

# Shutting Down Some Restaurants during the COVID-19 Pandemic Negatively Affects the Business Situations\*

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## Abstract

To analyze the effect of COVID shut-downs on restaurants, we performed a randomized controlled trial. We took a random sample of 1000 restaurants in Greater Toronto Area, and randomly assigned them to a control group where all restaurants remained open and a treatment group where all restaurants were shut down. We designed an online survey and simulated the responses to compare the differences between the restaurants in 2 groups. We found that shutting down some restaurants was detrimental for their business management and financial conditions, specifically, more shutdown restaurants operated at a loss and they had a higher sales drop on average; meanwhile, more of them felt unconfident in the operations of businesses than the open restaurants. These findings were significant for the Ontario government to understand the effect of shut-downs on restaurants and take more effective measures to help these impacted restaurants.

## 1 Introduction:

Since the Covid-19 pandemic outbreaks happen around the world, how to take effective measures to restrict its spread has been thrown into sharpe focus. Many countries put some serious regions under lockdown and shutdown some businesses. The City of Toronto has announced a series of public restrictions since March 2020, including the social distance requirement, school closure, remote working requirement, entertainment facilities restrictions, shut-downs on non-essential businesses and etc. Accompanying with these policies, many businesses struggle. The restaurant business is among the list, many restaurants close down during the pandemic because the owners cannot afford the expenses. Therefore, learning more about the effect of COVID shut-downs on restaurants is crucial for both the government and the restaurant businesses. Specifically, business owners can get familiar with the industry's current situations, meanwhile, the government can understand how to take more targeted measures to reduce restaurants' burden if some significant drawbacks of shut-downs exist.

This paper aimed to investigate the effect of COVID shut-downs on the restaurants in Greater Toronto Area (GTA). The sample was 1000 restaurants in Toronto. We performed a randomized controlled trial to randomly shut down some restaurants in Toronto while keep the others open. Accordingly, the intervention was the shut-downs on restaurants, the control group included these open restaurants, and the treatment group included the shutdown restaurants. Besides, we conducted an online survey to get responses about current situations from the sampled restaurants. The dataset was the simulated responses from the survey by releasing it to R (R Core Team 2019) and setting different parameters for these 2 groups. So, the main research question was to explore how these survey responses varied between the control group and treatment group. By addressing these differences, we can understand the effect on restaurants regarding some aspects caused by the shut-downs, and the government can be aware of these problems and make effective policies or give subsidies to the impacted restaurants.

The remaining paper was organized into 2 sections. Firstly, in the Data section, we discussed the intervention of this experiment, along with the sampling methods and random allocation of treatment. We also explained

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\*Code and data are available at: [https://github.com/jiaj6/effect\\_of\\_shut-downs\\_on\\_restaurant\\_analysis](https://github.com/jiaj6/effect_of_shut-downs_on_restaurant_analysis).

the population, frame and sample of this experiment. Then, we talked about processing the non-responses and protecting the respondent privacy, as well as the data simulation methods. Besides, we made some plots to visualize the differences between the treatment and non-treatment groups based on the survey questions. Afterwards, in the Discussion section, we gave a brief overview of this paper and discussed the key findings. Also, we talked about main limitations and future improvements of this paper regarding the survey methodology, survey design, data gathering methods and ethical issues.

## 2 Data:

We used R (R Core Team 2019), the `tidyverse` package (Wickham et al. 2019), and the `ggplot2` package (Wickham 2016) to analyze data and make plots. The restaurant outlook survey report for the second quarter 2020 published by Restaurants Canada (RestaurantsCanada 2020) provided information about parameterizing the data simulations.

### 2.1 Intervention:

We aimed to perform a Randomized Controlled Trial (RCT) to test the effect of COVID shut-downs on restaurant businesses. Obviously, we used the shut-downs on some restaurants as the intervention to generate 2 separate groups: a control group and a treatment group. Specifically, the restaurants in control group were allowed to remain open providing the dine-in and take-out/delivery services, while the restaurants in treatment group were shut down mandatorily and were only allowed to do the ghost kitchen (which provided the delivery service only). We consider all the restaurants in Greater Toronto Area (GTA) as the frame of this experiment. To take a random sample of 1000 restaurants within the frame, we used Stratified Random Sampling method to divide all restaurants into multiple strata (homogeneous subgroups) based on the street blocks, then we randomly sampled some restaurants within each stratum using Simple Random Sampling. The number of restaurants sampled in each stratum was proportional to the number of restaurants in this subgroup compared to the number of restaurants in Toronto. We used this random sampling method, because the restaurants in Toronto were heterogenous in general, also the street block was a reasonable basis for forming the subgroups. This method removed the bias due to geographic differences, so that we had a more representative sample to better cover the entire population and improve the precision and generalization of results. Besides, since all frame units were equally likely to be sampled, the randomness was ensured, and there was no selection bias such as selecting some specific restaurants for convenience. So, this random sample ensured the external validity, which indicated that the findings gotten from this sample could be appropriately generalized to a larger population. More importantly, this experiment could perform well with a smaller sample size, so the government could spend less money to achieve the goal. However, the stratified sampling method may be more complicated and need more effort to be performed, so this was a trade-off of this method.

Afterwards, in terms of the allocation of treatment, we used the R-based (R Core Team 2019) random number generator to ensure the random assignment of restaurants to the control group and treatment group. For each stratum, we counted the number of sampled restaurants (assume  $N$ ) and gave each restaurant a unique number between 1 and  $N$  (both included). Then, we sampled  $N$  binary numbers (i.e. 0 or 1) with an equal probability in R (R Core Team 2019), where the index of each binary number corresponded to the unique number given to the restaurant. The restaurants that got 0 were assigned to the control group, and the others were assigned to the treatment group. Meanwhile, we saved the sampling code and recorded this random assignment result in a spreadsheet, and we could make it public after the experiment was completed. This random allocation of treatment avoided the counterfeit counterfactual estimate and selection bias caused by the self-selection of restaurants (Gertler 2016), because restaurants that were poorly operated tended to be shut down and assign themselves to the treatment group. Moreover, these 2 randomized processes (i.e. the random sampling process and the random allocation of treatment), along with the relatively large sample size (1000), ensured that the sampled restaurants shared similar observed and unobserved characteristics (Gertler 2016). Accordingly, holding all other factors invariant, the control group and treatment group only differed in the treatment (which was the shut-downs on restaurants), and this ensured the internal validity. So, we could compare these 2 groups to know the effect on restaurants caused by the shut-downs.

All the sampled restaurants were required to follow the Ontario government rules about shutting down some restaurants, and their activities were monitored by the government department and Petit Poll. In other words, the restaurants in control group could not arbitrarily close their businesses, and the restaurants in treatment group could not re-open the door and provide the services except delivery. This randomized controlled trial ran for 2 months, from November to December 2020.

## 2.2 Survey Methodology:

We decided to conduct an online survey to collect information about restaurants' current situations during the pandemic for both the control group and treatment group. The population of this experiment was all restaurants in Ontario, the frame was all restaurants in Greater Toronto Area, and the sample was those 1000 restaurant in Toronto sampled using stratified random sampling method, which was discussed in detail in section 2.1.

We considered these 1000 sampled restaurants as the actual participants in this experiment, and to reach these desired respondents, we mailed each of them a letter specifying this survey's motivation, purpose and respondent privacy protection to invite them to participate in the survey. To make the respondents complete the survey more conveniently, we included both the URL link and QR code in the letter, and respondents could fill in the survey in either way.

The survey was conducted online to save more printing expenses. All respondents had the same URL link and QR code, but their responses were only visible to the data collectors. Also, the survey was anonymous, and each restaurant was only allowed to submit the completed survey once.

Non-responses may exist in this survey, because some restaurants that were only slightly affected by the pandemic tended to ignore the survey. In other words, we might oversample the restaurants that had strong opinions on the effect of pandemic on businesses, which could cause the selection bias. Also, the different numbers of non-responses in the control and treatment groups may make the data biased and would over-estimate or under-estimate the impacts. Therefore, to lower the non-response rate, we emphasized the significance of the survey for the development of restaurant industry and for the government to support the businesses better. Besides, Petit Poll prepared some gift cards for the respondents (each of them would have an equal chance to win), which may attract more desired respondents to answer the survey.

Since all responses were anonymous and were hidden to all the others except the experimenters, the responses could not be shared among respondents. Moreover, there was no sensitive personal question, such as the location and revenue of the restaurant, in the survey. The Ontario government department and Petit Poll would not make any private information of the respondents public.

In terms of the costs, the Ontario government department was responsible for the paper, printing and postal expenses, which were estimated to be \$1500 in total. Meanwhile, Petit Poll would spend approximately \$2000 on gift cards, data collection process and data analysis.

## 2.3 Survey:

The survey<sup>1</sup> aimed to collect information about the business management, financial conditions and the opinions of each restaurant's owners on the impacts of pandemic on businesses, then compare the differences of the data in control group and treatment group to explore the effect of shut-downs on businesses regarding these aspects. There were 10 questions in the survey, including 1 simple attention check question in the middle to ensure the reliability of responses. All questions in this survey were required to answer. The first part contained questions about the changes in operating conditions (regarding the open/shutdown status, daily business hours and number of employees) and financial positions (regarding monthly sales change and profitability) of each restaurant. The second part was to ask whether each restaurant had received COVID-related government subsidies, as well as its satisfaction on these subsidies. Then, the last part was to ask the opinions on the impacts of pandemic on the restaurant and the expectations on the future market. All questions were in the format of multiple choice, short answer and ranked linear scale.

This survey was logical and reasonable, because the questions were structured from each restaurant's current

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<sup>1</sup>The URL link of the survey: <https://forms.gle/Tgt5AkLPUP3UNVm16>.

operating and financial conditions, to the government subsidies, and finally to the owner’s thoughts and expectations.

## 2.4 Data Gathering Methodology:

After designing and testing the survey, we simulated the data by releasing it to R (R Core Team 2019). Firstly, we assumed that the response rate was 80%, and to randomly allocate the non-responses between the control group and treatment group, we sampled 400 binary numbers with unequal probabilities. 0 represented the non-response in the control group, and 1 represented the non-response in the treatment group. We counted the number of 0s and 1s respectively to get the non-responses in each group. Then we simulated the data for 2 groups separately with the corresponding number of responses, and we also set different parameters to parameterize the simulations. For each group, we simulated the responses for multiple choice questions and ranked linear scale questions by setting each option’s probability based on the results in the restaurant outlook survey report (RestaurantsCanada 2020). And obviously, the control group and treatment group had very different probabilities for these options. Meanwhile, for the short answer questions, we simulated the responses using the normal distribution. Then, we had a dataset for the control group and another dataset for the treatment group.

## 2.5 Graphs:

We combined the datasets for the control group and treatment group. This simulated dataset had 800 rows of responses and contained 10 columns specifying the survey questions. It recorded the information about current situations of restaurants and their opinions on the effects of pandemic on businesses. The column Group specified the group that each row of response belonged to.

The variables Business Hours Change and Employees Change were both nominal, categorical variables with 3 different levels. Figure 1 showed that the proportion of shutdown restaurants with decreased daily business hours was 74%, which was 25% more than that of open restaurants. Similarly, Figure 2 illustrated that the proportion of shutdown restaurants having fewer employees was 83%, which was around 1.6 times as much as that of open restaurants. So, the COVID shut-downs on some restaurants were seemed to be detrimental for the business management regarding the business hours and number of staff.

The variable Monthly Sales Change was continuous and normally distributed. From Figure 3, we could see that most bars for the treatment group were distributed within the negative values, while the bars for control group were more evenly distributed. This pattern showed that more shutdown restaurants had decreased monthly sales. Besides, Figure 4 indicated that on average, the shutdown restaurants (50% average sales drop) had a much higher drop for the monthly sales compared to the open ones (25% average sales drop). Then, in terms of the Profitability (which was a nominal variable with 5 levels), Figure 5 showed that the proportion of shutdown restaurants operating at a loss was 69%, which was 1.7 times as much as that of the open restaurants. Meanwhile, much fewer shutdown restaurants made a profit compared to the open ones. Hence, shutting down some restaurants tended to have a more negative effect on their financial conditions.

Furthermore, Figure 6 showed that the proportion of shutdown restaurants that had received the COVID-related government subsidies was only 48%, which was 27% less than that of open restaurants. Also, as Figure 7 shown, for the restaurants that had received the subsidies, fewer shutdown restaurants thought that these subsidies were either somewhat helpful or very helpful (17% for 4, and 11% for 5) than the open restaurants, meanwhile, most of them had neutral opinions (41% for 3) on the helpfulness of subsidies. So, the shut-downs on restaurants made more of them unable to get support from the government, and more of them felt that the subsidies did not really help the operations of businesses.

The variables Effect on Business and Confidence were both ordinal, categorical variables. Figure 8 showed that the proportion of shutdown restaurants thinking that the pandemic either significantly or somewhat affected their businesses was around 63% (34% for 4, and 29% for 5), which was 16% more than that of open restaurants (totally 47% for 4 and 5). Meanwhile, Figure 9 revealed that the proportion of shutdown restaurants that were either not confident at all or somewhat unconfident in continuing operating their businesses was 60% (24% for 1, and 36% for 2), which was twice as much as that of open restaurants (totally 31% for 1 and 2). So, the shutdown restaurants tended to be more strongly impacted by the pandemic and lose more confidence in the operations of their businesses.

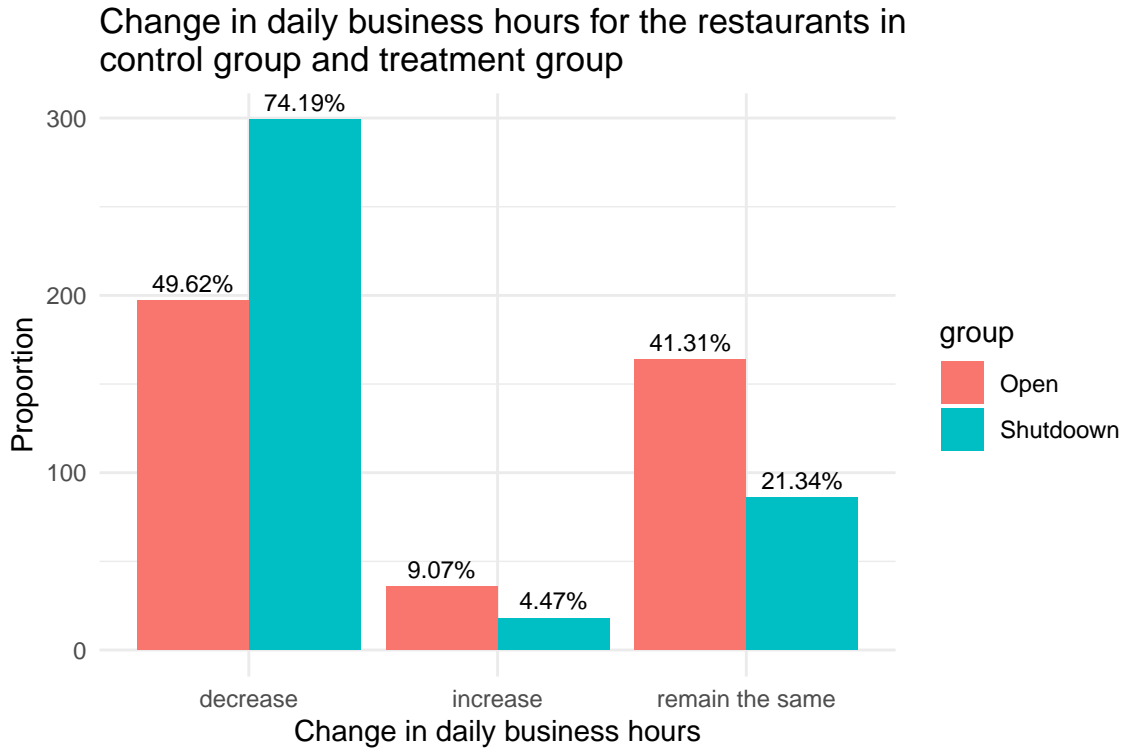


Figure 1: The bar chart of change in daily business hours for the restaurants in control group and treatment group

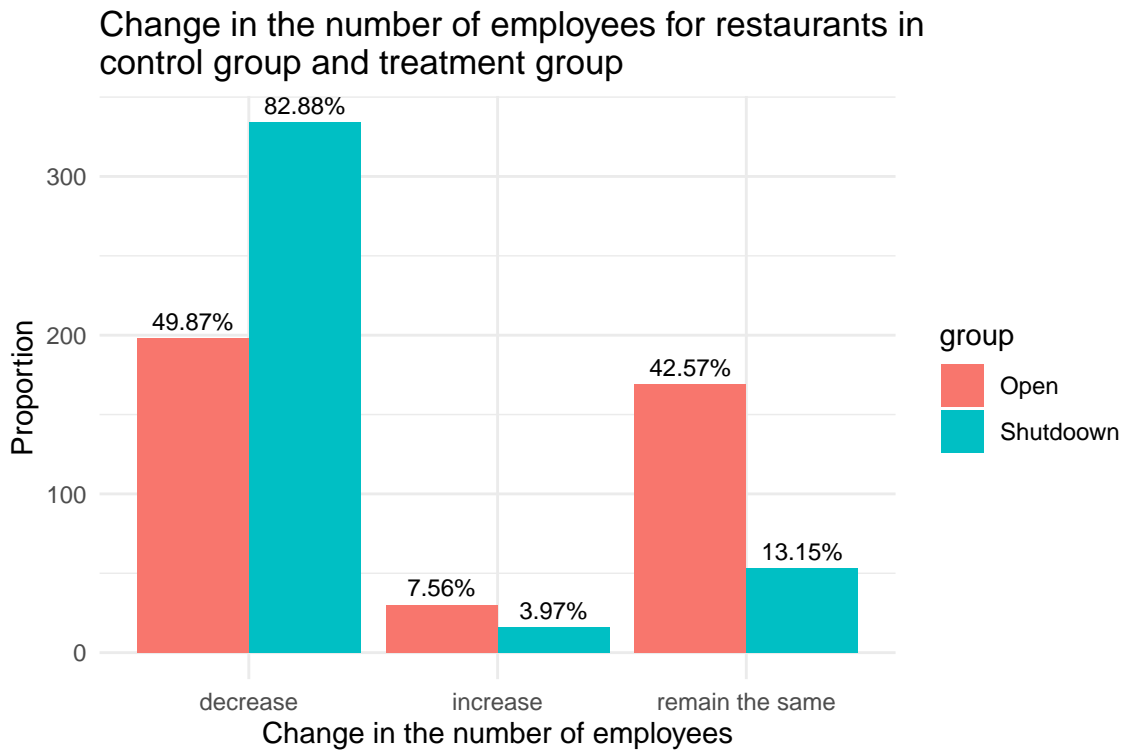


Figure 2: The bar chart of change in the number of employees for restaurants in control group and treatment group

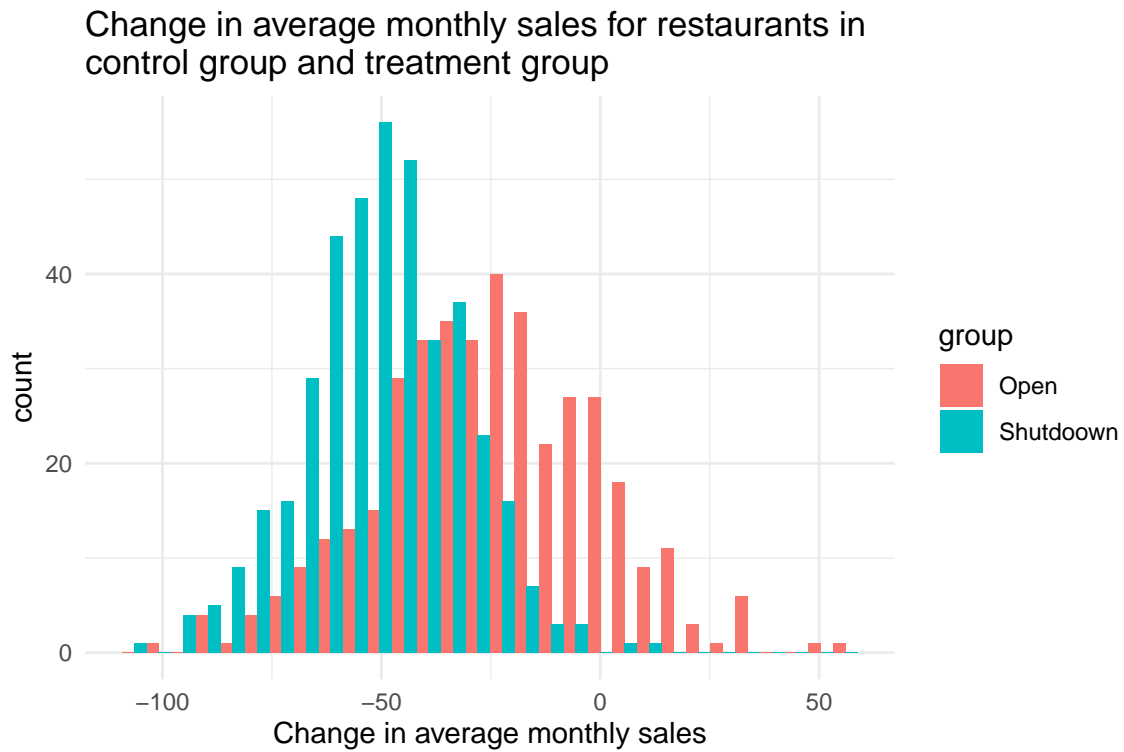


Figure 3: The histogram of change in average monthly sales for restaurants in control group and treatment group

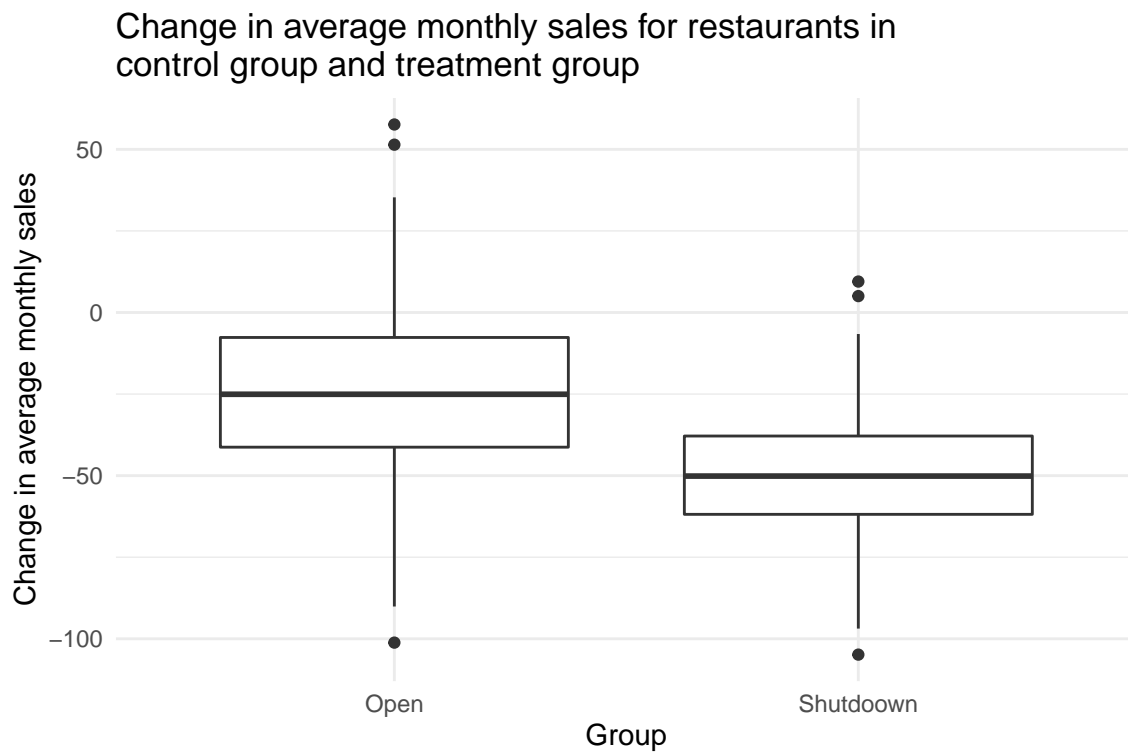


Figure 4: The boxplot of change in average monthly sales for restaurants in control group and treatment group

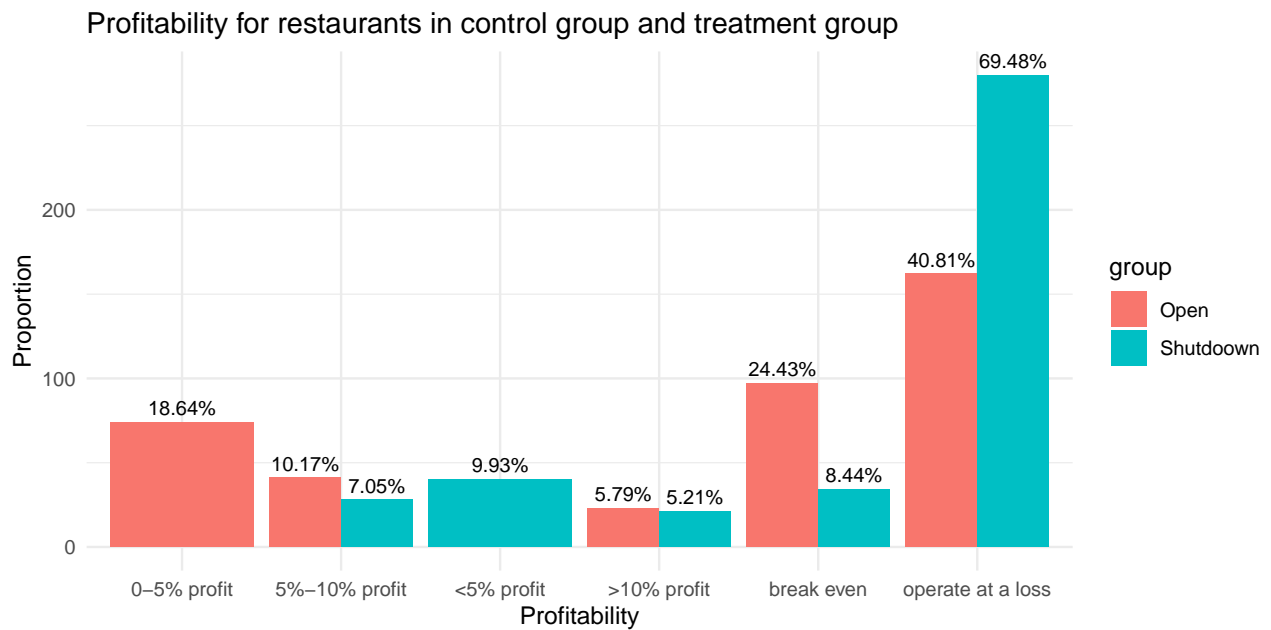


Figure 5: The bar chart of profitability for restaurants in control group and treatment group

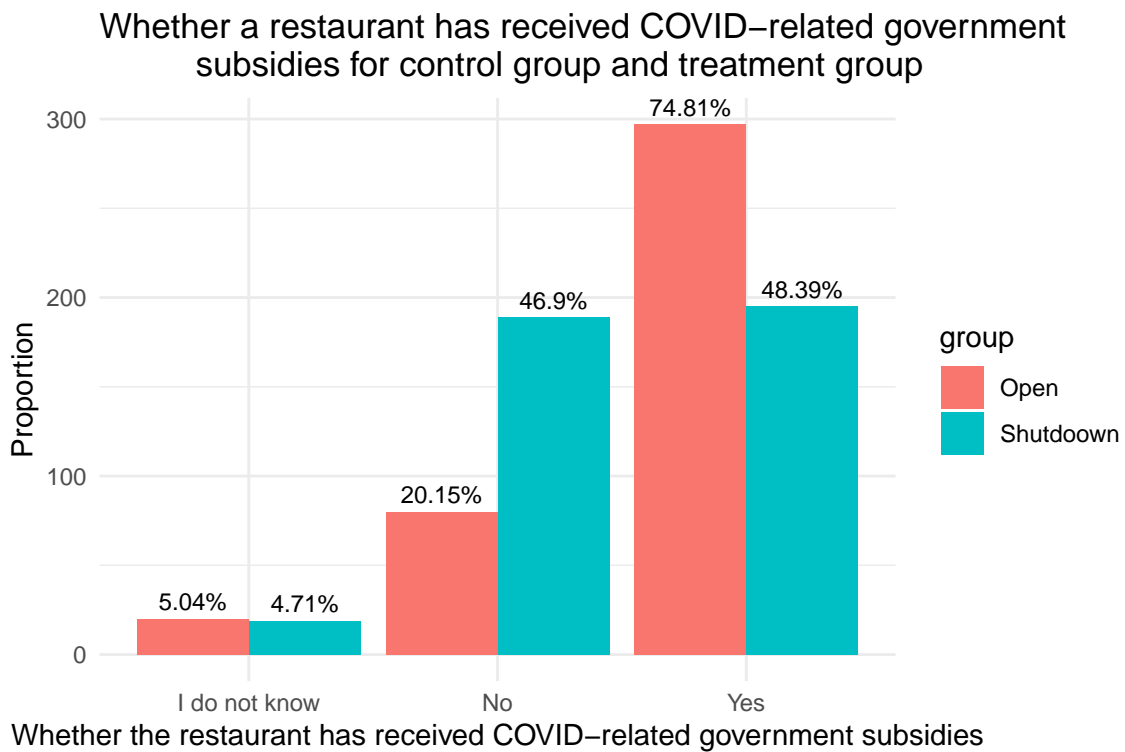


Figure 6: The bar chart of whether a restaurant has received COVID-related government subsidies for control group and treatment group

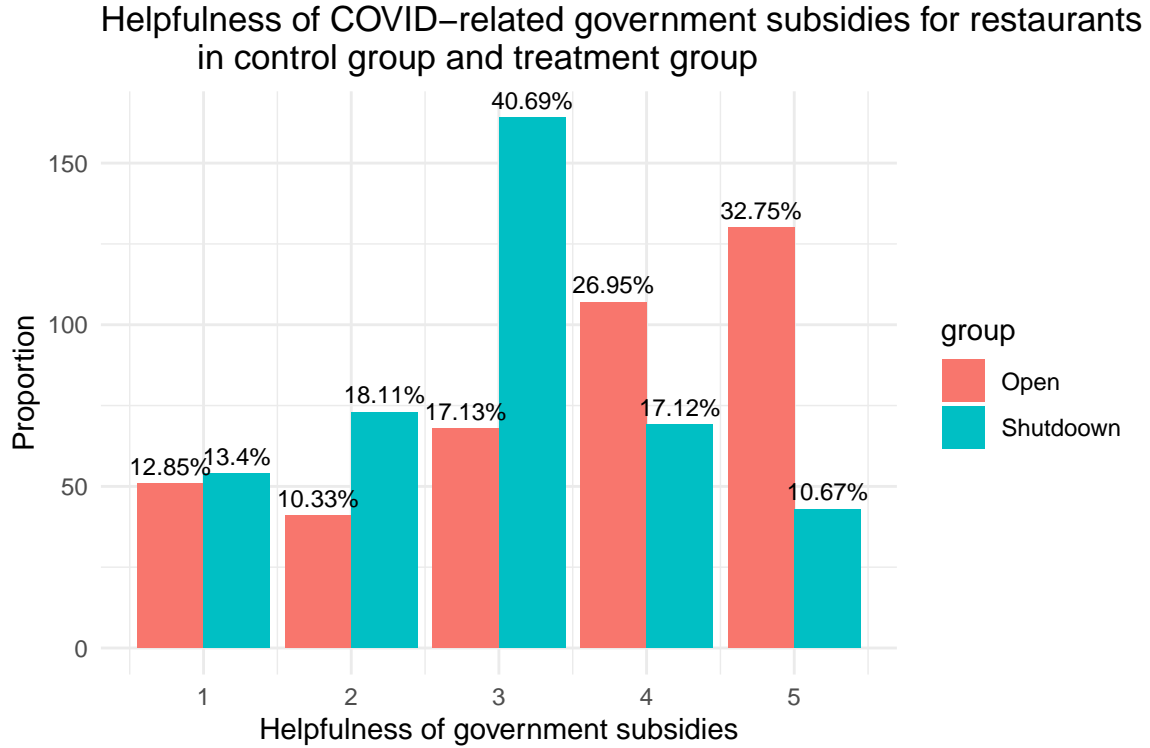


Figure 7: The bar chart of helpfulness of COVID-related government subsidies for restaurants in control group and treatment group

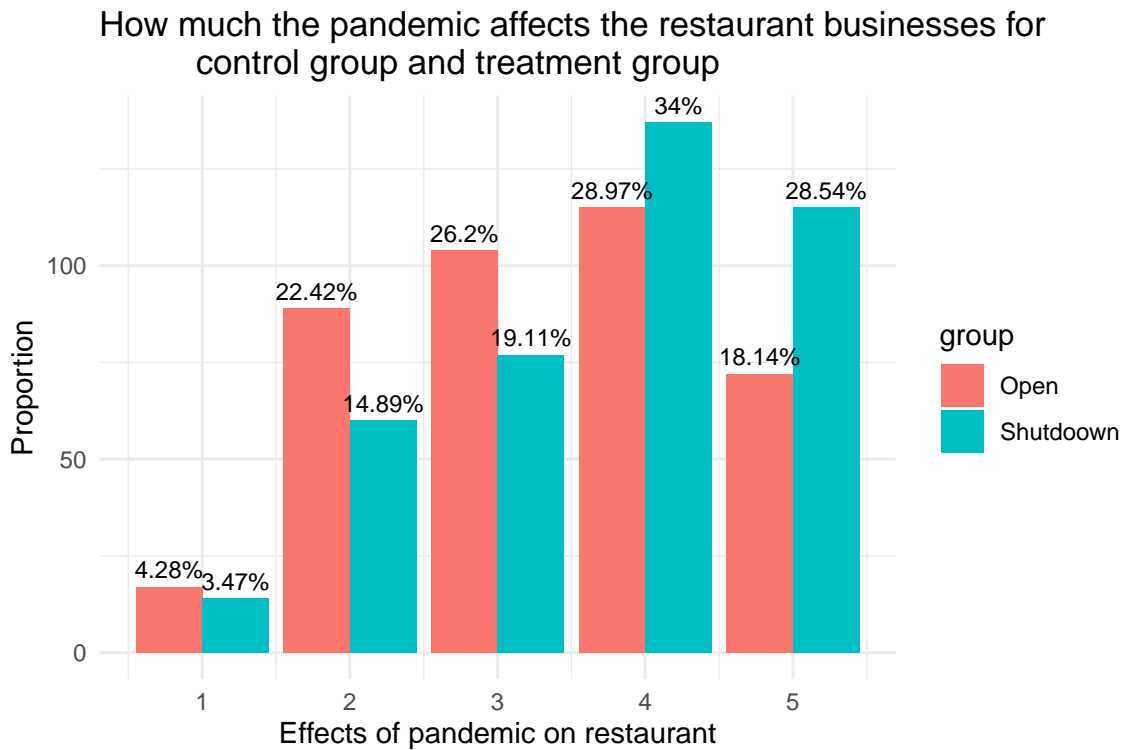


Figure 8: The bar chart of how much the pandemic affects the restaurant businesses for control group and treatment group



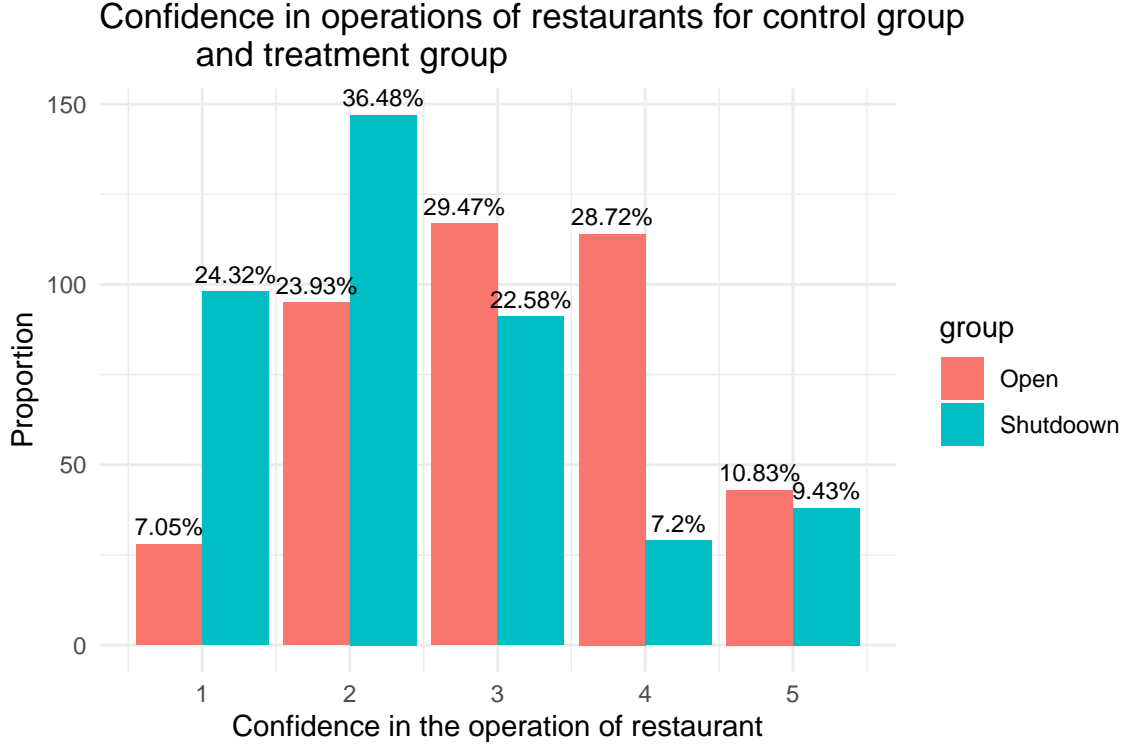


Figure 9: The bar chart of confidence in operations of restaurants for control group and treatment group

### 3 Discussion:

#### 3.1 Paper Overview & Literature Review:

This paper was to explore the effect of shut-downs on restaurants in Greater Toronto Area. We performed a randomized controlled trial with the intervention of randomly shutting down some restaurants in Toronto to achieve this goal, and accordingly, a control group and a treatment group were formed. The control group included the restaurants that were allowed to open and provided the dine-in and takeout services, while the treatment group included the restaurants that were shut down following the government rules. The restaurants in treatment group only provided the delivery service. The population of this experiment was all restaurants in Ontario, and the frame was all restaurants in Greater Toronto Area. This experiment collected the restaurants' information between November and December 2020.

Since this was a randomized controlled trial, it involved 2 random steps. Firstly, we took a random sample of 1000 restaurants within the frame by stratified random sampling method. We divided all restaurants in Toronto into strata based on the street blocks, and then in each stratum, we randomly sampled some restaurants where the number of restaurants was proportional to the stratum size compared to the frame size. This sample could fully represent the target population, and the analysis could be generalized to the larger population. The second random step was the random allocation of treatment. We used the computer random number generator to equally randomly generate a binary numbers list, then we assigned the restaurant that got 0 to the control group and the restaurant that got 1 to the treatment group. This approach ensured all other factors except the treatment were invariant between these 2 groups. Accordingly, we could conduct a survey on these sampled restaurants, and fairly estimate the effect of COVID shut-downs by comparing the collected responses from the control and treatment groups.

After the sample was formed (which was 500 restaurants in the control group and 500 restaurants that were treated), we mailed each of them an invitation to complete the survey. They could click the URL link or scan the QR code to fill in the survey. Non-responses may exist, because the restaurants that were slightly affected by the pandemic might not provide responses. So, we emphasized the importance of this survey and

offered the gift cards to weaken the selection bias and improve the response rate. Moreover, all responses were anonymous, and both the Ontario government department and Petit Poll would not make any private information open.

The survey was designed to collect information about each restaurant’s operating and financial conditions during the pandemic, whether they had received the government subsidies, and their opinions on the effects of pandemic on restaurants. It had 10 questions in the format of multiple choice, short answer and ranked linear scale, and all questions were required to answer. By combing these responses, we could compare the differences between the restaurants in control and treatment groups to know the impacts of shut-downs.

In this paper, we did not actually distribute the survey and collect data on it, instead, we simulated data by releasing the survey to R (R Core Team 2019). We used the probability sampling and normal distribution to sample responses by setting different parameters for 2 groups. Then, we got a dataset containing the simulated responses from the survey respondents, and we plotted graphs to compare the differences.

Restaurants Canada has a restaurant outlook survey report for the second quarter 2020, which summarizes the current financial positions, sales, provided services, labour challenges, expectations on menu prices and attitudes towards the operations of restaurants across Canada (RestaurantsCanada 2020). This report reveals the current conditions of restaurant industry from many aspects, and it provides the advice and future perspective for its development. The key findings are that more than half responded restaurants operated at a loss in the second quarter; and 26% respondents feel very pessimistic about future development of restaurants, which drops by 25% compared to the first quarter 2020.

This report outlines the current situations of restaurants in Canada, but it does not conclude a causal relationship between the COVID shut-downs and the restaurant businesses. In other words, there could be other reasons explaining the revenue decrease. Therefore, in this paper, I conducted a randomized controlled trial by separating the control group and treatment group. These 2 groups were the same except that the restaurants in treatment group were shut down. By comparing the collected responses from these 2 groups, we could know whether a difference was caused by the shut-downs. So, this paper further explored the effect on restaurants that were exactly brought by the pandemic shut-downs, and this result was beneficial for the government to better support the development of restaurants.

### **3.2 Key Findings:**

We found 3 main points by comparing the response data for the control group and treatment group. Firstly, more shutdown restaurants tended to have fewer daily business hours and reduced number of employees than the open restaurants. Besides, the monthly sales decreased much more for shutdown restaurants, specifically, their average sales drop was twice as much as that for the open restaurants. Also, more shutdown restaurants operated at a loss and fewer of them made a profit. So, we could say that COVID shut-downs on some restaurants negatively affected their business management and tended to reduce their sales and profits. Secondly, fewer shutdown restaurants had received the COVID-related government subsidies compared to the open ones, maybe because they could not meet the requirements. Moreover, fewer shutdown restaurants that had received the subsidies felt that these subsidies were somewhat helpful or very helpful compared to the open restaurants. The third point was that much more shutdown restaurants thought that the pandemic strongly affected their businesses, and meanwhile, more of them lost confidence in continuing operating their businesses than the open restaurants. Hence, we could say that shut-downs on restaurants strengthened the negative influence of pandemic on businesses and weakened the confidence in the operations of businesses.

### **3.3 Limitations:**

There were 3 main limitations in this paper with respect to the survey methodology, survey design and ethical issues. Firstly, since the treatment (i.e. shut-downs on restaurants) was evident, this experiment could not be designed as a single-blind study (where the participants do not know whether they are treated or not). So, the restaurants that were treated may tend to report higher operating losses and more significant effects of pandemic on businesses, which would over-estimate the impacts of pandemic. Then, in terms of the survey itself, there was no free text question, because simulating the responses for this kind of questions were more complicated and we also needed the other techniques to support its analysis. This weakness restricted the respondents to express their opinions freely. Finally, the intervention of an experiment should be ethical and

all subjects should be treated equally fairly (B. 2008). While randomly shutting down some restaurants in the city to do a randomized controlled trial was unethical and unfair for the business owners, employees, customers and the whole industry. The restaurants' owners needed to bear more financial loss and employee allowances, the employees lost their jobs and income, the customers were unable to get their favorite food, and the whole industry became inefficient and unbalanced. Therefore, if this experiment was performed in real life, it would harm the interests of many people and bring the ethical issue.

### **3.4 Future Directions:**

In terms of the limitation regarding the survey questions, we can include more free text questions in the survey when collecting the real responses, then we can analyze it using the natural language processing techniques like term frequency inverse document frequency (TF-IDF) to extract more insights about the pandemic's impacts. Besides, we should collect the real responses rather than the simulated ones in the future step, so that we can get more reliable and accurate analysis results from them. More importantly, we should try to avoid this kind of unethical randomized controlled trial (randomly and mandatorily shutting down some businesses) in real life, or at least reduce the influences of the experiment on participants. Instead, we can try to make as many characteristics as possible to be statistically identical among the restaurants and conduct an observational study to explore the effects of shut-downs on the businesses.

## Appendix

The URL link of the survey: <https://forms.gle/Tgt5AkLPUP3UNVm16>.

The QR code of the survey:



Figure 10: The QR code of the survey

Also, the screenshots of the survey:

The screenshot shows a survey introduction page with a purple header bar. The title 'Survey for Restaurants in Greater Toronto Area' is in a large, bold, black font. Below the title is a paragraph explaining the purpose of the survey: 'As the Covid-19 pandemic outbreaks happen around the world, many countries make strict restrictions, such as keeping social distance and sanitizing hands. Some countries even shut down the restaurants in serious regions. So, knowing how the COVID shut-downs affect the restaurants is important for the government to make more effective measures to help the businesses. This survey aims to collect the information about the restaurants' operating and financial conditions, whether they are receiving the COVID-related government subsidies, and their opinions on operating the business during this special time period.' Below this paragraph is another paragraph: 'This survey is conducted by Petit Poll – a Canadian polling company, following the requirements of an Ontario government department.' Below that is a red asterisk followed by the word 'Required'. The bottom section of the page, separated by a horizontal line, contains three paragraphs: 'This survey consists of 9 question in total. All questions are required.', 'The first part contains 5 questions about the operating and financial conditions of restaurants, the second part contains 2 questions about the government subsidies, the last part contains 2 questions about the opinions of restaurant's owners on the operation of business.', and 'It takes about 5-8 minutes to answer.'

## Survey for Restaurants in Greater Toronto Area

As the Covid-19 pandemic outbreaks happen around the world, many countries make strict restrictions, such as keeping social distance and sanitizing hands. Some countries even shut down the restaurants in serious regions. So, knowing how the COVID shut-downs affect the restaurants is important for the government to make more effective measures to help the businesses. This survey aims to collect the information about the restaurants' operating and financial conditions, whether they are receiving the COVID-related government subsidies, and their opinions on operating the business during this special time period.

This survey is conducted by Petit Poll – a Canadian polling company, following the requirements of an Ontario government department.

**\*Required**

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This survey consists of 9 question in total. All questions are required.

The first part contains 5 questions about the operating and financial conditions of restaurants, the second part contains 2 questions about the government subsidies, the last part contains 2 questions about the opinions of restaurant's owners on the operation of business.

It takes about 5-8 minutes to answer.

Figure 11: The introduction of the survey

### Statement of Consent and Respondent Privacy Protection:

You agree to participate in this survey for the purpose of providing responses to analyze the effects of shut-downs on restaurant businesses.

You should understand that:

Survey participants should consent to Google Form's privacy policy.

Survey participants are asked to answer 9 questions where the answers are in the format of multiple choice, short answer and ranked linear scale.

Survey participants can refuse to complete the survey at any time without giving any reason.

The survey is anonymous, and each survey participant is only allowed to submit the completed survey once.

There is no sensitive personal question.

The responses may be published to some open data sources or code/project sharing websites, but both the Ontario government department and Petit Poll will not disclose the private information of participants.

All responses are collected for the data analysts to analyze the effects of shut-downs on restaurants.

Do you agree to participate in the survey? \*

☐ I agree

☐ No

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Google Forms

Figure 12: The statement of consent and respondent privacy protection of the survey

# Survey for Restaurants in Greater Toronto Area

**\*Required**

All questions ask the information from November 2020 to January 2021.

## Operating Conditions and Financial Conditions of Your Restaurant:

1. What is the status of your restaurant? \*

- ☐ Open (providing both the dine-in and take-out and/or delivery services)
- ☐ Shutdown (ghost kitchen, only providing the delivery service)

2. How does the daily business hours of your restaurant change compared to the period from November 2019 to January 2020? \*

- ☐ Increase
- ☐ Decrease
- ☐ Remain the same

Figure 13: Questions 1-2 of the survey



3. How does the number of employees of your restaurant change compared to the period from November 2019 to January 2020? \*

- ☐ Increase
- ☐ Decrease
- ☐ Remain the same

4. How much does the average monthly sales of your restaurant change in percentage (%), compared to the period from November 2019 to January 2020? \*

Your answer \_\_\_\_\_

Figure 14: Questions 3-4 of the survey

5. How is your restaurant in terms of the profitability? \*

- ☐ Operate at a loss
- ☐ Break even
- ☐ Make a profit between 0 (excluded) and 5% (included)
- ☐ Make a profit between 5% (excluded) and 10% (included)
- ☐ Make a profit larger than 10%

6. What is your favorite number (any real number)? \*

Your answer \_\_\_\_\_

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Figure 15: Questions 5-6 of the survey

All questions ask the information from November 2020 to January 2021.

### COVID-Related Government Subsidies:

7. Has your restaurant received any COVID-related government subsidy, such as Canada Emergency Wage Subsidy(CEWS), Temporary Wage Subsidy, and Canada Emergency Business Account(CEBA)? \*

- ☐ Yes
- ☐ No
- ☐ I don't know

8. If your restaurant has received any COVID-related government subsidy, to what extent do you think that helps? Use the number 1- 5 to rank the helpfulness, 1 indicates not helpful at all, 5 indicates significantly helpful. \*

1      2      3      4      5

not helpful at all   ☐   ☐   ☐   ☐   ☐   significantly helpful

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Figure 16: Questions 7-8 of the survey

All questions ask the information from November 2020 to January 2021.

### Opinions on the Operation of Your Business:

9. To what extend do you think Covid-19 affects your restaurant business? Use the number 1- 5 to rank the effects, 1 indicates no effect, 5 indicates significant effects. \*

	1	2	3	4	5	
no effect	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	significant effects

10. How much confidence you have in continuing operating your restaurant? Use the number 1- 5 to rank the confidence, 1 indicates not confident at all, 5 indicates very confident. \*

	1	2	3	4	5	
not confident at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very confident

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[Submit](#)

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Figure 17: Questions 9-10 of the survey

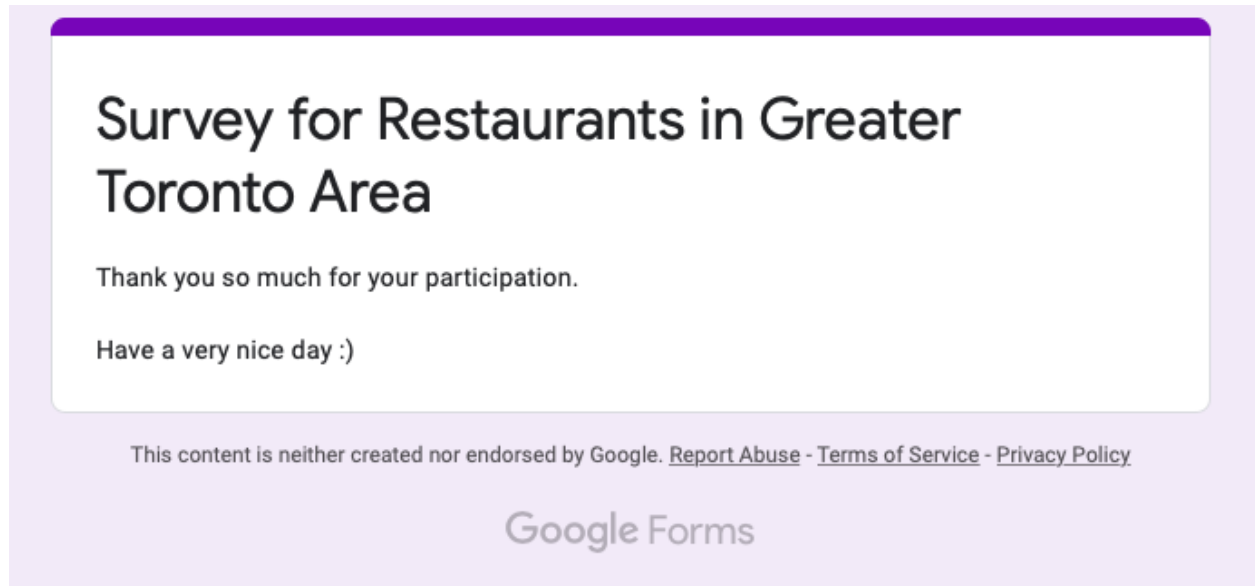


Figure 18: The submitted survey

The invitation mailed to each sampled restaurant to participate in the survey:

Hello,

As the Covid-19 outbreaks happen around the City of Toronto, the government requires to shut down some non-essential businesses to prevent the further spread of pandemic. The restaurant business is one of the industries being affected. Some restaurants in Greater Toronto Area were shut down and were only allowed to provide the delivery service during November 2020 to January 2021.

The Ontario government department wants to know the effects of COVID shut-downs on the restaurant businesses regarding some aspects, so it has asked us — Petit Poll, a Canadian polling company, to conduct a survey collecting some information about your restaurant during the pandemic. This survey aims to get information about your restaurant's current conditions and your opinions on the impacts of pandemic on businesses, which will be further analyzed to understand the effects of shut-downs on restaurants.

You are invited to participate in this online survey, and you can click the below URL link to complete it. We encourage you to fill in this survey, because your response is very important for the Ontario government department to understand the effects of COVID shut-downs on restaurants and take further effective measures to protect the restaurant businesses. Also, all survey participants have an equal chance to get a \$20 gift card offered by Petit Poll.

Thank you so much for your participation.

Thanks so much,  
Petit Poll

Figure 19: The mailed survey invitation to the sampled restaurants

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