Group 2.4: Occupation
Ella Browder Jones
Sarah Luttenberger
Conner Patrick
Thomas Remillard

The relationship between unemployment and Covid outcomes was complicated, as clearly illustrated in your project. While areas with higher unemployment recorded higher rates of cases and deaths, the fact that unemployment tends to align with other factors, such as lower income or less access to health care, suggests the complexity of matching variables and outcomes. Grade A

November 8: Data Feminism, Chapter 4
"The process of converting qualitative experience into data can be empowering" (p. 98)
"Data, after all, is information made tractable...it can be processed by a computer" (p. 103)
"...being represented also means being made visible…" (p. 110)
"Visualization is often thought of as a way to reduce complexity, but here it operates in the reverse--to push simple, oppressive ideas to be more complex, nuanced, and just." (p. 115)
"Acts of counting and classification, especially as they relate to minoritized groups, must always balance harms and benefits" (p. 118)
"Counting is always complicated" (p. 122)
"Counting and measuring…[can be used] to hold power accountable, to reclaim overlooked histories, and to build collectivity and solidarity" (p. 123)

Through this project we looked at how unemployment rates before the pandemic affected the number of Covid cases. Unemployment is difficult to measure and count because it specifically measures people who are actively looking for work. Unemployment rates do not account for people who are not looking for jobs, people who are bound to take care of dependents (like stay at home moms or caring for elderly) or volunteers/philanthropists. So yes, counting is definitely complicated. What we count can determine what our numbers look like, and with unemployment rates, the more that we count the worse the numbers are. Additionally, unemployment and Covid are both real life experiences that heavily impact quality of life. However, these issues have been made deeply political and numerical. The quote from D'Ignazio in Data Feminism that reads, "The process of converting qualitative experience into data can be empowering" is difficult to support in this sense. Often when people are replaced with statistics, people looking at the numbers lose sight of the fact that these issues impact real people.

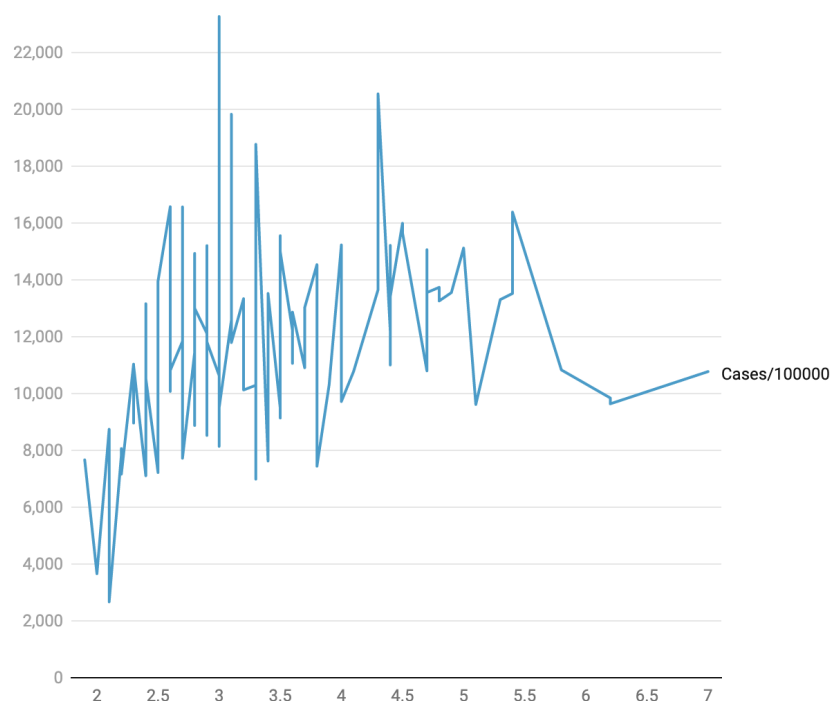November 1, collaboration document linked here

Presentation

October 29:
   1. Collaboration report, must be completed by each student: link
October 27:
   1. Collaboration report, must be completed by each student: link

Stories: personal anecdote related to our data on unemployment and covid outcomes

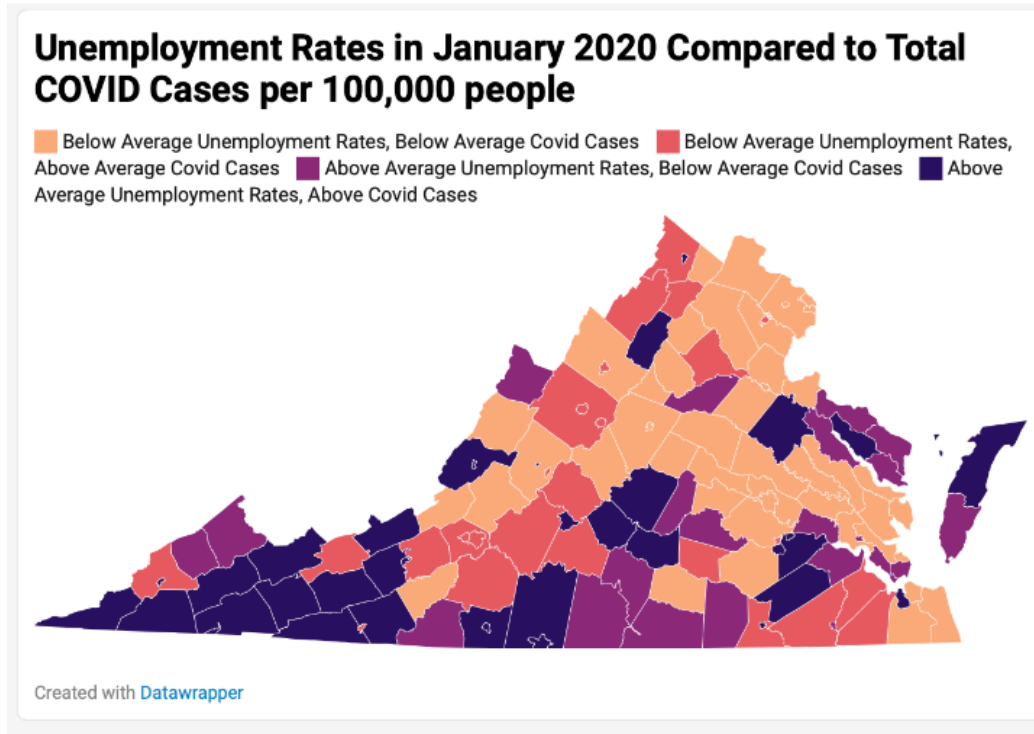**January 2020 Unemployment rates vs Covid Cases/100,000 for Virginia Counties**

Analysis: The above line graph represents the relationship between unemployment rate and and the number of covid cases per 100,000 residents in the various Virginia counties. The pre-covid unemployment rate from January 2020 is represented on the X-axis, and the Covid cases/100,000 is represented on the Y-axis. There is a slight positive correlation between unemployment rate and covid cases/100,000.

October 25
   2. Collaboration report, must be completed by each student: link
   3. Confirm comparisons for map, continue work on map and charts for posters & presentations: complete map by end of class today

Map will show relationship between covid rates/100,000 in relation to state average, and unemployment rate as it relates to the state average

1 - low unemployment (below average), low covid (below average)   (B, B)
2 - low unemployment (below average), high covid (above average)   (B, A)
3 - high unemployment (above average), low covid (below average)   (A, B)
4 - high unemployment (above average), high covid (above average) (A, A)

Unemployment Rates in January 2020 Compared to Total COVID Cases per 100,000 people

Below Average Unemployment Rates, Below Average Covid Cases ■ Below Average Unemployment Rates, Above Average Covid Cases ■ Above Average Unemployment Rates, Below Average Covid Cases ■ Above Average Unemployment Rates, Above Covid Cases

Created with Datawrapper

Analysis of Map: Our map depicts how the unemployment rates of January 2020 relate to the total covid cases throughout Virginia. With our map we are hoping to depict how preexisting unemployment and socioeconomic status in each county may relate to the severity of the pandemic. Our findings indicate that in many of the counties, lower unemployment rates meant lower total COVID cases. In counties with higher unemployment rates, the total COVID cases are higher on average. Overall, the map shows that COVID cases are generally higher amongst the unemployed citizens in Virginia. We can conclude that people in unemployment are living in less sanitary living conditions as they are more likely to be struggling in poverty. Public transportation, crowded living, and minimum wage jobs are all factors that increase COVID cases amongst people living in poverty.

4. Review discussion of intersectionality in Data Feminism (pp. 4-8): discuss implications for studying Covid data in Virginia, generally and in specific reference to demographic categories, write a short paragraph applying intersectionality to your study of Covid-19 data.

   Intersectionality applies to the study of covid data, as we recognize that different

sets of data do not exist in a vacuum, but are often interrelated. For example, there are correlations between unemployment rate and median household income, and their relationship to covid data. It is important to keep this in mind when looking at this covid data and recognising that many of these data sets are related, and can be analyzed together to even better understand the inequities in society and communities.

5. Review Virginia Health Department Covid-19 Data Insights Blog, identify 4-5 most relevant posts, assign to collaboration team to analyze relative to data

-   Vaccine effectiveness (8/23/21)
    -   Relative because vaccines can be highly effective which helps people return to the workplace.
-   Five Things to Remember When Interpreting Epidemiologic Data (9/10/21)
    -   Helps with what to look for when researching and interpreting data regarding COVID and unemployment.
-   How is VDH Calculating the Number of People Tested? (9/8/21)
    -   How testing calculations may affect our data for COVID cases.
-   Vaccine Breakthrough Questions and Answers (8/23/2021)
    -   Relates the covid positive cases and the effect of breakthrough cases on overall positive case rates
-   COVID-19 Death Disparities by Census Tract Poverty Level, Health Opportunity Index and Rurality (6/1/2021)
    -   How poverty level and living demographics can be relevant to our unemployment rates in Virginia counties.

October 18
1. Review Data Feminism about power, expand discussion in collaboration document

    Data Feminism talks in depth about missing data and how data can be adjusted based on who is counting it. For example, we are talking about unemployment rates in Virginia, but data scientists and statisticians are generally rich white men. So the people counting the information do not match the demographic of the statistic itself, which is people who are unemployed. This gap opens the door for what the book called privilege hazard where the people doing the math do not understand because of their bias and privilege.

2. Provide explanation for Virginia map

    Using datawrapper we have created maps showing unemployment rate per county in virginia pre covid and maps showing the cases/100,000 for different counties in virginia throughout the Covid-19 pandemic. Since cases per 100,000 is less skewed by population than total cases, it should be more reliable to use when looking for a correlation between base unemployment rates and covid case rates.

3. Create chart in datawrapper, post image file in collaboration document
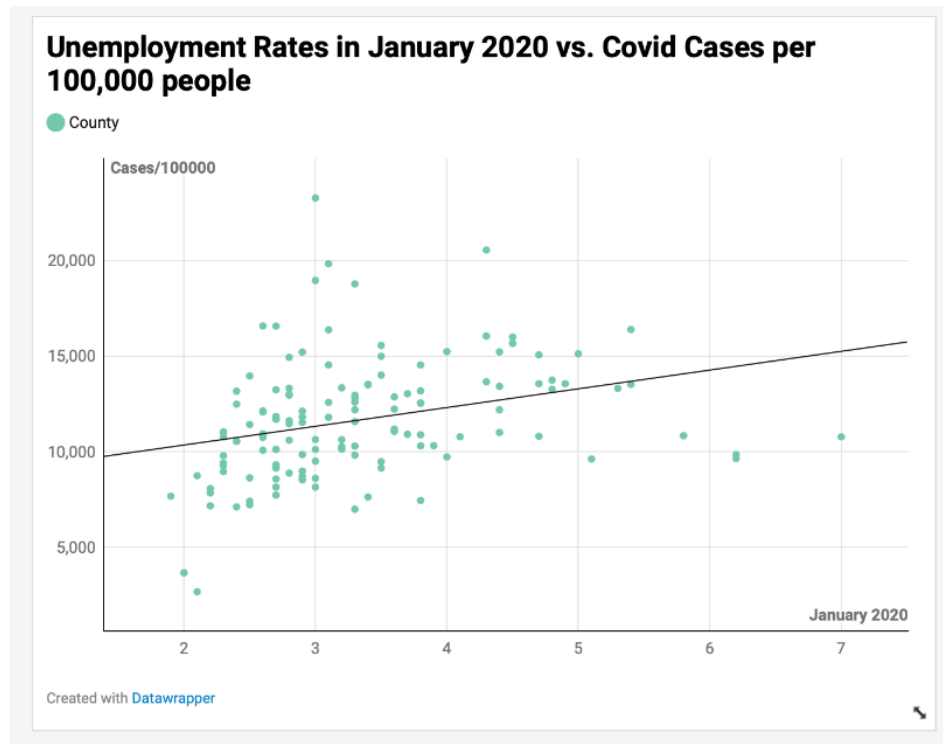
January 2020 Unemployment rates vs Covid Cases/100,000 for Virginia Counties

Analysis: This scatter plot shows the relationship between unemployment rate and and the number of covid cases per 100,000 residents in the various Virginia counties. The pre-covid unemployment rate from January 2020 is represented on the X-axis, and the Covid cases/100,000 is represented on the Y-axis. There is a slight positive correlation between unemployment rate and covid cases/100,000.

4. Questions about datawrapper: post 3 in collaboration document

1. Can you make a multivariate map with any two sets of data that are completely unrelated?
2. What are some features about datawrapper that are very beneficial to use but are often missed?
3. What are some problems with datawrapper?

5. Search algorithms: covid

https://docs.google.com/presentation/d/1-oy4S7IOMyjEShaun2PzQO8NYSmhoTNseDu LD-atfV0/edit?usp=sharing

October 13: In class
7 Principles of Data Feminism (pp. 17-18)
1. Examine power
2. Challenge power
3. Elevate emotion and embodiment
4. Rethink binaries and hierarchies
5. Embrace pluralism
6. Consider context
7. Make labor visible

How do these seven principles relate to your research on Covid-19 in Virginia? For each principle, discuss the implications for your project and for understanding Covid-19 data in Virginia.

Throughout this project we are comparing unemployment rates to COVID cases in Virginia counties. This relates to the Seven Principles of Data Feminism because there seem to be a lot of shifts in power as people lose their jobs. The shut down in the spring of 2020 caused a lot of class changes for people as they lost their jobs and then struggled to find another as jobs became limited. The covid data shows how power changes because of how people's lives were shaken up, opening the door for new employees to step in and have a new shot at power.

Discuss in groups today:
Is 1984 a useful analogy for understanding Big Tech * now and in the future?
Discuss at least 5 examples of Big Tech illustrating the value and limits of Orwell's 1984 as a tool for understanding the impact of technology on society?
Add examples and discussion to the collaboration document.
Big Tech: Apple, Amazon, Facebook, Google, Microsoft, etc.
5 examples of how 1984 pertains to our society today
1. Ads on social media can influence our purchasing habits; Social media also determines when we open phones/sites based on notifications and humans' natural desire to respond immediately
    a. Social Dilemma movie
2. Big tech does not really have the capacity for physical torment, but it does have psychological influence on what type of content and information we are exposed to on a daily basis
3. The monopolistic nature of many big tech companies has made them a necessity in our lives. Whether one likes big tech or not, they most likely need it to be successful in the modern world.
4. Big tech companies are private industries from our government, but still they are extremely tied together, making our world more similar to big brother
    a. Examples: registering to vote online, campaign funding/sponsorships, some politicians being more for privacy than not
5. In the future, technology will continue to increase exponentially and one day everything will be virtual and online
    a. When will we reach the ceiling?

Covid-19 in Virginia Project Outcomes:
Contribute to class presentation on November 12 (5 minutes from each group)
Contribute to report prepared for class (2-3 pages, including charts, graphs, and timeline)
Posters for display: 1 poster with map of Virginia cities / counties with analysis, and 1 poster with at least three charts, graphs, and timeline, with analysis, and at least 3 relevant stories from Virginia during Covid-19

Timeline: subject to change
Drafts of posters: October 20
Draft of report: October 25
Draft of presentation: November 3
Final poster: November 1
Final presentation: November 10
Final report: November 17

Spreadsheet;
https://docs.google.com/spreadsheets/d/1IexT66Y__SJ3UJo6MBnhkX6S48Q37NQzk0LjE_uRtNo/edit?usp=sharing

September 27 in Class

Review Epilogue, Counting, and prepare 3 questions about counting Covid for Dr. Stone (write in collaboration document

1. **Would you revise your epilogue based on our new COVID technologies/strategies that have surfaced throughout 2021?**
2. **How are vaccines being counted?**
3. **Numerically, how have vaccines impacted COVID counting? Would breakthrough cases still be counted the same way as other COVID infections even though the infections are typically less dangerous?**

Prepare a short statement (3 sentences) about your research project, identifying the demographic you are studying and the story you hope to tell about Covid-19 in Virginia

For our project, we are going to study the relationship between employment and occupation and covid numbers in Virginia over the course of the Pandemic. We plan to look at the differences in unemployment rate and occupational breakdown of the workforce across the state, and how that has changed over the course of the pandemic, but also how it has impacted the covid numbers throughout the state.

https://www.datawrapper.de/_/62HxR/
Finalise sources
What questions are we asking

- **How have the unemployment rates changed throughout the pandemic?**
- **How can we compare unemployment rates between 2020 and 2021? For example the one year difference like April 2020 vs April 2021**
- **How have the unemployment rates changed in comparison to each wave?**
- **Specifically, are unemployment rates different when covid is at its peak vs when it is declining?**
- **How do demographic factors shape covid outcomes? Look at unemployment rates pre-pandemic and see how covid trends differ based on socioeconomic status**

Maps that we need:
1. **Maps - January 2020, April 2020, January 2021, September 2021**
2. **Covid trends for Virginia throughout this past year and a half**

Review the new tab in spreadsheet with 2020 election outcomes by county / city

Prepare a map of Virginia visualizing the demographic data for your group

Complete all steps by the end of class, following this timeline for 25 minutes of group work:
5 minutes: review all steps, determine time needed to complete each step by end of class
5 minutes: discuss Epilogue, and prepare 3 questions
5 minutes: discuss main points for short statement, begin outline; discuss data needed to prepare map
5 minutes: complete tasks individually: write questions, draft statement, visualize data
5 minutes: review completed work, ensure all tasks are complete

September 22, Class Exercise
The most common measures for counting Covid-19 include cases, vaccinations, hospitalizations, and deaths, counted as totals, on a per capita basis, and as weekly averages. How do the following statements from Stone, Counting, shape the ways that you think about measuring the impact of Covid-19 in the United States:
"What is it about numbers that makes us put so much faith in them and trust them as oracles of truth?" (p. 100)

"Measures broadcast political measures. What we choose to measure signals what we think is important and frames how we think about problems." (p. 133)

"...the process of measuring people changes the way they behave." (p. 139)

"We make numbers and our numbers make us." (p. 178)

"No measuring stick can take into account all the contextual factors that matter for fairness...When the measuring stick doesn't measure what matters, figure out

why and change it." (p. 191)

In your collaboration document, complete these two assignments in class today: 1) write a short essay (5 sentences) referencing at least three of these quotations from Stone, and 2) draft three questions to ask Stone about how her arguments about counting relate to your project on Covid-19 data.

Short Essay -
      When Stone says that "We make numbers and our numbers make us" (p. 178) it relates perfectly to the statistics we see everyday regarding COVID. Many people drastically change their way they act and live their lives depending solely on the COVID data, the numbers that we made shape our lives. As the COVID numbers rise, it causes people to go back to quarantining, wearing masks, and social distancing. But as the numbers go down, it causes regulations and individuals to relax on mask wearing and resume normal activity. Stone references the impact numbers have on human activity again by saying, "...the process of measuring people changes the way they behave." (p. 139) The numbers during COVID represent human life and as numbers change it makes people more or less afraid of each other depending on what the numbers say. Finally, when Stone discusses how contextual factors are extremely different from numbers, it can relate to COVID because in reality numbers do not convey the personal experiences that people have been through. Some people have never had anyone die of COVID in their life thankfully, and others have experienced very traumatic losses. Numbers can not convey the personal tragedies that have happened as a result of the pandemic.

Questions:
1. Do you feel that the government could have skewed COVID numbers to make people more afraid of the virus?
2. What have you seen that compares the statistics of COVID-19 to the personal experiences of someone whose life was derailed by the virus?
3. What personal/political motives are at play in influencing covid data both nationally and locally? Have covid numbers been used to push policies that would have been unpopular if the numbers were not perceived the way that they are?

September 21 in class: until 10:45
1) Introductions
2) Confirm access to collaboration document through Canvas
3) Review assessment of collaboration from project 1, outline 6 steps to work collaboratively in project 2
4) Discuss steps to find reputable sources
5) Discuss Orwell, 1984, surveillance question, prepare to present to class

Effective Strategies to Work Collaboratively on Projects
- Communication via group chat
- Dividing work into individual tasks for efficiency

- Meeting outside of class
- Organizing project early so no one is scrambling towards the end
- Communicate with members who are absent
- Check and revise other members work

Assign Roles on Project Team

Role	Primary	Secondary	Others
Research	Thomas	Ella	Conner, Sarah
Data Collection	Conner	Thomas	Sarah, Ella
Analysis	Sarah	Conner	Ella, Thomas
Visualizations	Ella	Sarah	Thomas, Conner

Research Materials: A list of 8-10 *reputable* sources examining the impact of Covid-19 on the demographic categories (occupation) for your group (one-half of articles should be Virginia specific). Include complete citations (any format) and links to accessible texts.
- How deaths/illness rates are spread out amongst occupations
- High risk vs low risk occupations
- Things to Consider: Working from home, unemployment rates, healthcare jobs, working in labs to create vaccines, tourism industry

Nonvirginia specific:
1. https://www.bls.gov/covid19/effects-of-covid-19-pandemic-and-response-on-the-employment-situation-news-release.htm
   - Has information from every month since March 2020 on unemployment rates.
   - Provides information on the trends on unemployment by surveying Americans.
   - The "Employment Situation news release" has charts and information comparing the current month to the previous months.
   - The "Impact Summary" describes which people were interviewed and how they were conducted.
2. https://www.medrxiv.org/content/medrxiv/early/2020/03/24/2020.03.21.20031336.full.pdf
3. https://www-nber-org.ezproxy.lib.vt.edu/system/files/working_papers/w27422/w27422.pdf
   a. Jobs that are being done from home nationwide (maps and data included)

4. https://www-nber-org.ezproxy.lib.vt.edu/system/files/working_papers/w27127/w27127.pdf
   a. Relationship between population and health, includes unemployment and how job market responds to government COVID regulations, Contains data
5. https://www.ncsl.org/research/labor-and-employment/covid-19-essential-workers-in-the-states.aspx
   a. Has info on Virginia and America

Virginia specific:
1. https://www.vec.virginia.gov/covid19
   ● PEUC (pandemic compensation) is extended from 24 weeks to 53 weeks
   ● PUA (pandemic unemployment assistance) is extended from 50 to 79 weeks
   ● Federal Compensation is $300 per week for qualifying unemployed persons
     ○ All of these services are extended until September 4 2021
   ● Originally, these programs were allowing people to get double the unemployment benefits through both state and federal programs
2. https://www.lawandtheworkplace.com/2020/07/virginia-covid-19-workplace-safety-rules-now-in-effect/
   ● This article is from July 2020, towards the start of the Pandemic. The government released new mandates for the workplace. These mandates include not allowing workers with COVID symptoms or exposure to come to work, the use of PPE, sanitation and disinfection, return to work protocols after employees have COVID, social distancing, COVID employee training, and infectious disease response plans.There are also different regulations depending on the risk factor of the workplace. These mandates took effect on July 27, 2020.
3. https://thecommonwealthinstitute.org/research/profile-of-essential-workers-in-virginia-during-covid-19-women-people-of-color-and-immigrants-are-important-contributors-in-front-line-virginia-industries/
   ● Make up of "front line' workers
4. https://www.liebertpub.com/doi/pdf/10.1089/hs.2021.0041
   a. Arlington County, VA, About racial divides during COVID, includes unemployment/job info
5. https://ready.vt.edu/dashboard.html VT covid dashboard
   ● VT covid data
     ○ Total tests this academic year
       ■ Since august 2 - 11,712

- - - Last 7 days - 2,782
    - ○ Total positive tests (since august 2)
      - ■ Students - 150
      - ■ Employees - 20
      - ■ Total - 170
    - ○ 09/03 - most positive tests in one day
      - ■ 23 positive
    - ○ Estimated inactive cases - 90
      - ■ Note - interesting stat, how is this calculated?
6. https://www.bls.gov/regions/mid-atlantic/news-release/unemployment_washingtondc.htm
    a. Unemployment rates in NOVA
7. https://data.bls.gov/lausmap/showMap.jsp;jsessionid=A3034EF61A563A0321D1C03C51EF7F46._t3_07v
    a. Unemployment rate by county july 2021
8. https://www.vec.virginia.gov/latest-release
9. https://data.bls.gov/lausmap/showMap.jsp
10. https://data.mansfieldnewsjournal.com/unemployment/virginia/ST510000000000/2020-april/
    - Unemployment rate for Virginia Counties (April 2020)
11. https://usafacts.org/visualizations/coronavirus-covid-19-spread-map/state/virginia
12. https://fred.stlouisfed.org/release/tables?rid=116&eid=256391&od=2020-02-01#
    - Unemployment rates for VA counties for February 2020
13. https://usafacts.org/visualizations/coronavirus-covid-19-spread-map/state/virginia

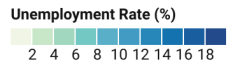**Unemployment Rates in January 2020**
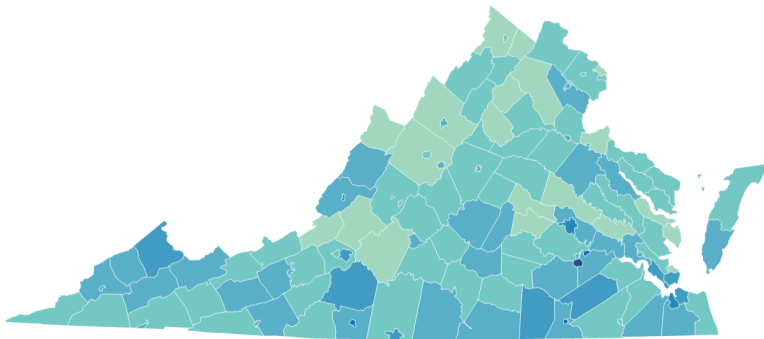
Unemployment Rate (%)

0   20
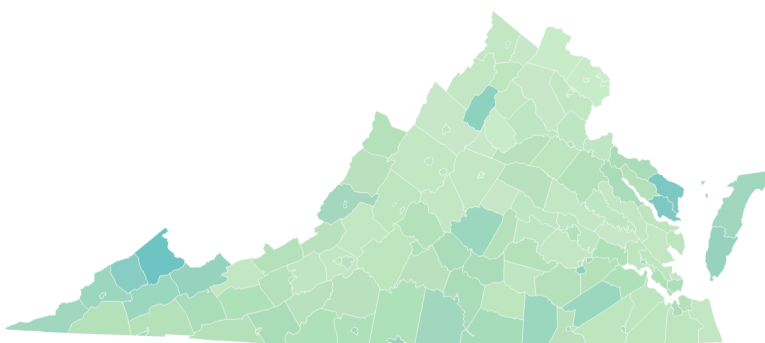
Created with Datawrapper

Unemployment Rates in April 2020

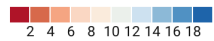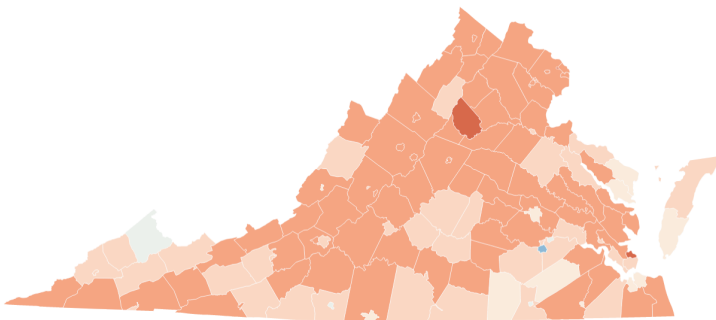**Unemployment Rate (%)**

2 4 6 8 10 12 14 16 18

Unemployment Rates January 2021

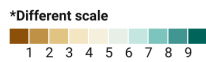2 4 6 8 10 12 14 16 18

Unemployment Rates in August 2021

*Different scale

1 2 3 4 5 6 7 8 9
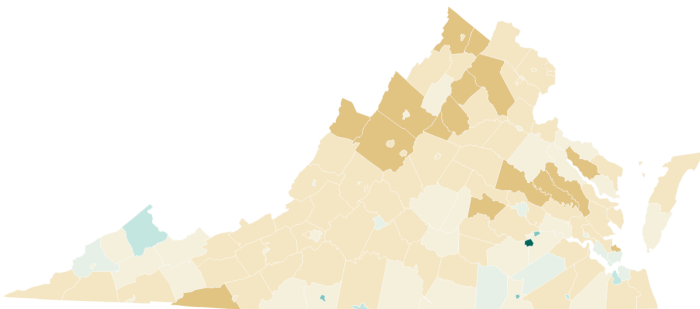
Analysis of Maps: The four maps above demonstrate the unemployment rates at different times over the last two years. We chose to look at these months because they represent before and during Covid. The different months during Covid represent the highs and lows throughout the pandemic. This has allowed us to understand the impact the Covid pandemic has had on unemployment.

Unemployment Rates in January 2020 Compared to Total Covid Cases

Covid cases/100,000 residents
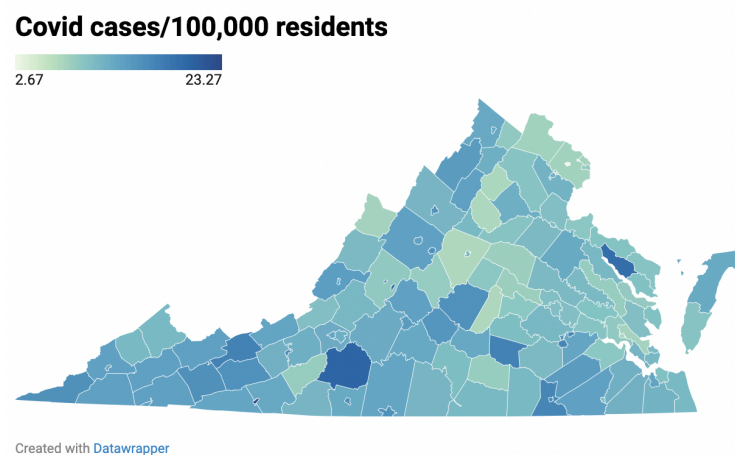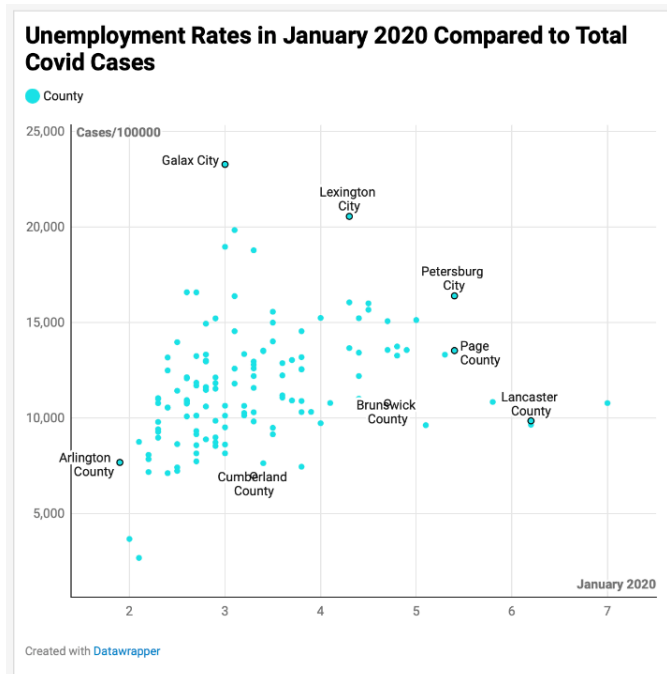
Orwell, 1984, Surveillance Question

At the end of Part Two, Julia and Winston discover that their private conversations and behaviors had been under constant surveillance by a hidden telescreen. Review discussions of screens from project 1 teams. Identify 2-3 examples of visible surveillance in the lives of VT students and at least one example of invisible surveillance. Write the examples below and prepare to discuss them with the class.

Visible surveillance
- Visible security cameras in classrooms
- Recorded phone calls/zoom meetings for "performance review"
- Teachers/administrators watching and listening to students in classrooms and on campus, someone is always watching.

Invisible surveillance
- Potential cameras on computers/phones constantly watching us