**Supplementary Material: Univariable mixed-effects logistic regression modelling results**

**Table S1. Results of univariable mixed models examining the association between various establishment- and individual-level variables and hand sanitizer use.**

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| --- | --- | --- | --- |
| **Independent variable** | **OR** | **95% CI** | **P value** |
| Establishment type (mall, grocery store, and othersa) | N/A | N/A | N/A |
| Day of establishment visit (weekday vs. weekend) | 0.97 | 0.44, 2.13 | 0.937 |
| Time of dayb: |  |  | 0.698c |
| Morning (referent) | - | - | - |
| Afternoon | 0.75 | 0.33, 1.71 | 0.499 |
| Evening | 0.76 | 0.37, 1.54 | 0.438 |
| Mean temperature (oC) |  |  | 0.100c |
| < 20 (referent) | - | - | - |
| 20-22 | 2.15 | 1.07, 4.35 | 0.033 |
| > 22 | 1.11 | 0.42, 2.91 | 0.837 |
| Precipitation (yes vs. no) | 0.98 | 0.50, 1.95 | 0.962 |
| COVID-19 signage posted at entrance (yes vs. no) | 2.39 | 1.29, 4.43 | 0.006 |
| Hand sanitizer dispenser available (yes vs. no) | N/A | N/A | N/A |
| Automatic door(s) or touch-free entry? |  |  | 0.163c |
| No (referent) | - | - | - |
| Yes, some doors | 2.04 | 0.25, 17.04 | 0.509 |
| Yes, all doors | 0.47 | 0.99, 2.25 | 0.346 |
| Group status (in group of ≥ 2 vs. alone) | 1.03 | 0.58, 1.84 | 0.912 |
| Shopper is caregiver, parent, or guardian (yes vs. no) | 1.54 | 0.61, 3.89 | 0.365 |
| Carrying, pushing, or holding item or person (yes vs. no) | 0.31 | 0.18, 0.53 | < 0.001 |
| Individual is wearing a mask (yes vs. no) | 3.53 | 2.03, 6.13 | < 0.001 |
| Type of mask worn: |  |  | 0.952c |
| Cloth (referent) | - | - | - |
| Medical | 1.19 | 0.37, 3.84 | 0.777 |
| N95 fitted or equivalent | 1.07 | 0.25, 4.55 | 0.925 |
| Maintains ≥2 m from others upon entry | 1.10 | 0.55, 2.21 | 0.793 |
| Visible or audible coughing/sneezing by individual (yes vs. no) | N/A | N/A | N/A |

a This option includes hardware stores, department stores, and a movie theatre.  
b Morning (9-11:59am), afternoon (12-4:59pm), and evening (5pm and later).

c Represents P values for the entire categorical variable.  
\* For all models, the number of shopper observations was 946, and the number of establishments (cluster-level variable) was 21. Two variables had fewer observations: shopper is caregiver, parent, or guardian (n = 294); and individual maintains ≥ 2 m from others upon entry (n = 521).  
\*\* N/A = model not possible to estimate due to lack of variability in the exposure or insufficient observations per cell.

**Table S2. Results of univariable mixed models examining the association between various establishment- and individual-level variables and mask use.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Independent variable** | **OR** | **95% CI** | **P value** |
| Establishment type: |  |  | 0.021d |
| Shopping mall (referent) | - | - | - |
| Grocery store | 1.57 | 1.14, 2.15 | 0.005 |
| Othera | 1.29 | 0.87, 1.93 | 0.208 |
| Day of establishment visit (weekday vs. weekend) | 0.98 | 0.63, 1.52 | 0.920 |
| Time of dayb: |  |  | 0.031d |
| Morning (referent) | - | - | - |
| Afternoon | 0.87 | 0.59, 1.27 | 0.468 |
| Evening | 0.60 | 0.40, 0.90 | 0.013 |
| Mean temperature (oC) |  |  | 0.711d |
| < 20 (referent) | - | - | - |
| 20-22 | 0.92 | 0.55, 1.52 | 0.735 |
| > 22 | 0.85 | 0.58, 1.26 | 0.430 |
| Precipitation (yes vs. no) | 0.65 | 0.46, 0.93 | 0.017 |
| COVID-19 signage posted at entrance (yes vs. no) | 1.09 | 0.78, 1.53 | 0.617 |
| Hand sanitizer dispenser available (yes vs. no) | 0.73 | 0.431, 1.23 | 0.231 |
| Automatic door(s) or touch-free entry? |  |  | 0.011d |
| No (referent) |  |  | - |
| Yes, some doors | 1.64 | 1.01, 2.67 | 0.045 |
| Yes, all doors | 1.53 | 1.14, 2.08 | 0.005 |
| Group status (in group of ≥ 2 vs. alone) | 0.80 | 0.58, 1.11 | 0.177 |
| Shopper is caregiver, parent, or guardian (yes vs. no) | 1.27 | 0.72, 2.23 | 0.406 |
| Carrying, pushing, or holding item or person (yes vs. no) | 0.77 | 0.56, 1.06 | 0.104 |
| Maintains ≥2 m from others upon entry | 0.99 | 0.65, 1.51 | 0.949 |
| Hand sanitizer use upon entry (yes vs. no) | 3.43 | 1.99, 5.94 | < 0.001 |
| Visible or audible coughing/sneezing by individual (yes vs. no) | N/A | N/A | N/A |

a Includes hardware stores, department stores, and one theatre.  
b Morning (9-11:59am), afternoon (12-4:59pm), and evening (5pm and later).  
c Includes cloth, and N95 fitted or equivalent masks.

d Represents P values for the entire categorical variable.  
\* For all models, the number of shopper observations was 946, and the number of establishments (cluster-level variable) was 21. Two variables had fewer observations: shopper is caregiver, parent, or guardian (n = 294); and individual maintains ≥ 2 m from others upon entry (n = 521).  
\*\* N/A = model not possible to estimate due to lack of variability in the exposure or insufficient observations per cell.

**Table S3. Results of univariable mixed models examining the association between various establishment- and individual-level variables and distancing (maintains ≥ 2 m from others upon entry).**

|  |  |  |  |
| --- | --- | --- | --- |
| **Independent variable** | **OR** | **95% CI** | **P value** |
| Establishment type (mall, grocery store, and othera) | N/A | N/A | N/A |
| Day of establishment visit (weekday vs. weekend) | 1.06 | 0.60, 1.89 | 0.835 |
| Time of dayb: |  |  | 0.370d |
| Morning (referent) | - | - | - |
| Afternoon | 0.63 | 0.33, 1.21 | 0.165 |
| Evening | 0.75 | 0.41, 1.36 | 0.340 |
| Mean temperature (continuous) | 0.87 | 0.80, 0.94 | 0.001 |
| Precipitation (yes vs. no) | 1.19 | 0.69, 2.05 | 0.532 |
| COVID-19 signage posted at entrance (yes vs. no) | 0.67 | 0.38, 1.17 | 0.156 |
| Hand sanitizer dispenser available (yes vs. no) | 0.64 | 0.15, 2.84 | 0.557 |
| Automatic door(s) or touch-free entry? |  |  | 0.907d |
| No (referent) | - | - | - |
| Yes, some doors | 1.25 | 0.12, 13.47 | 0.857 |
| Yes, all doors | 0.85 | 0.14, 5.31 | 0.864 |
| Group status (in group of ≥ 2 vs. alone) | 0.47 | 0.30, 0.75 | 0.002 |
| Shopper is caregiver, parent, or guardian (yes vs. no) | 1.96 | 0.94, 4.12 | 0.075 |
| Carrying, pushing, or holding item or person (yes vs. no) | 0.92 | 0.58, 1.46 | 0.718 |
| Individual is wearing a mask (yes vs. no) | 1.00 | 0.99, 1.56 | 0.986 |
| Type of mask worn: |  |  | 0.021d |
| Cloth (referent) | - | - | - |
| Medical | 0.69 | 0.21, 2.25 | 0.542 |
| N95 fitted or equivalent | 2.63 | 0.68, 10.12 | 0.161 |
| Hand sanitizer used upon entry (yes vs. no) | 1.05 | 0.52, 2.10 | 0.900 |
| Visible or audible coughing/sneezing by individual (yes vs. no) | N/A | N/A | N/A |

a This option includes hardware stores, department stores, and a movie theatre.  
b Morning (9-11:59am), afternoon (12-4:59pm), and evening (5pm and later).  
c Includes cloth, and N95 fitted or equivalent masks.  
d Represents P values for the entire categorical variable.  
\* For all models, the number of shopper observations was 521, and the number of establishments (cluster-level variable) was 21. Shopper is caregiver, parent, or guardian (n = 294) was the exception and had fewer observations as it was conditional.  
\*\* N/A = model not possible to estimate due to lack of variability in the exposure or insufficient observations per cell.