

What precautions do people take for COVID-19?

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Appendix

Survey Methodology

The survey we conducted ran in 26 countries between May and October 2020: Argentina, Brazil, Canada, Chile, Colombia, Egypt, France, India, Indonesia, Israel, Italy, Japan, Kenya, Mexico, Nigeria, Peru, Philippines, Portugal, South Africa, Spain, Sweden, Taiwan, Thailand, Turkey, the United Kingdom, and the United States. We asked questions that included ones on precaution-taking, feeling better or worse (i.e., positive and negative affect), and offline interactions. Participation was voluntary.

COVID-19 precaution-taking

- Which of these recommendations did you follow during the last seven days? (Check all that apply)
 - Wash your hands with soap or used hand sanitizer several times per day
 - Wear a face mask
 - Avoid crowded places
 - Avoid public locations
 - Keep your distance from others (6 feet or 2 meters)
 - Do not leave home except for essentials
 - Do not leave home at all
 - None of the above

Offline interactions

- In the last seven days, how often did you interact in person with people other than those you live with?
 - Not at all in the last seven days
 - Only once in the last seven days
 - A few times in the last seven days
 - Once per day
 - A few times per day or more

Positive and negative affect

- Please agree or disagree with the following statement: In the last seven days, I felt good most of the time.
 - Strongly disagree
 - Disagree
 - Neither agree nor disagree
 - Agree
 - Strongly agree

- Please agree or disagree with the following statement: In the last seven days, I felt bad most of the time.
 - Strongly disagree
 - Disagree
 - Neither agree nor disagree
 - Agree
 - Strongly agree

To account for response bias, prevalence metrics were reweighted by variables such as age, gender, country, and number of friends to better represent the average monthly active Facebook user.

Data

To understand how precaution-taking related to activity on Facebook, we examined both the proportion of views of posts in the past 7 days that were classified as COVID-19-related, as well as the proportion of reactions given in the past 7 days that were “care” reactions. No researchers viewed individual-level data. All data used was de-identified and analyzed in aggregate.

Data about COVID-19 cases and deaths are based on data from [OurWorldInData.org](https://ourworldindata.org) (Hasell, J., Mathieu, E., Beltekian, D. et al.), which is itself based on data from the [COVID-19 Data Repository by the Center for Systems Science and Engineering \(CSSE\) at Johns Hopkins University](https://covid19.jhu.edu/).

Analyses

- *How did precaution-taking change over time?* To examine if these changes were statistically significant, the daily prevalence of each reported precaution was regressed against the date. Globally (i.e., across respondents in all 26 countries), there was a significant increase in mask-wearing and a significant decrease in all other precautions (all $p < 0.05$). In the US, there was a significant increase in mask-wearing and significant decrease in all other precautions (all $p < 0.05$) except for social distancing (no significant change, $p = 0.08$).
- *Precaution-taking was correlated with the deadliness of the disease.* The percentage of respondents in each country who reported taking at least one precaution (or that reported social distancing) was correlated with the COVID-19 death rate in that country (in both cases, $p < 0.05$ using a test for association between paired samples using Pearson’s r).
- *Was precaution-taking associated with seeing more people in person?* Using OLS regression, we examined the association between offline interactions and taking different precautions, controlling for demographic differences such as age, gender, and country. Beta coefficients indicate the standard-deviation increase in having more offline interactions when adopting a given precaution. To examine the potential causal association between precaution-taking and offline interactions, we used Granger causality to test whether the trend for the weekly change in precaution-taking was significantly associated with the weekly change in having offline interactions.
- *Was precaution-taking associated with feeling better or feeling worse?* Using OLS regression, we examined the association between both positive and negative affect and taking different precautions, controlling for demographic differences such as age,

gender, and country. Beta coefficients indicate the standard-deviation increase in affect when adopting a given precaution.

- *Was viewing COVID-19-related content on Facebook associated with precaution-taking?* Using logistic regression, we examined the association between taking different precautions (as well as taking one or more precautions) and viewing COVID-19-related content in the past seven days, controlling for demographic differences such as age, gender, and country. There were significant associations for taking one or more precautions, mask-wearing, and not leaving home at all (all $p < 0.05$). An automated classifier was used to identify posts that were likely COVID-19-related (e.g., via identifying words mentioned, such as “COVID”).
- *Was precaution-taking associated with using the care reaction?* Using OLS regression, we examined the association between the proportion of “care” reactions given (among all reactions given) in the past seven days and taking different precautions, controlling for demographic differences such as age, gender, and country. We observed significant effects for mask-wearing, not leaving home at all, and avoiding crowded places (all $p < 0.05$). Beta coefficients indicate the increase in proportion of “care” reactions used when adopting a given precaution.

Limitations

While the data spans almost five months, it does not include the months of March and April 2020, where there may have been greater changes in precaution-taking and government restrictions. Trends may have also changed since the study was conducted. No p -value adjustments for multiple comparisons were made. Finally, all analyses are observational, so further research would be necessary to determine cause and effect.