

Mental Illness And Unemployment In The United States

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OUTLINE

1. Background and Research Questions
2. Individual data analysis
 - Mental illness and unemployment
 - Covariates (education, income, age, gender)
3. State-wide data analysis
 - Self-reported poor mental health and unemployment
4. Geographic analysis
 - Poor mental health
 - Unemployment
 - Access to mental health care
5. Findings Summary

PREVIOUS STUDIES SUGGEST A CYCLIC RELATIONSHIP BETWEEN POOR MENTAL HEALTH AND UNEMPLOYMENT

- Several studies in the 1990's uncovered a significant bi-directional relationship between employment and mental health (IWH August 2009 Report)
 - Unemployment has a negative effect on mental health
 - Those suffering from poor mental health are more likely to become unemployed
- Unemployment affects many areas of life which are tied to mental health
 - Standard of living
 - Security of income
 - Self-esteem
 - Social life
 - Access to healthcare



RESEARCH QUESTIONS

Is there evidence for a relationship between unemployment and mental health in more recent data?

Do factors like age, income, education correlate with mental illness and/or unemployment status?

What regions of the US are most affected by mental illness and unemployment?

What is the status of access to mental health care in the regions most affected?

METHODOLOGY AND DATA COLLECTION

We used two datasets on mental health and employment status:

1. Unemployment and mental illness survey from [kaggle.com](https://www.kaggle.com)
 - paid research survey sponsored by NAMI of 334 individuals
2. BRFSS 2019 data from [cdc.gov](https://www.cdc.gov)
 - aggregated state-level data on various behavioral and demographic factors
 - NOTE: New Jersey is excluded for not meeting minimum data requirements

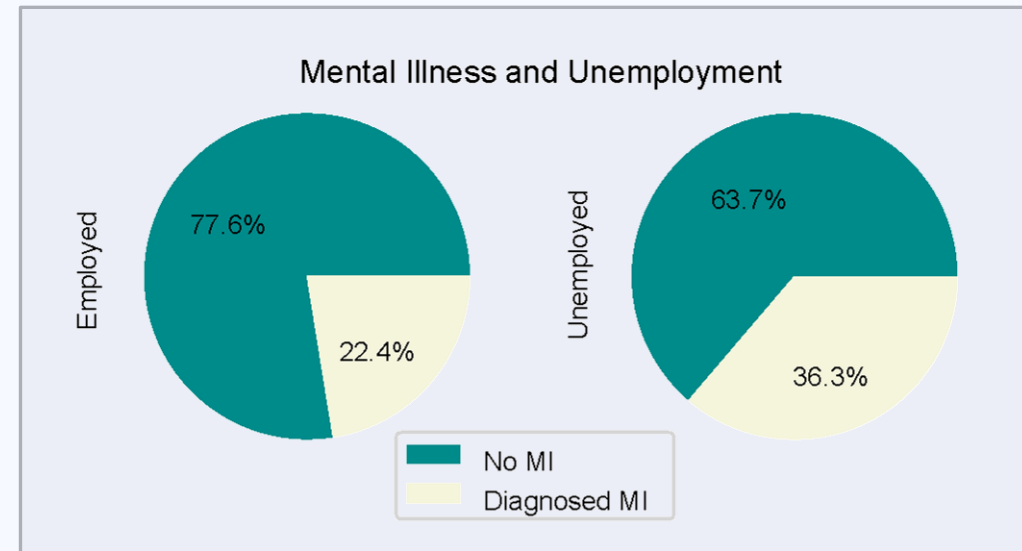
Additionally, we found data on access to mental health care at a state level:

1. Mental Health America 2020 Report from mhnational.org

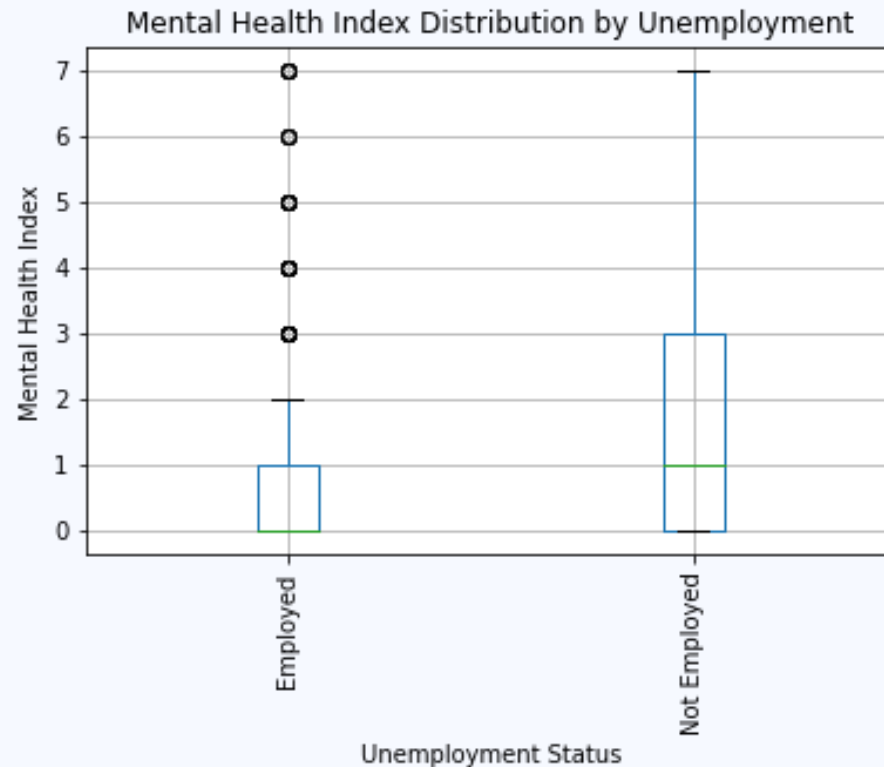
INDIVIDUALS WITH DIAGNOSED MENTAL ILLNESS (MI) MORE LIKELY TO BE UNEMPLOYED

	No MI	Diagnosed MI
Employed	197	51
Unemployed	57	29

Fisher's exact p-value = 0.019



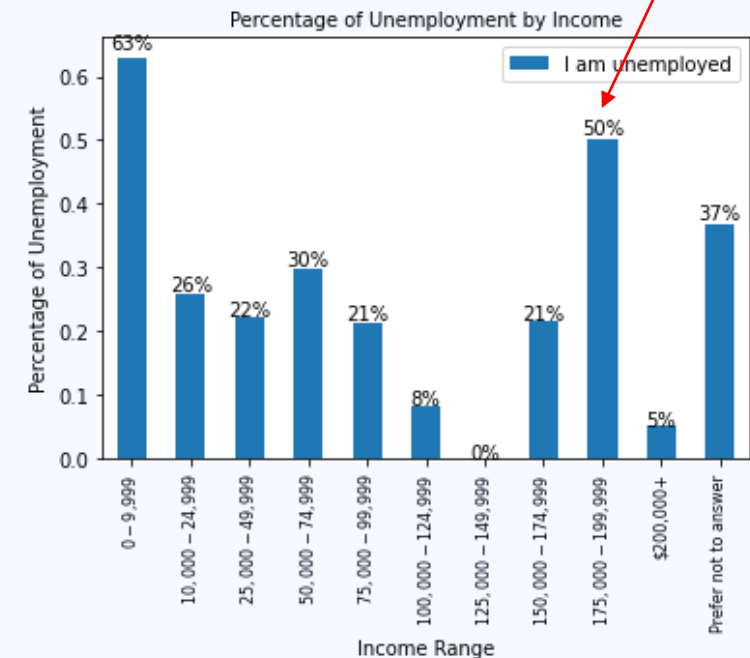
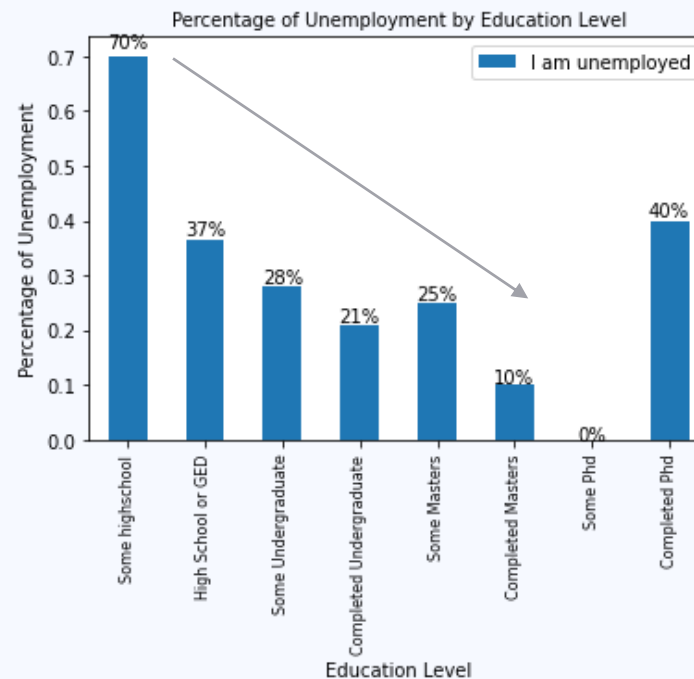
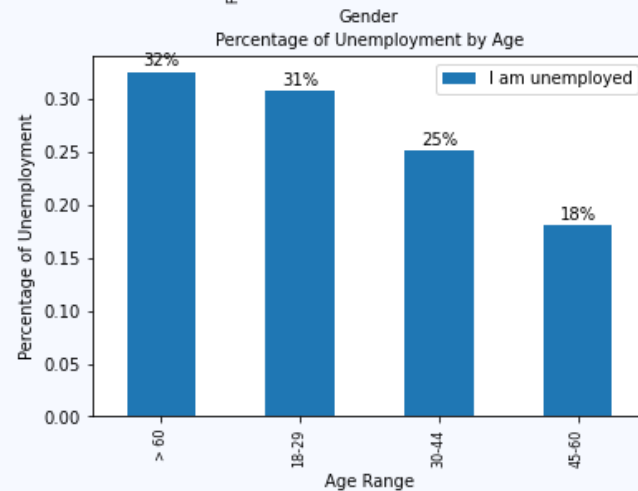
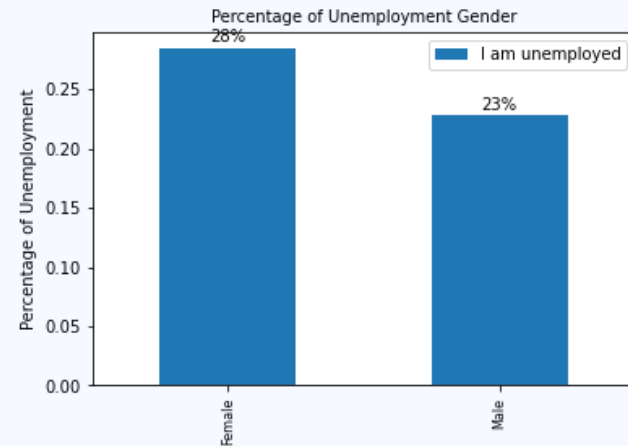
UNEMPLOYED INDIVIDUALS MORE LIKELY TO SUFFER FROM ONE OR MORE MENTAL HEALTH SYMPTOMS



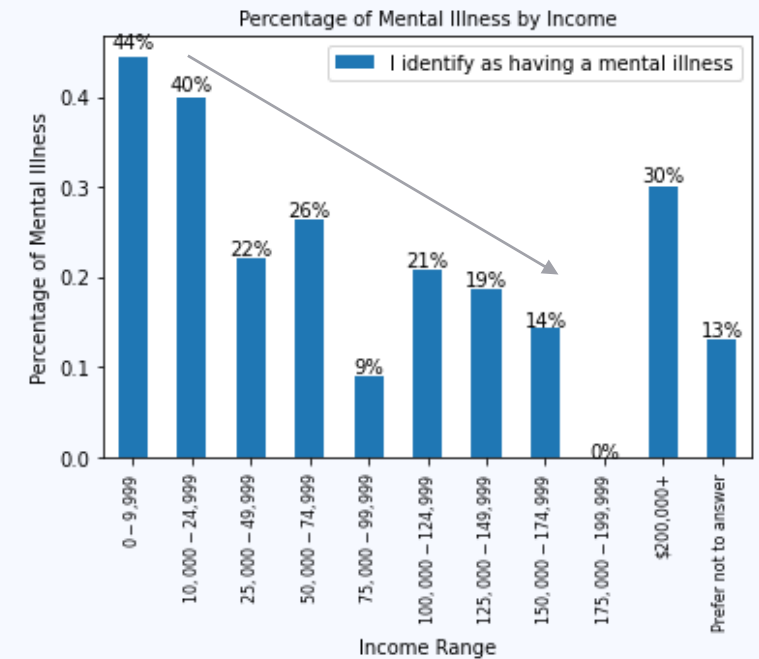
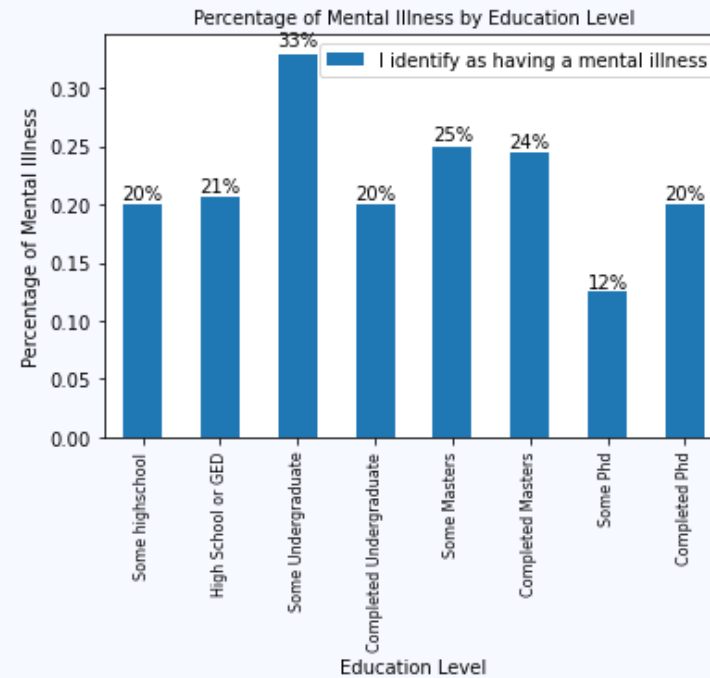
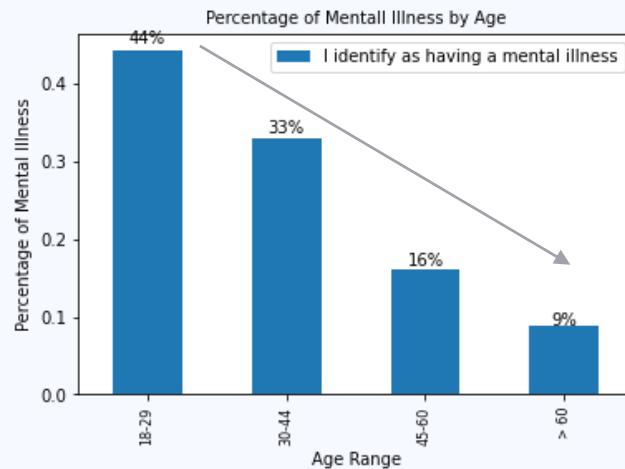
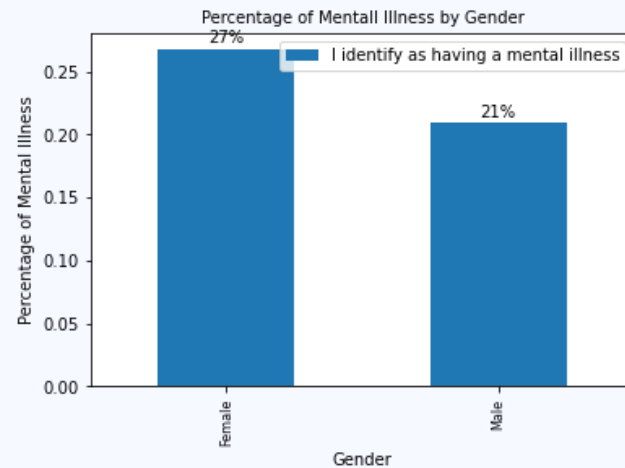
Mental Health Symptoms:

- Lack of concentration
- Anxiety
- Depression
- Obsessive thinking
- Mood swings
- Panic attacks
- Compulsive behavior

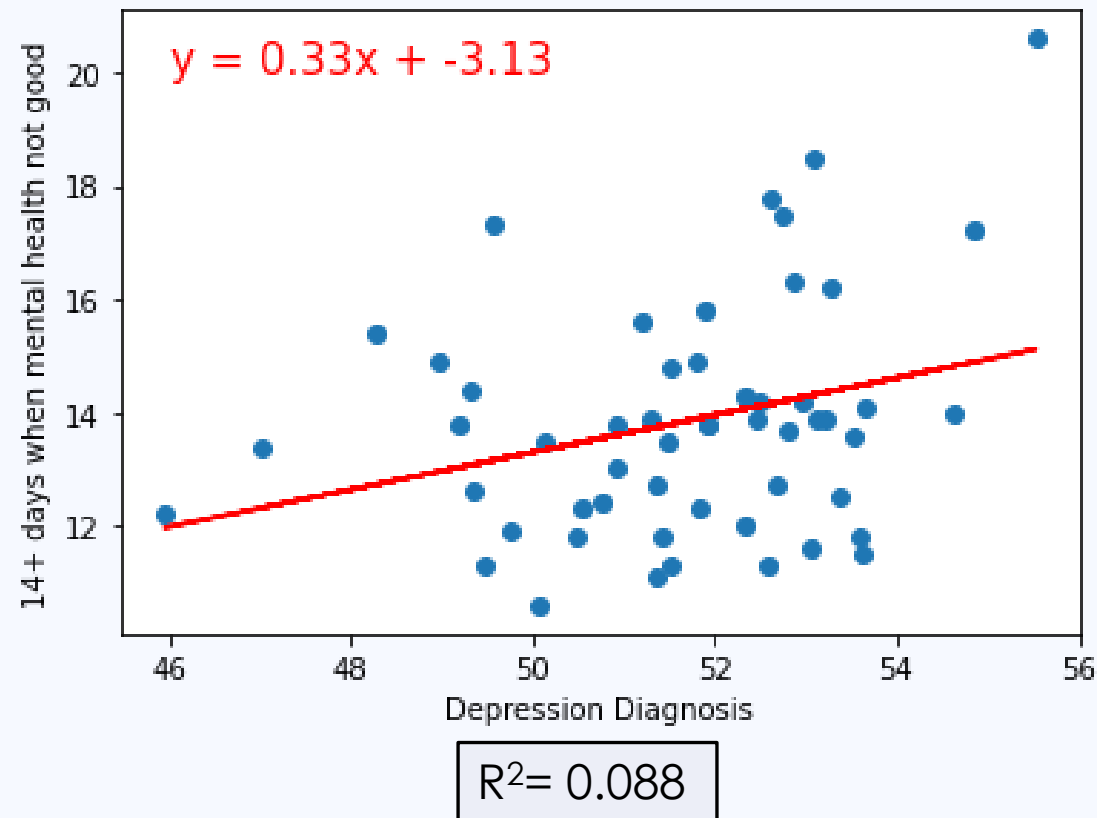
INDIVIDUAL EDUCATION LEVEL IS CORRELATED WITH UNEMPLOYMENT RISK



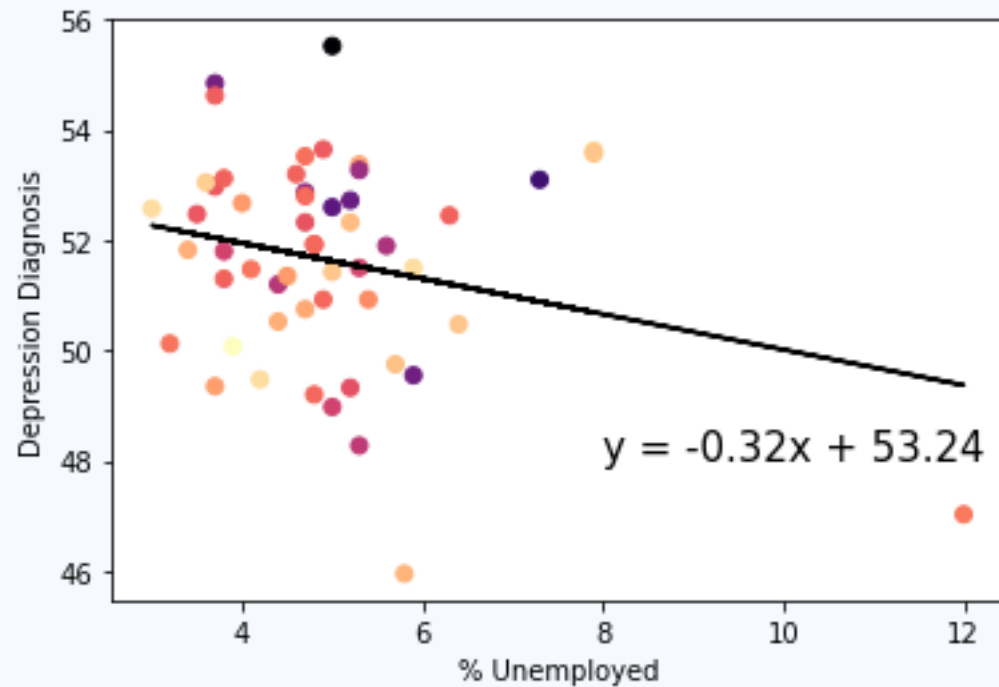
MORE YOUNG INDIVIDUALS IDENTIFY AS HAVING A MENTAL ILLNESS



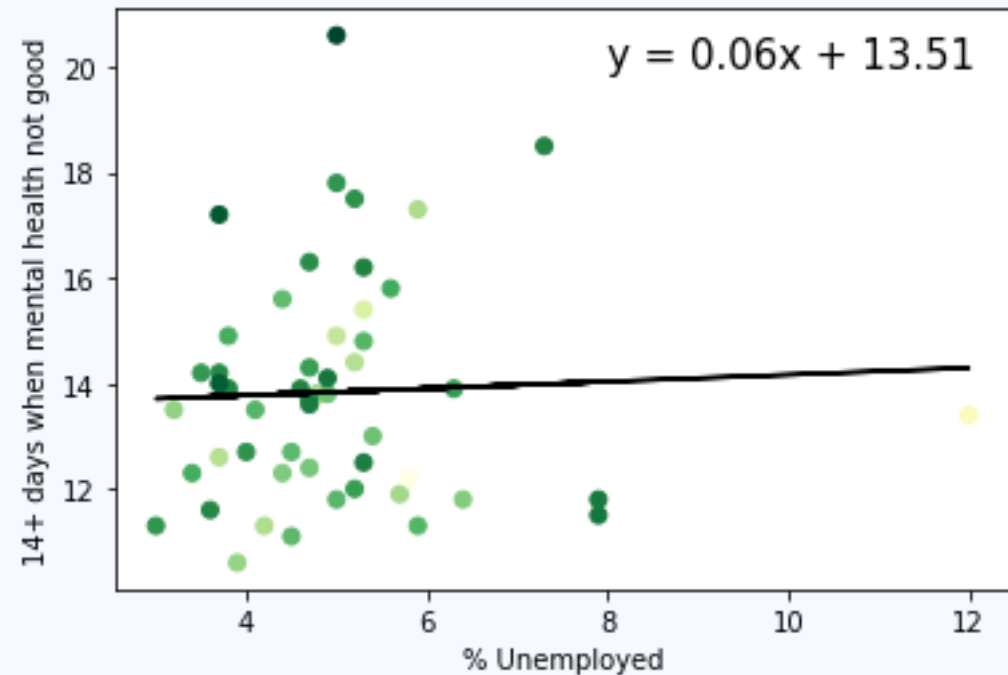
STATES: DISCREPANCY BETWEEN PERCENT REPORTING POOR MENTAL HEALTH AND THOSE WITH A DIAGNOSIS OF DEPRESSION



NO CORRELATION BETWEEN MENTAL ILLNESS AND UNEMPLOYMENT AT THE STATE LEVEL



$$R^2 = 0.061$$



$$R^2 = 0.002$$

STATES WITH THE HIGHEST UNEMPLOYMENT RATE

State	% Unemployed	% Reporting Poor MH	% Diagnosed Depressed
Guam	12.0	13.4	47.0
Puerto Rico	7.9	11.8	53.6
District of Columbia	7.9	11.5	53.6
Louisiana	7.3	18.5	53.1
New York	6.4	11.8	50.5
Rhode Island	6.3	13.9	52.5
Mississippi	5.9	17.3	50.0
Connecticut	5.9	11.3	51.5
Texas	5.8	12.2	46.0
California	5.7	11.9	49.8

STATES WITH THE HIGHEST RATES OF POOR MENTAL HEALTH

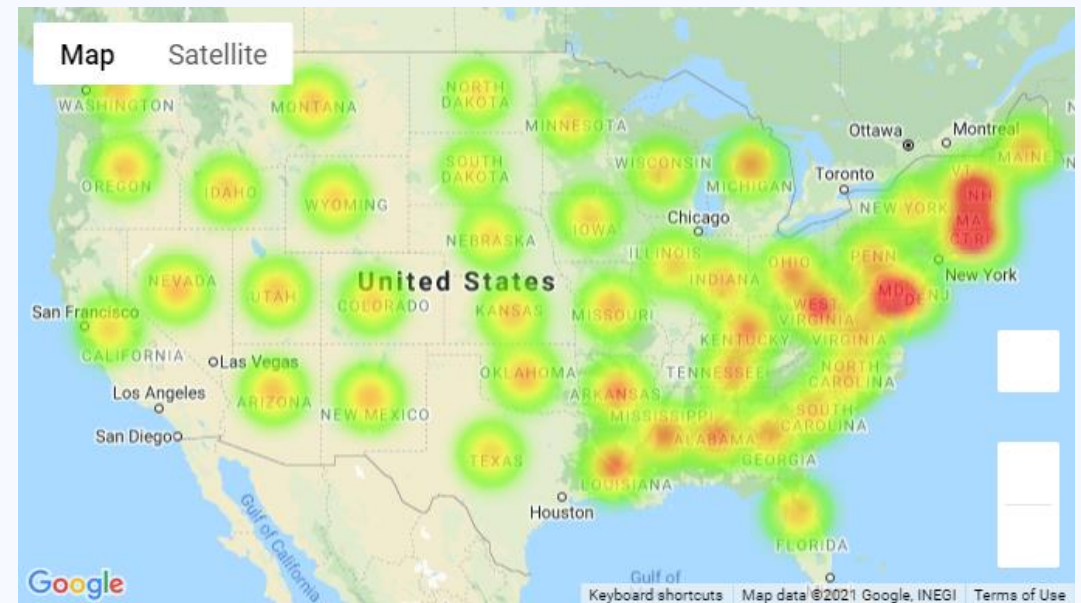
State	% Unemployed	% Reporting Poor MH	% Diagnosed Depressed
West Virginia	5.0	20.6	55.5
Louisiana	7.3	18.5	53.1
Arkansas	5.0	17.8	52.6
Alabama	5.2	17.5	52.7
Mississippi	5.9	17.3	49.6
Kentucky	3.7	17.2	54.9
Ohio	4.7	16.3	52.9
Michigan	5.3	16.2	53.3
Tennessee	5.6	15.8	51.9
Oklahoma	4.4	15.6	51.2

GEOGRAPHICALLY, HIGH RATES OF UNEMPLOYMENT CORRELATE WITH CLUSTERED AREAS OF POOR MENTAL HEALTH

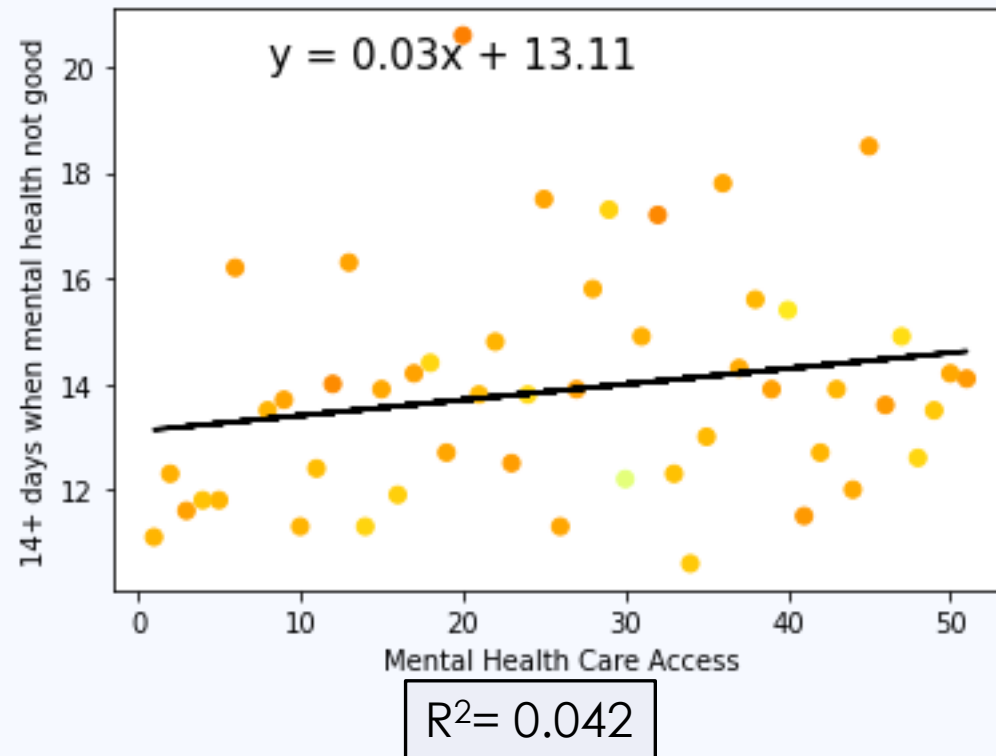
Percent Unemployed by State



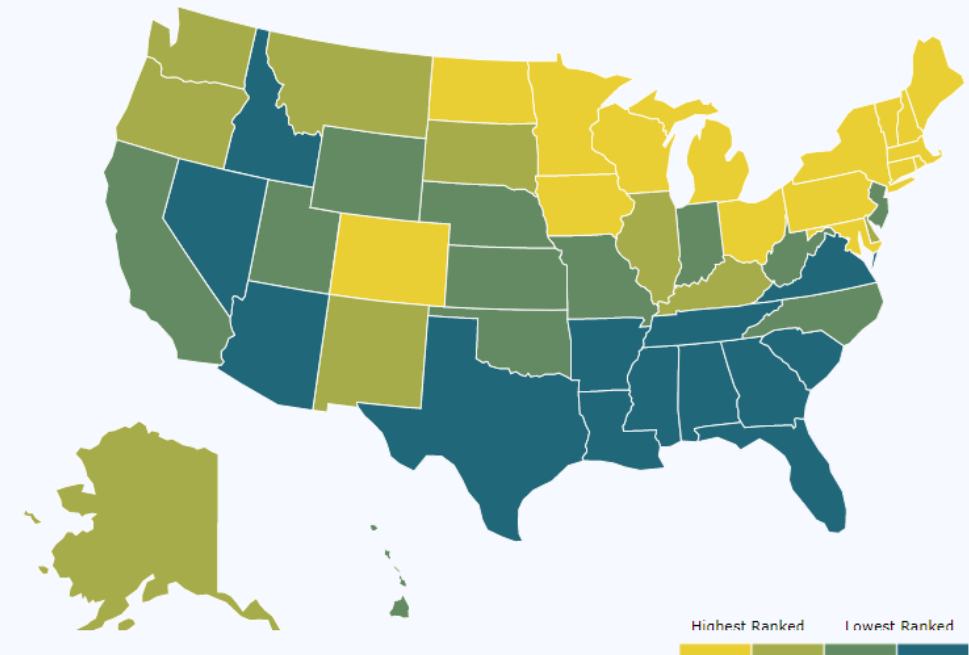
Percent Report Poor Mental Health by State



AT THE STATE LEVEL, NOT A STRONG CORRELATION BETWEEN POOR MENTAL HEALTH AND ACCESS TO MENTAL HEALTH CARE



Access to Care Ranking MHA 2020



FINDINGS SUMMARY

- Individuals with diagnosed mental illness (MI) more likely to be unemployed
- Unemployed individuals more likely to suffer from one or more mental health symptoms
- More young individuals (18-29) identify as having a mental illness than older individuals (60+).
 - However, these groups have similar rates of unemployment
- Appears to be no correlation between Mental Illness and Unemployment at the state level.
 - However, geographically, high rates of unemployment correlate with clustered areas of poor mental health
- At the state level, not a strong correlation between poor mental health and access to mental health care