The Association Between Mental Health And Preventive Regulation Over Covid-19

Mary Margaret Mitchell & Ben Porter

Mississippi Academy of Sciences
April 1, 2022

MISSISSIPPI STATE
UNIVERSITY™

Department of Psychology

Introduction

- COVID-19 is a worldwide pandemic with many varying effects on people.
- There have been several different waves of COVID-19.
- Several studies have looked at isolation or loneliness during COVID-19.
- Anxiety and depression have increased overall since COVID-19 began.
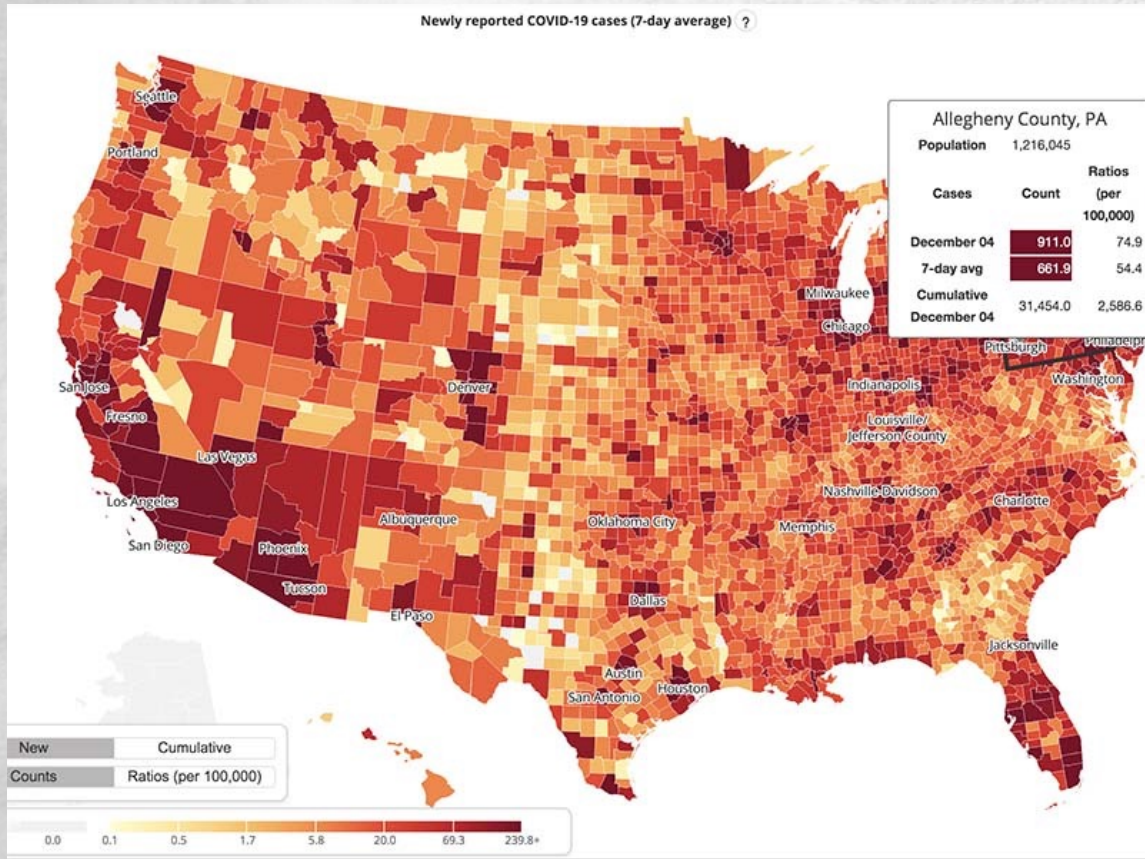- CDC used the Household Pulse Survey to track effects from COVID-19.

Background: Government Regulation

- Governments often take actions to encourage or require actions of the general public.
- Most recently: mask mandates, gathering bans, stay at home orders, bars closing orders

Methods: Data

Newly reported COVID-19 cases (7-day average)

Allegheny County, PA
Population   1,216,045

	Cases	Count	Ratios (per 100,000)
December 04		911.0	74.9
7-day avg		661.9	54.4
Cumulative December 04		31,454.0	2,586.6

New / Cumulative
Counts / Ratios (per 100,000)

0.0   0.1   0.5   1.7   5.8   20.0   69.3   239.8+

COVIDcast dashboard

- COVIDcast is a collection of Facebook surveys, healthcare partners, technology companies, health insurance claims, internet-based surveys, COVID antigen tests, search trends, and mobility data.
- COVIDcast datasets were used for anxiety and depression levels.
- Each variable represents the proportion of individuals in a particular county endorsing depression or anxiety, respectively.
- CDC datasets were used for preventive measures, including mask mandates, closing/reopening of bars, gathering bans, and stay at home orders.
- CDC datasets were at county level and collected day by day.
- Over 1.5 million data points

Department of Psychology

Methods: Analysis

- Depression and anxiety were analyzed separately
- Cross classified models were used with random intercepts for county and day
- Fixed effects for bar restrictions, gathering bans, mask mandates, and stay-at-home orders were entered simultaneously in each model

| Values	Closing Bars	Mask Mandates	Stay At Home Orders	Gathering Bans
0	Fully open	No masks required	No stay at home orders	No ban
1	Open with restrictions (occupancy % or carryout only)	Masks required	Recommended	Bans on groups of a certain size
2	Completely closed		Mandatory for at least one group (e.g., at risk groups)	Bans on all gatherings

Results

Depression
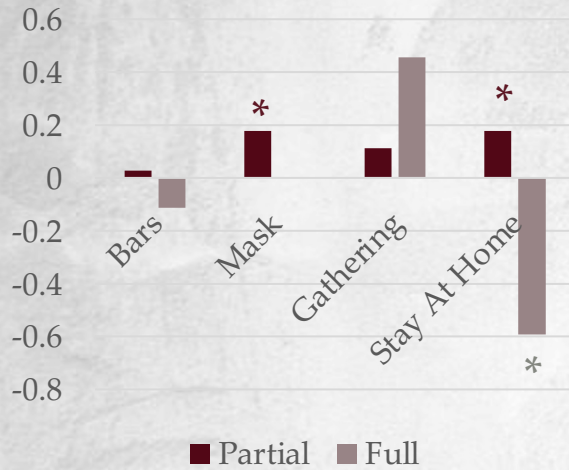
Anxiety
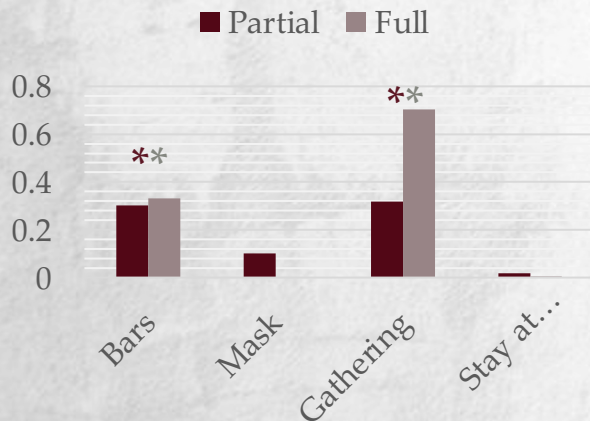
Anxiety

- Anxiety levels rose .30% and .33% for partial bar closures and full bar closures, respectively

- Anxiety levels rose .32% and .70% for partial gathering bans and full gather bans, respectively

Depression

- Depression levels rose .11% and .46% for partial and full gathering bans, respectively

- Depression levels rose .18% for mask mandates

- Depression levels rose .18% and decreased .59% for partial stay at home orders and full stay at home orders, respectively

Discussion

- Increased levels of preventive measures were generally associated with increased reports of depression and anxiety, except for complete stay-at-home orders being associated with lower levels of depression

- Governments can use this research for decisions on future government regulations

- Increased reporting of symptoms may result from the increased salience of COVID as burdens exist but may also reflect the direct impact that these restrictions have on individuals' personal finance and well-being

- Unable to determine a casual relationship

Questions?