVID19 pandemic.

(You or family) worry about not having enough money for food during this crisis

Results showed that 60.20% of the sample did not worry about not having enough money, whereas 21% of respondents 'sometimes' and 'often' worried about not having enough money for food during the COVID19 pandemic.

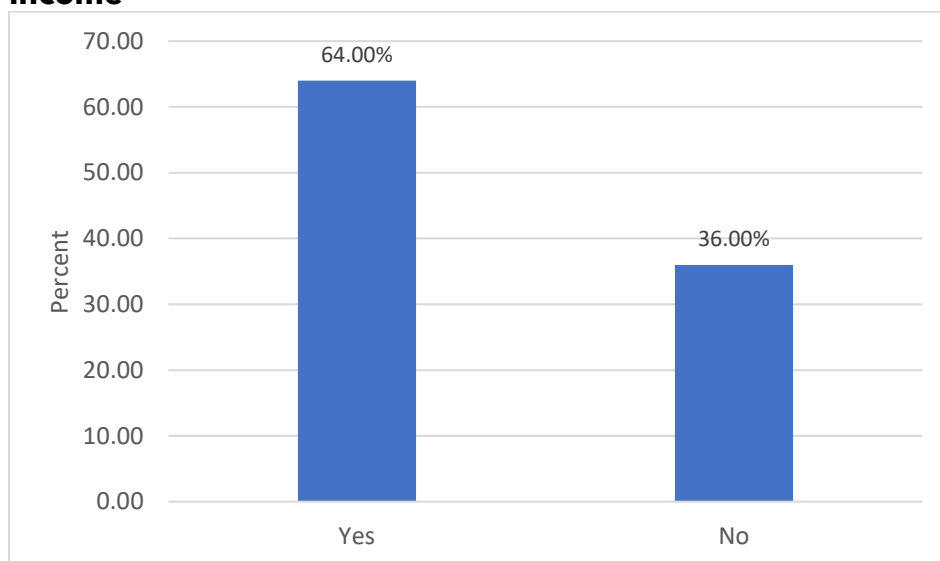
Section VI. Financial Well-Being and Food Access

(You or family) member of household lose a part or full source of income



Approximately 49.60% of the respondents indicated that members of their household lost a part or full source of income, which highlighted the severe problems associated with unemployment during the current COVID19 pandemic.

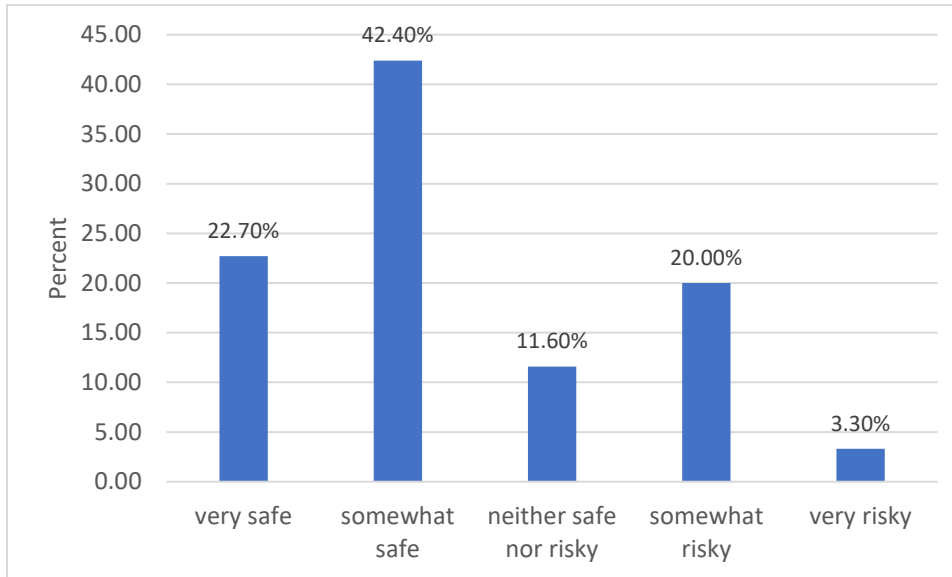
Worry about (you or family) member of household losing a part or full source of income



A larger proportion of the sample worried about members of their household losing a part or full source of income (64%), worries associated with job insecurity increased during the COVID19 pandemic.

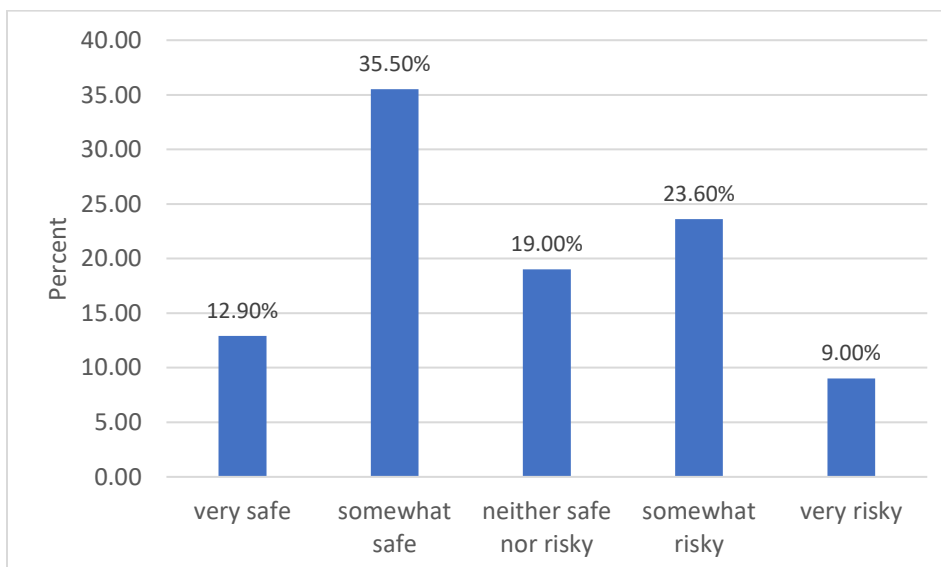
Section VII. Food Safety and Food Access

Safety of food purchased from grocery stores in the past week



Respondents were asked to evaluate the safety of food purchased from grocery stores. Results show that 65.10% of the respondents rated food purchased from grocery stores as 'very safe' and 'somewhat safe'. Approximately 23.30% rated the food purchased from grocery stores as 'somewhat risky and 'very risky'.

Safety of food purchased from restaurants in the past week

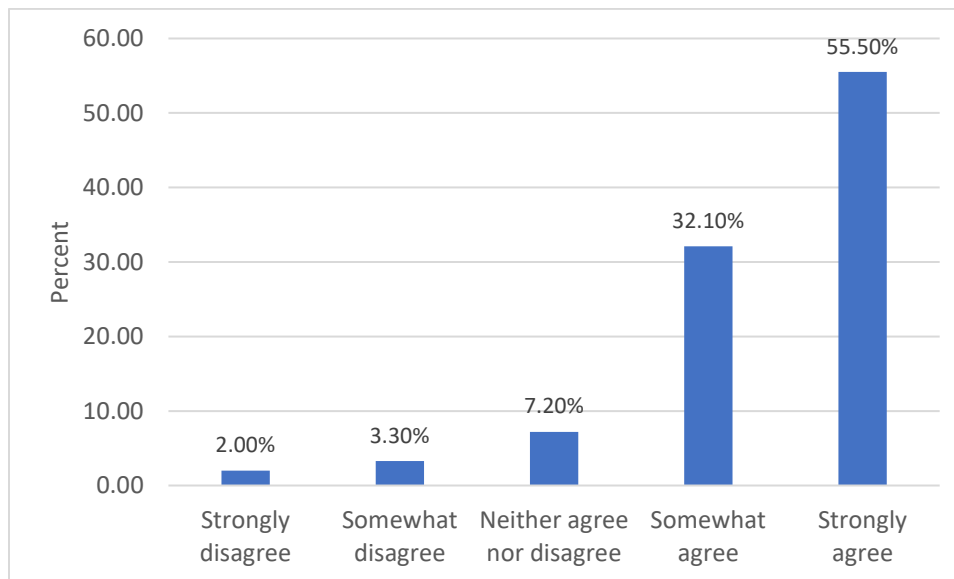


Respondents were asked to evaluate the safety of food purchased from restaurants. Results show that 48.40% of the respondents rated food purchased from restaurants as 'very safe' and 'somewhat safe'. Approximately 22.6% rated the food purchased from restaurants as 'somewhat risky and 'very risky'.

Preference of ways to purchase food from restaurants (Table)

Respondents were asked to report the ways they preferred to purchase food from restaurants. The results showed delivery (54.90%), drive-thru (53%), curbside pickup (45.60%), and pick up (43%) were the top four ways that respondents preferred to purchase food from restaurants during the COVID19 pandemic.

Method of purchase	Percentage
Delivery	54.90
Drive-thru	53.00
Curbside (bring to car)	45.60
Pick up	43.00
Takeout/Carryout	34.30
Walk-up Window	14.30

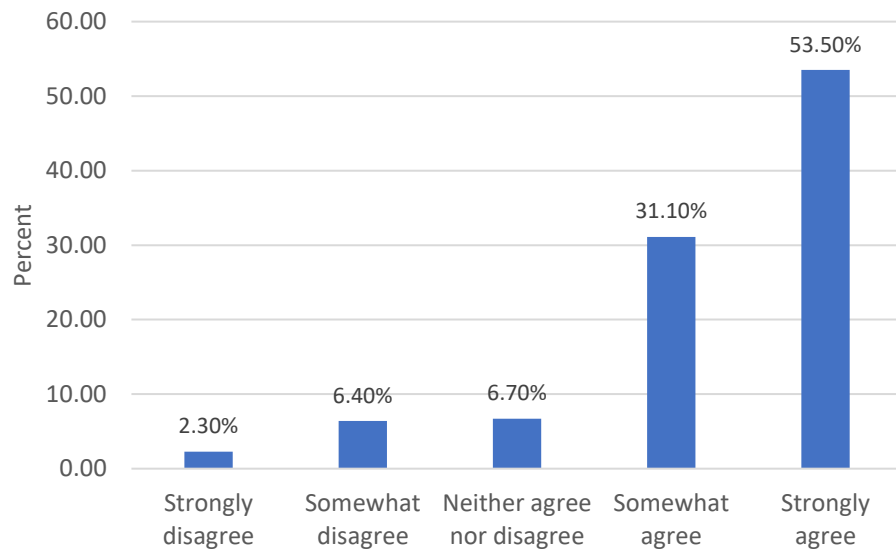
"I washed my hands much more frequently than I used to."

Approximately 87.60% of the respondents 'strongly agreed' and 'somewhat agreed' that they washed their hands more frequently during the COVID19 pandemic.

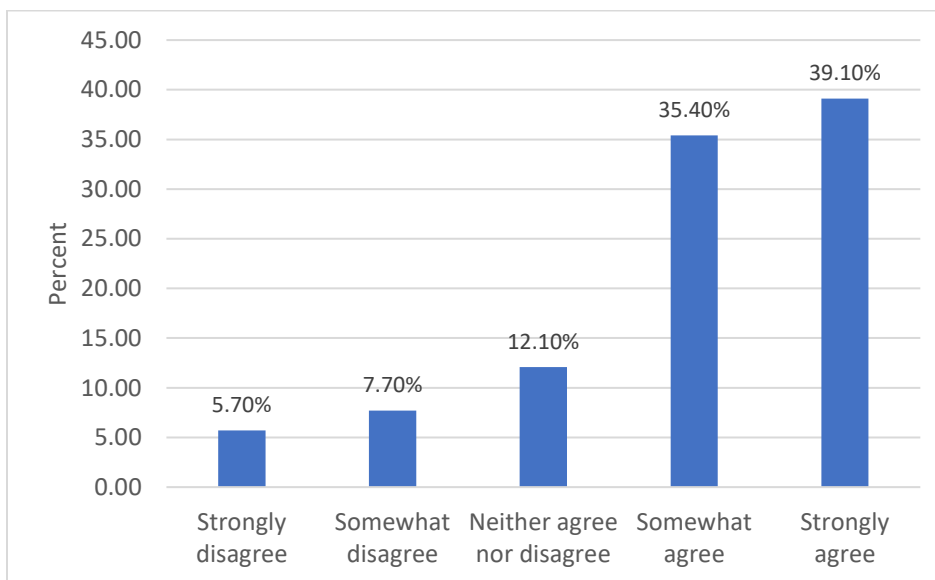
(Please continue to next page.)

"When I washed my hands, I rubbed my hands with soap for a much longer time than I used to."

Other than frequencies of handwashing, the duration of handwashing is also critical to handwashing efficacy. Consistent with the results of the last question, 84.60% of the respondents 'strongly agreed' and 'somewhat agreed' that they rubbed their hands with soap for a duration of longer time.

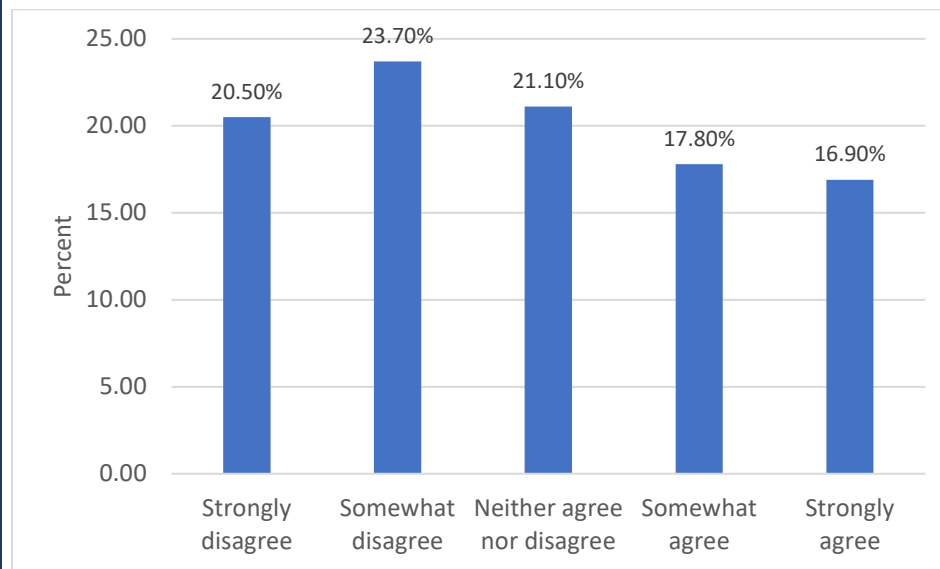


"I cleaned and sanitized the high-touch surfaces (e.g., doorknob, countertop, and diner table) much more frequently than I used to."



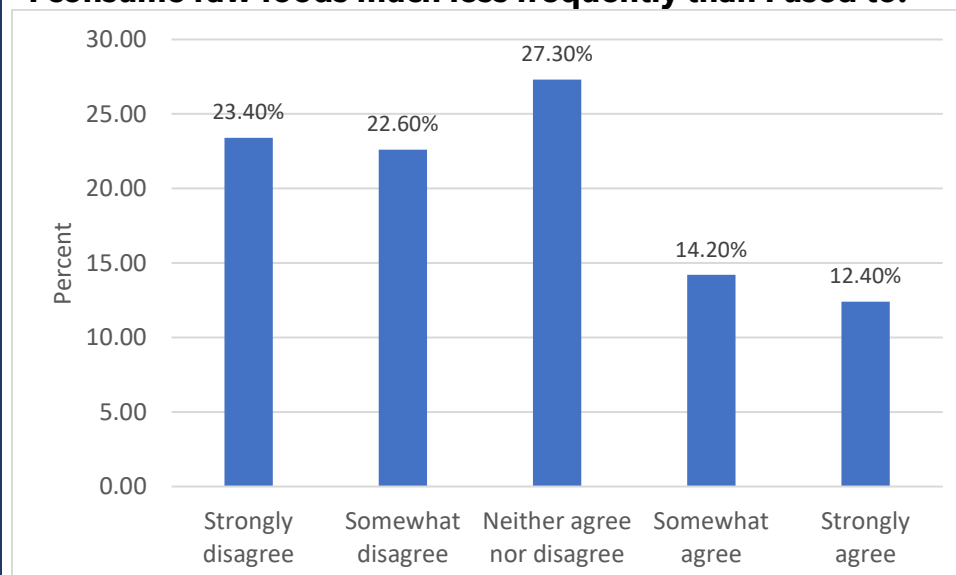
As another major approach to preventing the infection of the COVID-19 virus, cleaning and sanitizing the high-touch surfaces was also perceived as more important for the respondents during the COVID19 pandemic. The results showed that more than 74.50% of the respondents either 'strongly agreed' or 'somewhat agreed' that they cleaned and sanitized the high-touch surfaces more frequently.

"I checked the expiration date written on the food packages much more frequently than I used to."

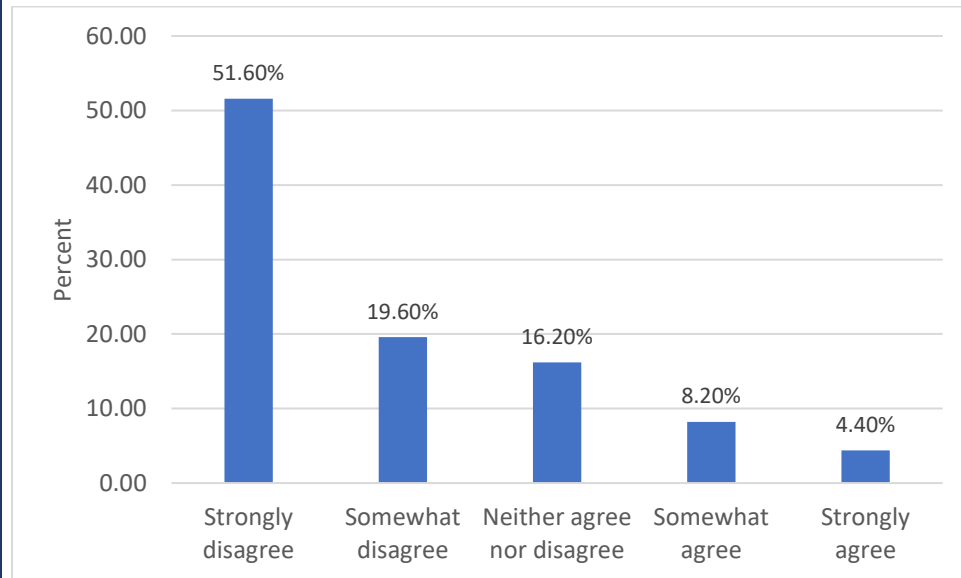


Consumers might stock up more food than usual due to the "shelter-in order". Therefore, checking the expiration date on the food packages is also an important practice to ensure the safety of food during the COVID19 pandemic. Compared to handwashing and cleaning and sanitizing, much fewer respondents paid attention to the expiration date of the food with 34.70% of the sample "somewhat agreeing" or "strongly agreeing" that they checked the expiration date more frequently.

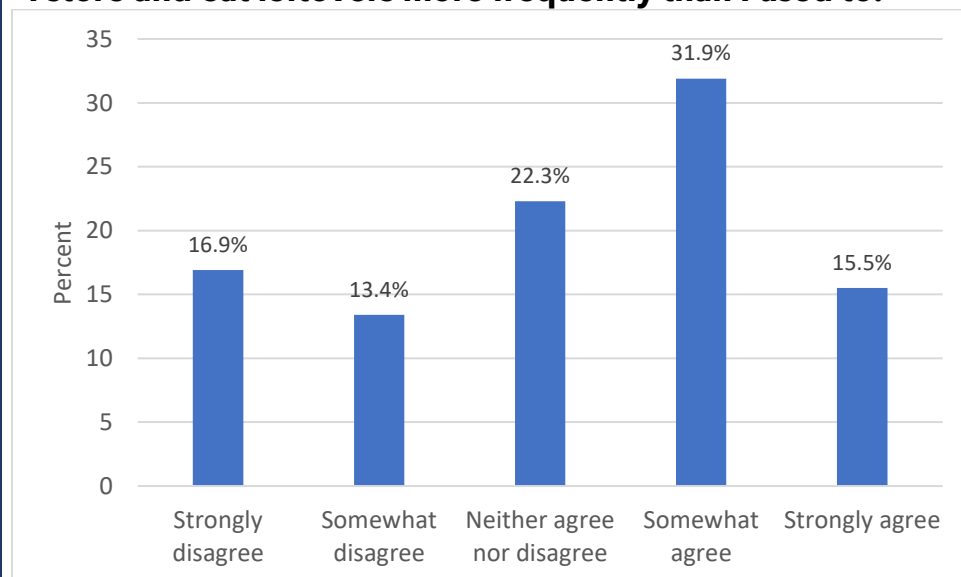
"I consume raw foods much less frequently than I used to."



Cooking is an effective thermal pathogen deactivation method. Approximately 26.60% of the respondents reported that they 'somewhat agreed' and 'strongly agreed' that they consumed raw foods less frequently. Approximately 46% of the respondents 'somewhat disagreed' and 'strongly disagreed' that they consumed raw foods less frequently.

I check the temperature of my refrigerator much more frequently than I used to.

Consumers might stock up more food than usual due to the “shelter-in order”. Thus, it is extremely important to ensure the storage temperature of foods, especially those “time and temperature control” (TCS) food. The results showed that only 12.60% of the respondents ‘somewhat agree’ and ‘strongly agree’ that they checked the temperature of their refrigeration more frequently.

“I store and eat leftovers more frequently than I used to.”

Consumers might stock up more food than usual due to the “shelter-in order”. Therefore, 47.40% of the sample ‘strongly agreed’ and ‘somewhat agreed’ that they stored and ate leftovers more frequently during the COVID19 pandemic.

Section VIII. Sample Demographic

Age	Percentage	Year of education	Percentage
18-25	26.70	12 or below	14.60
26-35	38.30	13-14	19.00
36-45	20.30	15-16	44.50
46-55	8.30	Above 16	25.50
Above 55	6.40		
Number of adult	Percentage	Income	Percentage
1	17.90	Lower than \$20,000	19.50
2	44.10	\$20,000-\$49,999	25.30
3	22.10	\$50,000-\$79,999	24.60
More than 3	15.90	\$80,000-\$109,999	13.80
		Above \$110,000	17.10
Gender	Percentage	Marital status	Percentage
Male	48.4	Married/co-habiting	42.90
Female	50.4	Single/divorced	57.10
Other	1.1		

Medical conditions reported by sample

MEDICAL CONDITIONS	PERCENTAGE
HIGH BLOOD PRESSURE	25.70
FOOD SENSITIVITY (E.G. CELIAC, LACTOSE INTOLERANCE)	25.20
FOOD ALLERGY	17.80
DIABETES	12.50
CARDIOVASCULAR DISEASES	7.20
CANCER	4.00
CHRONIC OBSTRUCTIVE PULMONARY DISEASE	2.00
CHRONIC KIDNEY DISEASES	2.00

Selected References

- Antón, C., Camarero, C., & Carrero, M. (2007). The mediating effect of satisfaction on consumers' switching intention. *Psychology & Marketing*, 24(6), 511-538.
- Coates, J., Swindale, A., & Bilinsky, P. (2007). Household Food Insecurity Access Scale (HFIAS) for measurement of food access: indicator guide: version 3.
- De Jonge, J., Van Trijp, H., Renes, R. J., & Frewer, L. J. (2010). Consumer confidence in the safety of food and newspaper coverage of food safety issues: A longitudinal perspective. *Risk Analysis: An International Journal*, 30(1), 125-142.
- Knueppel, D., Demment, M., & Kaiser, L. (2010). Validation of the household food insecurity access scale in rural Tanzania. *Public health nutrition*, 13(3), 360-367.
- Seo, S., Almanza, B., Miao, L., & Behnke, C. (2015). The effect of social media comments on consumers' responses to food safety information. *Journal of Foodservice Business Research*, 18(2), 111-131.