How are Attitudes Toward COVID-19 Associated with Traveler Behavior During the Pandemic?

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Findings

This article uses data from the first wave of the COVID Future Panel study to evaluate attitudes towards COVID-19 and their influence on traveler behaviors. An exploratory factor analysis identified two underlying constructs based on the measured attitudes, namely “Concern about Pandemic Response” and “COVID Health Concern.” A cluster analysis based on the factor scores yielded four groups with distinct attitudes. Those primarily concerned about the pandemic response traveled the most using private vehicles, while those equally concerned about the response to the pandemic and the health effects of COVID-19 were found to use personal bicycles and transit the most.

1. Questions

This article investigates the relationship between attitudes toward COVID-19 and traveler behavior, particularly focusing on mode use and activity engagement during the pandemic. While attitudes toward COVID-19 have already been identified as affecting current and expected post-pandemic behaviors (Conway et al. 2020; Chauhan, Capasso da Silva, et al. 2021), this study explicitly distinguishes between and focuses on concerns about the response to the pandemic (as in a feeling that society is over-reacting and the economic impacts of shutting down are not justified) and health concerns about having a severe reaction to COVID.

The analysis in this article identified Concern about Pandemic Response and COVID Health Concern as two different attitudinal constructs. The research addresses how these COVID-19 attitudinal constructs are associated with traveler behaviors observed during the pandemic.

2. Methods

This study uses data from the first wave of the COVID Future Panel Survey (Salon et al. 2021; Chauhan, Conway, et al. 2021). The sample includes 7,593 respondents from across the United States (US) who completed the survey between June and October 2020 (Wave 1b). The data were weighted to replicate national distributions of age, education, gender, Hispanic status, household income, presence of children, and number of household vehicles. Importantly, the weighting methodology adjusted for the marginal distributions without inflating the sample size (for more information, please refer to Chauhan, Conway, et al. 2021).
Attitudes toward COVID-19 were measured using six agree/disagree statements (Figure 1) on a 5-point Likert scale (Strongly disagree, Disagree, Neutral, Agree, Strongly agree). To extract attitudinal constructs based on these statements, an Exploratory Factor Analysis (EFA) was performed and factor scores were extracted using the fitted model through the FactorAnalyzer Python package (Biggs 2019). The two identified constructs (Figure 1) are Concern about Pandemic Response and COVID Health Concern. The selected solution explains 55.4% of the variance observed on the selected original statements.

Based on the computed factor scores for each individual in the sample, a non-parametric K-means cluster analysis was performed. The clustering identified four groups of respondents; the grouping was found to be both intuitive and statistically robust. Respondents were grouped based on their concern about having a severe reaction to the virus and their concern about societal response to the pandemic and its economic impacts. The four identified attitudinal clusters are: (1) Primarily concerned about health, (2) Equally concerned about health and the societal response, (3) Least concerned about health and about the response, and (4) Primarily concerned about the response. Figure 2 shows how cluster membership relates to the factor scores, as well as the weighted sample of the four attitudinal clusters. About two-thirds of the sample fall into clusters reflecting strong concerns about the health effects of COVID. As two normalized factor scores are used in the cluster analysis, the cluster analysis roughly divided the sample into quadrants (Figure 2). While the group primarily concerned with the health effects is the largest share of the sample,
it represents the smallest area of Figure 2; this result indicates that the respondents in this group are more similar to one another than the respondents within the other clusters.

To better understand the difference among the four clusters, chi-square analyses were performed on the weighted frequencies of the distributions shown in Tables 1 and 2; for binary characteristics, such as presence of children and if a mode was used or not, while only one category is shown in the tables, the full distribution was used to compute chi-square test statistics. The chi-square analysis revealed that all differences reported on this paper are statistically significant at a 5 percent significance level. Standard errors for the proportions shown in this paper are presented in the appendix; all calculated sample standard errors are below 2.5 percentage points, with the exception of percent of workers working entirely from home, for the group who is primarily concerned about the response.

In addition to conducting a descriptive analysis of the identified clusters, ordered probit models were estimated to investigate the multivariate relationships between COVID-related attitudes and traveler behaviors during the pandemic. The explored response variables are frequency of private vehicle use, transit use, in-person grocery shopping, restaurant patronage, and work from home (for workers who could). In addition to the identified factors, the models control for COVID risk perception, person and household socioeconomic characteristics, location, pre-pandemic behavior (considered exogenous in this study), and other attitudes. While the authors acknowledge the endogeneity issue that arises from including pre-pandemic behaviors as
### Table 1. Demographic Characteristics of Attitudinal Clusters (Weighted)

| Age (χ²=128.0, p=0.000) | Weighted sample: 2884 | Primarily concerned about health | Equally concerned about health and the response | Least concerned about health and about the response | Primarily concerned about the response |
|-------------------------|-----------------------|---------------------------------|-----------------------------------------------|-----------------------------------------------|-------------------------------------|
| 18-29 years             | 18%                   | 22%                             | 28%                                           | 19%                                           |
| 30-44 years             | 23%                   | 27%                             | 25%                                           | 28%                                           |
| 45-59 years             | 25%                   | 25%                             | 21%                                           | 29%                                           |
| 60+ years               | 34%                   | 26%                             | 26%                                           | 24%                                           |
| **Average age**         | **49.0**              | **46.3**                        | **43.9**                                      | **46.5**                                      |
| (s=17.9)                | (s=17.8)              | (s=17.8)                        | (s=16.1)                                      |
| Gender (χ²=78.4, p=0.000) | Female              | 56%                             | 46%                                           | 54%                                           | 44%                                           |
|                         | Male                  | 44%                             | 54%                                           | 46%                                           | 56%                                           |
| Education (χ²=50.9, p=0.000) | High school or less | 35%                             | 42%                                           | 42%                                           | 42%                                           |
|                         | Some college          | 33%                             | 27%                                           | 30%                                           | 32%                                           |
|                         | Bachelor or higher    | 32%                             | 31%                                           | 28%                                           | 26%                                           |
| Annual household income in 2019 (i.e., pre-pandemic income) (χ²=19.9, p=0.003) | Less than $35,000 | 20%                             | 21%                                           | 24%                                           | 18%                                           |
|                         | $35,000 to $49,999    | 12%                             | 14%                                           | 13%                                           | 16%                                           |
|                         | $50,000 to $74,999    | 18%                             | 14%                                           | 17%                                           | 19%                                           |
|                         | $75,000 to $99,999    | 13%                             | 10%                                           | 11%                                           | 14%                                           |
|                         | $100,000 to $124,999  | 14%                             | 13%                                           | 14%                                           | 17%                                           |
|                         | $125,000 or more      | 23%                             | 26%                                           | 21%                                           | 22%                                           |
| Share below the poverty level* (χ²=25.8, p=0.000) | 11%                            | 16%                            | 15%                                           | 10%                                           |
| Household vehicles (χ²=142.4, p=0.000) | 0 | 9%                            | 8%                             | 14%                                           | 5%                                           |
|                         | 1                     | 22%                             | 26%                                           | 23%                                           | 19%                                           |
|                         | 2                     | 40%                             | 37%                                           | 35%                                           | 37%                                           |
|                         | 3                     | 22%                             | 18%                                           | 21%                                           | 27%                                           |
|                         | 4 or more             | 7%                              | 11%                                           | 7%                                            | 12%                                           |
| Presence of children (χ²=60.5, p=0.000) | Present | 33%                            | 41%                                           | 31%                                           | 42%                                           |
| Attitudes (Percent of those who agree or strongly agree with statement) | Learning how to use new technologies is often frustrating to me (χ²=92.2, p=0.000) | 37%                            | 45%                                           | 30%                                           | 34%                                           |
|                         | I am committed to using less polluting means of transportation as much as possible (χ²=298.1, p=0.000) | 52%                            | 46%                                           | 42%                                           | 22%                                           |
|                         | Even if I do not end up buying anything, I still enjoy going to stores and browsing (χ²=40.0, p=0.000) | 56%                            | 65%                                           | 58%                                           | 61%                                           |
|                         | Having shops and services within walking distance of my home is important to me (χ²=76.3, p=0.000) | 62%                            | 58%                                           | 58%                                           | 46%                                           |
|                         | I dislike change (χ²=53.0, p=0.000) | 42%                            | 47%                                           | 36%                                           | 44%                                           |

* Approximate poverty level by household size, based on values established by the United States Census Bureau (2021). Approximate thresholds considered based on the income categories provided in the survey are $15,000 for households size 1 or 2; $25,000 for households size 3 or 4; $35,000 for households with 5 to 7 people; and $50,000 for households with 8 people or more.
Table 2. Pandemic-era Behavioral Characteristics of Different Attitudinal Clusters (Weighted)

|                          | Weighted sample: | Primarily concerned about health | Equally concerned about health and the response | Least concerned about health and about the response | Primarily concerned about the response |
|--------------------------|------------------|---------------------------------|-----------------------------------------------|---------------------------------------------------|---------------------------------------|
| **Restaurant Patronage** |                  |                                 |                                               |                                                   |                                       |
| Number of days dining   | 0                | 81%                            | 60%                                           | 71%                                               | 53%                                   |
| out in the past week    | 1                | 14%                            | 23%                                           | 19%                                               | 30%                                   |
|                         | 2–3              | 4%                             | 13%                                           | 10%                                               | 15%                                   |
|                         | 4 or more        | 1%                             | 4%                                            | 1%                                                | 2%                                    |
| **In-person Grocery**   |                  |                                 |                                               |                                                   |                                       |
| Number of days grocery shopping in the past week | 0 | 25% | 16% | 17% | 12% |
|                         | 1                | 47%                            | 44%                                           | 46%                                               | 43%                                   |
|                         | 2–3              | 26%                            | 32%                                           | 34%                                               | 38%                                   |
|                         | 4 or more        | 3%                             | 7%                                            | 4%                                                | 7%                                    |
| **Online Shopping**     |                  |                                 |                                               |                                                   |                                       |
| Number of days ordering non-grocery items in the past week | 0 | 34% | 35% | 42% | 44% |
|                         | 1                | 27%                            | 26%                                           | 29%                                               | 30%                                   |
|                         | 2–3              | 30%                            | 30%                                           | 23%                                               | 21%                                   |
|                         | 4 or more        | 9%                             | 9%                                            | 6%                                                | 6%                                    |

### Work from Home

(Workers who had the choice to work from home)

|                          | Weighted sample size | Percent Working Entirely Remote in Past 7 Days | Average days working from home during the past week | Transit use Share of respondents who used the mode \((χ^2=77.1, p=0.000)\) | Immobility Share of respondents who did not travel at all \((χ^2=24.1, p=0.000)\) |
|--------------------------|----------------------|-----------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------------|
|                          |                      | Zero trips to work, worked from home 5+ days \((χ^2=118.2, p=0.000)\) |                      | 7% | 15% | 9% | 8% |
|                          |                      | (\(s=1.8\)) | (\(s=1.8\)) | (\(s=2.0\)) | (\(s=2.1\)) | (\(p=0.000\)) | (\(p=0.000\)) |
|                          |                      | 58% | 30% | 56% | 44% |
|                          |                      | 4.8 | 4.3 | 4.6 | 4.2 |
|                          |                      | (\(s=1.8\)) | (\(s=1.8\)) | (\(s=2.0\)) | (\(s=2.1\)) |
|                          |                      | 24% | 20% | 27% | 12% |
|                          |                      | 27% | 27% | 22% | 13% |
|                          |                      | 27% | 27% | 23% | 25% |
|                          |                      | 22% | 26% | 28% | 50% |
|                          |                      | 7%  | 15% | 9%  | 8%  |
|                          |                      | 20% | 30% | 19% | 18% |
|                          |                      | 4%  | 3%  | 3%  | 2%  |

Table 2. Pandemic-era Behavioral Characteristics of Different Attitudinal Clusters (Weighted)

Explanatory variables for explaining during-pandemic behavior, not including those variables would cause an omitted variable bias and ignore the presence of state dependence in behaviors.

### 3. Findings

A key finding of this research is the identification and characterization of groups of people who perceive the pandemic in different ways (Table 1). Comparing across groups in each row allows for understanding how different market segments feel about the pandemic. The largest differences are seen
among different household structures, genders, and attitudinal groups. A higher proportion of the respondents in groups primarily concerned about societal response reported having children; school closures might have played a role in those perceptions. Similarly, respondents concerned about health are more often female, and respondents concerned about the response are more often male. Those least concerned about health and the response indicated greater tech-savviness and openness to change. In contrast, the strongest preference towards using less-polluting means of transportation and towards mixed-use neighborhoods was observed among those concerned the most about the health effects of COVID.

As expected, those with different perceptions about COVID-19 reported distinct behaviors during the pandemic (Table 2). In particular, there were significant differences in restaurant patronage between attitudinal clusters. Those who are concerned about a societal over-reaction to the virus ate out more often than those who believe in staying at home regardless of the economic impact. Among those able to work from home, respondents concerned primarily about health telecommuted, on average, 14% more than respondents concerned only about societal response. An examination of mode use patterns shows that those concerned primarily about the response reported using private vehicles close to 40% more often than the other groups. Those who are equally concerned about getting sick and about the societal response reported using transit more than other groups by a factor of almost two. Consistent with the notion that the relationship between attitudes and behavior is bidirectional (Kroesen, Handy, and Chorus 2017), the fear of exposure to the virus while riding transit may be impacting their level of concern. This same group reported bicycling about 50% more than other groups as well.

Table 3 shows the results of the set of ordered probit models that investigate the multivariate relationships driving behaviors during the pandemic, in the context of one’s attitudes. After controlling for respondents’ personal and household characteristics, location, pre-pandemic behaviors, and other general attitudes, COVID-related attitudinal factors were still statistically significant in models of traveler behavior and activity engagement during the pandemic. Concern about pandemic response and feeling that society might be over-reacting to the virus is related to increased frequency of dining out and private vehicle use. Concern about having a severe reaction to the virus is related to increased telecommuting and decreased in-person grocery shopping and restaurant dining. Highlighting the effect of COVID perceptions on traveler behaviors during the pandemic, the models in Table 3 show that perceiving an activity as high or extremely high risk (of being exposed to COVID) decreased its frequency. Moreover, in all five models, pre-pandemic behavior is a strong and significant predictor of pandemic-era behavior, indicating considerable presence of state-dependence in traveler behaviors.
| Frequency categories | Number of days using mode/doing activity | Estimate (t-stat) | Estimate (t-stat) | Estimate (t-stat) | Estimate (t-stat) | Estimate (t-stat) | Estimate (t-stat) |
|----------------------|----------------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|                      | Private vehicle                         | 0.15 (10.48)     | 0.19 (5.92)      | 0.18 (11.66)     | 0.31 (17.79)     | -0.13 (-4.03)    |                  |
|                      | Transit                                 | -0.13 (-8.58)    | 0.06 (1.7)       | -0.09 (-5.64)    | -0.13 (-7.27)    | 0.04 (1.08)      |                  |
|                      | Grocery Shopping                        | -0.44 (-7.1)     |                  |                  |                  |                  |                  |
|                      | Dining Out                              | -0.23 (-7.24)    |                  |                  |                  |                  |                  |
|                      | Working from home                       |                  |                  |                  |                  | 0.26 (4.21)      |                  |
| COVID Attitudes       | Private vehicle use – Never             | -0.88 (-12.12)   |                  |                  |                  |                  |                  |
|                      | Private vehicle use - Every day          | 0.92 (30.51)     |                  |                  |                  |                  |                  |
| Pre-pandemic Behavior | Transit use – Weekly                    | 1.18 (17.88)     |                  |                  |                  |                  |                  |
|                      | Shop for grocery - A few times/month    |                  | 0.69 (9.28)      |                  |                  |                  |                  |
|                      | Shop for grocery - A few times/week     |                  | 1.27 (17.18)     |                  |                  |                  |                  |
|                      | Shop for grocery - Every day             |                  | 1.84 (17.67)     |                  |                  |                  |                  |
|                      | Dine out - A few times/month             |                  | 0.61 (12.08)     |                  |                  |                  |                  |
|                      | Dine out - A few times/week              |                  | 1.11 (20.7)      |                  |                  |                  |                  |
|                      | Dine out - Every day                     |                  | 1.75 (14.21)     |                  |                  |                  |                  |
|                      | Work from home - At least once/week      |                  | 0.37 (5.91)      |                  |                  |                  |                  |
|                      | Work from home - Had option, but never did|                  | -0.41 (-3.7)     |                  |                  |                  |                  |
| Person Characteristics| Age: 30-44                               | 0.16 (2.6)       | -0.18 (-3.63)    |                  |                  |                  |                  |
|                      | Age: 45-59                               |                  | -0.3 (-5.83)     | 0.12 (1.83)      |                  |                  |                  |
|                      | Age: 60 plus                             |                  | -0.41 (-5.14)    | -0.24 (-4.72)    |                  |                  |                  |
|                      | Education: Some college                  |                  |                  |                  |                  |                  |                  |
|                      | Education: Bachelor's or higher          |                  | -0.1 (-2.62)     | -0.13 (-3.29)    | -0.1 (-2.21)     |                  |                  |
|                      | Gender: Female                           |                  |                  |                  |                  |                  |                  |
|                      | Race: Black or African American          |                  |                  |                  |                  |                  |                  |
|                      | Race: Asian                              |                  |                  |                  |                  |                  |                  |
|                      | Hispanic                                 |                  |                  |                  |                  |                  |                  |
|                      | Disability: Reported at least one disability (vision,physical,hearing,cognitive) | -0.09 (-2.65) | 0.34 (5.5) | 0.16 (4.04) |                |                  |                  |
|                      | Employed during the time of the survey   | 0.24 (8.48)      | 0.3 (4.61)       | 0.13 (4.51)      | 0.15 (4.11)      |                  |                  |
|                      | Industry: Essential workers              |                  |                  |                  |                  |                  | -0.32 (-5.38)    |
|                      | Industry: Manufacturing and construction  |                  |                  |                  |                  |                  | -0.42 (-3.24)    |
|                      | Tested positive for the virus            | -0.32 (-2.91)    | 0.56 (3.25)      | 0.29 (2.29)      |                  |                  |                  |
### Household

| Children present in the household | 0.04 (-1.41) |
|----------------------------------|--------------|
| Household vehicles: 0            | -0.68 (-8.22)|
| Household vehicles: 1 or more    | 1.23 (15.2)  |
| Household vehicles: 3 or more    | 0.19 (4.73)  |
| Income: $35,000 to $99,999       | -0.41 (-6)   |
| Income: $100,000 or more         | -0.68 (-7.98)|
| Income decreased during the pandemic | -0.19 (-4.48) |
|                                  | 0.23 (3.96)  |

### Location

| Census division: East North Central (IN,IL,MI,OH,WI) | 0.1 (2.77) |
|----------------------------------------------------|------------|
| Census division: Mountain except Arizona (CO,JD,NM,MT,UT,NV,WW) | 0.16 (3.28) |
| Census division: South Central (AL,KY,MS,TN,AR,LA,OK,TX) | 0.18 (1.96) |
| Population density: Rural                          | 0.16 (2.94) |
| Population density: Suburban                       | -0.77 (-5.1) |

### Other Attitudes

| Agree: I liked being outside.                      | 0.13 (3.15) |
|----------------------------------------------------|-------------|
| Agree: Learning how to use new technologies is often frustrating. | 0.26 (4.3) |
| Agree: I dislike change.                            | -0.14 (-2.43) |
| Agree: I am committed to using a less polluting means of transportation as much as possible. | 0.4 (6.82) |
| Agree: Having shops and services within walking distance of my home is important. | 0.11 (3.93) |
| Agree: In-person shopping is usually a chore for me. | -0.13 (-4.64) |
| Agree: I like working from home.                    | 0.52 (7.9)  |

### Sample size (unweighted)

|                         | 7047 | 7012 | 7034 | 7041 | 2116 |
|-------------------------|------|------|------|------|------|
| Pseudo R-Square         | 0.154| 0.376| 0.089| 0.121| 0.082|

### Thresholds: Estimate (t-stat)

|                         | 0.72 (7.64) | 0.48 (4.10) | 1.10 (15.22) | 1.89 (25.41) | 0.31 (3.23) |
|-------------------------|-------------|-------------|--------------|--------------|-------------|
|                         | 1/2         | 1/2         | 1/2          | 1/2          | 1/2         |
|                         | 1.7 (17.81) | 1.25 (14.37) | 1.89 (25.41) | 0.31 (3.23)  |             |
|                         | 2/3         | 2/3         | 2/3          | 2/3          |             |
|                         | 2.59 (26.83)| 2.59 (26.83) | 2.59 (26.83) | 2.59 (26.83) |             |
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Appendix

Table 4. Standard Errors Associated with the Proportions Shown in Table 1

|                          | Primarily concerned about health | Equally concerned about health and the response | Least concerned about health and about the response | Primarily concerned about the response |
|--------------------------|---------------------------------|-----------------------------------------------|---------------------------------------------------|---------------------------------------|
| Age                      |                                 |                                               |                                                   |                                       |
| 18-29 years              | 0.7%                            | 0.9%                                          | 1.1%                                              | 1.2%                                  |
| 30-44 years              | 0.8%                            | 1.0%                                          | 1.1%                                              | 1.4%                                  |
| 45-59 years              | 0.8%                            | 1.0%                                          | 1.0%                                              | 1.4%                                  |
| 60+ years                | 0.9%                            | 1.0%                                          | 1.1%                                              | 1.3%                                  |
| Gender                   |                                 |                                               |                                                   |                                       |
| Female                   | 0.9%                            | 1.1%                                          | 1.2%                                              | 1.5%                                  |
| Male                     | 0.9%                            | 1.1%                                          | 1.2%                                              | 1.5%                                  |
| Education                |                                 |                                               |                                                   |                                       |
| High school or less      | 0.9%                            | 1.1%                                          | 1.2%                                              | 1.5%                                  |
| Some college             | 0.9%                            | 1.0%                                          | 1.1%                                              | 1.4%                                  |
| Bachelor or higher       | 0.9%                            | 1.0%                                          | 1.1%                                              | 1.3%                                  |
| Annual household income  |                                 |                                               |                                                   |                                       |
| income in 2019* (i.e., pre-pandemic income) | |                                                |                                                   |                                       |
| Less than $35,000        | 0.7%                            | 0.9%                                          | 1.1%                                              | 1.2%                                  |
| $35,000 to $49,999       | 0.6%                            | 0.8%                                          | 0.8%                                              | 0.9%                                  |
| $50,000 to $74,999       | 0.7%                            | 0.8%                                          | 0.9%                                              | 1.2%                                  |
| $75,000 to $99,999       | 0.6%                            | 0.7%                                          | 0.8%                                              | 1.1%                                  |
| $100,000 to $124,999     | 0.6%                            | 0.7%                                          | 0.9%                                              | 1.1%                                  |
| $125,000 or more         | 0.8%                            | 1.0%                                          | 1.0%                                              | 1.3%                                  |
| Household vehicles       |                                 |                                               |                                                   |                                       |
| 0                        | 0.5%                            | 0.6%                                          | 0.9%                                              | 0.7%                                  |
| 1                        | 0.8%                            | 1.0%                                          | 1.1%                                              | 1.2%                                  |
| 2                        | 0.9%                            | 1.1%                                          | 1.2%                                              | 1.5%                                  |
| 3                        | 0.8%                            | 0.9%                                          | 1.0%                                              | 1.3%                                  |
| 4 or more                | 0.5%                            | 0.7%                                          | 0.6%                                              | 1.0%                                  |
| Presence of children     |                                 |                                               |                                                   |                                       |
| Present                  | 0.9%                            | 1.1%                                          | 1.2%                                              | 1.5%                                  |
| Attitudes (Percent of those who agree or strongly agree with statement) | |                                                |                                                   |                                       |
| Learning how to use new technologies is often frustrating to me | 0.9%                            | 1.1%                                          | 1.1%                                              | 1.4%                                  |
| I am committed to using less polluting means of transportation as much as possible | 0.9%                            | 1.1%                                          | 1.2%                                              | 1.3%                                  |
| Even if I do not end up buying anything, I still enjoy going to stores and browsing | 0.9%                            | 1.1%                                          | 1.2%                                              | 1.5%                                  |
| Having shops and services within walking distance of my home is important to me | 0.9%                            | 1.1%                                          | 1.2%                                              | 1.5%                                  |
| I dislike change         | 0.9%                            | 1.1%                                          | 1.2%                                              | 1.5%                                  |

Table 4. Standard Errors Associated with the Proportions Shown in Table 1
### Table 5. Standard Errors Associated with the Proportions Shown in Table 2

|                          | Primarily concerned about health | Equally concerned about health and the response | Least concerned about health and about the response | Primarily concerned about the response |
|--------------------------|---------------------------------|-----------------------------------------------|-----------------------------------------------------|--------------------------------------|
| **Restaurant Patronage** | 2884                            | 2014                                          | 1599                                               | 1092                                 |
| Number of days dining out in the past week | 0.7%                            | 1.1%                                          | 1.1%                                               | 1.5%                                 |
|                          | 0                               | 0.9%                                          | 1.0%                                               | 1.4%                                 |
|                          | 2–3                             | 0.4%                                          | 0.8%                                               | 1.1%                                 |
|                          | 4 or more                       | 0.2%                                          | 0.2%                                               | 0.4%                                 |
| **In-person Grocery**    | 0                               | 0.8%                                          | 0.9%                                               | 1.0%                                 |
| Shopping Number of days grocery shopping in the past week | 0.9%                            | 1.1%                                          | 1.2%                                               | 1.5%                                 |
|                          | 1                               | 0.9%                                          | 1.0%                                               | 1.5%                                 |
|                          | 4 or more                       | 0.3%                                          | 0.5%                                               | 0.8%                                 |
| **Online Shopping**      | 0                               | 0.9%                                          | 1.2%                                               | 1.5%                                 |
| Number of days ordering non-grocery items in the past week | 0.9%                            | 1.0%                                          | 1.1%                                               | 1.4%                                 |
|                          | 1                               | 0.8%                                          | 1.0%                                               | 1.4%                                 |
|                          | 4 or more                       | 0.3%                                          | 0.6%                                               | 0.7%                                 |
| **Work from Home**       | 780                             | 614                                           | 430                                                | 261                                  |
| (Workers who had the choice to work from home) | 1.8%                            | 1.8%                                          | 2.4%                                               | 3.1%                                 |
| Percent Working Entirely Remote in Past 7 Days (zero trips to work, worked from home 5+ days) | 1.8%                            | 1.8%                                          | 2.4%                                               | 3.1%                                 |
| **Daily travel**         | 801                             | 614                                           | 430                                                | 261                                  |
| (Based on the number of days mode was used in the 7-day period prior to the survey) | 0.8%                            | 0.9%                                          | 1.1%                                               | 1.0%                                 |
| Private vehicle Number of days using the mode in the past week ($\chi^2=376$, $p=0.000$) | 0.8%                            | 1.0%                                          | 1.1%                                               | 1.3%                                 |
|                          | 1                               | 0.8%                                          | 1.0%                                               | 1.5%                                 |
|                          | 4 or more                       | 0.5%                                          | 0.8%                                               | 0.7%                                 |
| Transit use Share of respondents who used the mode | 0.5%                            | 0.8%                                          | 0.7%                                               | 0.8%                                 |
| **Personal bike**        | 70                              | 614                                           | 430                                                | 261                                  |
| Share of respondents who used the mode | 0.7%                            | 1.0%                                          | 1.0%                                               | 1.2%                                 |
| **Immobility**           | 70                              | 614                                           | 430                                                | 261                                  |
| Share of respondents who did not travel at all | 0.4%                            | 0.4%                                          | 0.4%                                               | 0.4%                                 |

Table 5. Standard Errors Associated with the Proportions Shown in Table 2