UCLA ASA DataFest 2020

Team .CSV

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INTRODUCTION

Our team was interested in understanding the success of social distancing guidelines in suppressing COVID-19. Utilizing Google Maps data on mobility rates to quantify social distancing, we investigated the association between California counties' mobility rates and COVID-19 rates. However, we found that counties with the most "socially distanced" mobility rates — for example, counties with large increases in residential rates (meaning more people are staying home) — actually had generally high COVID-19 rates, which contradicted our expectations. Due to our personal observations regarding social distancing precautions in Los Angeles County, as well as Los Angeles' coronavirus rates being the highest in California, we decided to make Los Angeles a case study as its residents seem to be following Stay at Home measures but the county continues to have a high COVID-19 rate. Thus, we conducted our own data collection and analysis about Californians' experiences with safety measures taken at grocery stores in LA County and not in LA county.

METHODS

We used Google Sheets and R to clean the mobility data and COVID-19 data. Then, we used Tableau to produce visualizations of the relationship between mobility rates and COVID-19 by county. Finally, we used Google Forms to conduct a survey of social-distancing experiences of LA County residents vs. non-LA County residents and analyzed and visualized the results with Google Sheets.

FINDINGS

Our results contradicted our expectations of how social distancing would be related to COVID-19 rates by county. In general, we found that the mobility rates of counties with the highest COVID-19 rates actually showed measures of strong social distancing relative to other counties. These results were consistent across the 3 mobility rates that best represent social distancing: Residential, Workplace, and Grocery & Pharmacy. Thus, even though people in these counties were relatively successfully following social distancing guidelines, these counties still exhibit high rates of COVID-19. Brainstorming reasons for this discrepancy, we hypothesized that people in such counties may be following social distancing orders more but are following safety precautions when in proximity to others less. Our survey of the experiences of LA County residents vs. non-LA County residents shows exactly that: people in LA County, which has the highest COVID-19 rate despite strong social distancing measures, witnessed lower safety precautions taken at public places such as grocery stores compared to residents of other counties.

CONCLUSIONS

Though of course social distancing is important in suppressing COVID-19, it alone cannot stop the spread of the disease. Numerous other factors, such as safety precautions in places like grocery stores or population density, surely play a role in its spread as well. Counties such as LA County should investigate why their lower mobility rates haven't stopped rising COVID-19 rates and how successfully precautions are being followed, specifically at the grocery-store level. Additionally, they should promote the sanitation of items brought into households.

DATA SOURCES:

Google COVID-19 Community Mobility Reports: https://www.google.com/covid19/mobility/
USA Facts COVID-19 Data: https://usafacts.org/visualizations/coronavirus-covid-19-spread-map/
Team .CSV's CA Google Form Survey and Survey Responses