State Variation in Anxiety and Depression During the COVID-19 Pandemic

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ABSTRACT

Background: Limited research has examined mental health outcomes related to regional differences in COVID response type and Medicaid expansion status in the United States. This is a salient concern as states in the southern U.S. consistently report the highest rates of COVID-19 transmission. State-level political ideologies are also associated with compliance with federal distancing orders and mask mandates. Furthermore, eight out of the twelve states that still have not expanded Medicaid coverage under the Affordable Care Act are in the south.

Aims of the Study: The objectives of this study are to describe variation in mental health outcomes during the COVID-19 pandemic by differences in state-level supportive policies with a focus on Medicaid expansion status. This study also examines how employment status and health insurance coverage impact rates of generalized anxiety disorder and clinical depression.

Methods: This repeated cross-sectional study analyzes data from the U.S. Census Bureau's COVID-19 Household Pulse Survey, a nationally representative survey of non-institutionalized adults aged 18 years and older. Our primary exposure variable is Medicaid expansion status. Our mental health outcomes of interest are: (1) generalized anxiety disorder using the GAD-2 criteria and (2) major depression based on the PHQ-2 screening instrument. Statistical analyses include testing demographic differences using chi-squared tests and multivariable logistic regression models to identify risk factors for frequent generalized anxiety disorder and clinical depression.

Results: Our sample included 61,243 adults aged 18 years and older. The overall prevalence of generalized anxiety disorder and clinical depression are much higher than prior to the pandemic. The highest predictors of clinical depression and generalized anxiety disorder in the US population during the COVID-19 pandemic were age, sexual orientation, employment status, and family income. We did not find any statistically significant differences between living in a

Medicaid expansion state versus a non-expansion state in terms of clinical depression and generalized anxiety disorder.

Discussion and Limitations: These results suggest that adults living in Medicaid non-expansion states are not at higher risk for clinical depression generalized anxiety disorder during the COVID-19 pandemic than those in states with Medicaid expansion. Despite the lack of statistical significance, the major increase in these negative mental health outcomes suggests the immediate deployment of mental health services and expansion for forms of coverage insured under Medicaid. One limitation of this study is the inability to identify changes in health insurance status, which would strengthen inferences about actual uptake of Medicaid coverage and access to mental health services.

Implications for Health Care Provision and Use: Results indicate high levels of need for mental health services across the US. Digital resources such as mental health mobile applications and telehealth may help with triage clinical resources.

Implications for Health Policies: Medicaid expansion under supplemental funds from the American Rescue Plan during the COVID-19 pandemic have not led to new Medicaid expansions. Additional financing and payment mechanisms should be explored to extend coverage to uninsured individuals.

Implications for Further Research: Future analyses with Medicaid administrative data may identify trends in access to and utilization of mental health services during the COVID-19 pandemic by Medicaid expansion status.

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INTRODUCTION

Across the country, states have taken a wide range of measures to reduce the spread of

COVID-19. People of varying demographics have reported worsening mental health due to the

danger of the pandemic, social restrictions associated with containing the spread of the virus, and

the elevated rates of unemployment.[1] Despite this shared knowledge that the mental health of

Americans declined significantly during the pandemic, there is very little research comparing the

mental health outcomes based on regional differences within the United States.

The pandemic has highlighted geographic inequities across the country and, considering

the fact that many of these inequities result in job loss, disruptions in health insurance coverage,

and varying levels of social isolation, it is more than likely that the reported rates of poor mental

health vary based on one's geographical location in the country.[2] Media representations of the

pandemic have highlighted that the most pronounced differences in response to COVID-19 are

seen between the Northeastern and Southern regions of the country, with Southern states

reporting the highest rates of COVID-19 transmission. Along with the disparities in COVID-19

morbidity and mortality, notably states' political stances and Medicaid expansion status may also

align with COVID-19 responses. For example, residents in Republican-leaning counties and

states are far less likely to comply with federal distancing orders and mask mandates which is a

large contributor to the increased spread in states such as Florida and Tennessee.[3] Furthermore,

eight out of the twelve states that still have not expanded Medicaid coverage under the

Affordable Care Act (ACA) are located in the Southern US. Meanwhile, households in the US

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[1] Achdut and Refaeli, "Unemployment and Psychological Distress among Young People during the COVID-19 Pandemic."

[2] Schnake-Mahl and Sommers, "Places and the Pandemic—Barriers and Opportunities to Address Geographic Inequity."

[3] Painter and Qiu, "Political Beliefs Affect Compliance with COVID-19 Social Distancing Orders."

that experienced pandemic-related job loss who would not have been eligible for Medicaid prior to its expansion utilized Medicaid to insure themselves against health risks associated with the pandemic due to loss of employer-sponsored health insurance coverage.[4] Considering the extreme magnitude at which individuals in the US were losing their jobs, and thereby losing their health insurance coverage, it is important to learn how residents in states that have not expanded Medicaid coverage have fared compared to those in expansion states.

The main objective of this project is to evaluate the implications the COVID-19 pandemic has had on the mental health of the US adult population, and how the prevalence of negative mental health outcomes varies based on geographic regions within the US. Furthermore, I hope to examine how employment status and health insurance coverage affect the degree of frequent mental distress and mood disorders. I also intend to determine how the presence or lack of supportive policies from a state affects the levels of frequent mental distress, such as whether or not the states have expanded Medicaid to low-income families and individuals.

BACKGROUND

What is Currently Known About Mental Health Outcomes Throughout the COVID-19 Pandemic?

Through peer-reviewed studies, media coverage, and word of mouth, it is quite evident that the mental health of US citizens has declined significantly since the outbreak of the COVID-19 pandemic. All large-scale disasters, whether traumatic, natural, or environmental, are usually accompanied by increased rates of depression, post-traumatic stress disorder (PTSD), substance use disorder, behavioral disorders, and domestic violence.[5] In the case of a world-wide

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[4] Benitez and Dubay, "COVID-19-Related Unemployment and Health Insurance Coverage in Medicaid Expansion and Non-Expansion States."
[5] Galea, Merchant, and Lurie, "The Mental Health Consequences of COVID-19 and Physical Distancing."

pandemic, the measures taken to ameliorate the spread of the virus ironically increase the possibility of many of these outcomes. There are numerous side-effects of a pandemic that cause increases in anxiety, depression, and substance abuse — including quarantining and social distancing. Additionally, state-mandated stay-at-home orders along with the closing of schools maximizes the opportunities for loneliness and domestic and child abuse.[6]

Current research has emphasized that the COVID-19 pandemic aligns with other large-scale natural disasters in terms of the overwhelmingly negative impact it has shown to have on the mental health of the US population. Due to COVID-19's extremely high rates of transmission along with the threat it poses to the health of those who contract the virus, governments across the world have imposed various forms of public health measures such as physical distancing recommendations, mask mandates, and stay-at-home orders. Despite the necessity of these policies to mitigate the fallout of the pandemic, they have considerably changed peoples' lives and, in many cases, have disrupted self-regulated behavior and reduced social connections which may lead to specific mental health problems, especially among vulnerable populations.[7] Furthermore, the risk alone of contracting a potentially-life threatening COVID-19 infection can be enough to trigger feelings of uncertainty, fear, anxiety, and self-inflicted social isolation.[8] Polls that were conducted early on in the pandemic indicate that fear of contracting the virus alone had wide-reaching negative impacts. For instance, a poll conducted by the Morning Consult company of 2200 Americans from January 24-26, 2020, at which point there were only five confirmed positive cases in the US, reported that 37% of Americans were very concerned about COVID-19, and 62% of respondents were more worried about COVID-19 than they were

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[6] Galea, Merchant, and Lurie.
[7] Benke et al., "Lockdown, Quarantine Measures, and Social Distancing."
[8] Benke et al.

about seasonal influenza which strongly contrasts with the actual number of infections and death in the US due to these two viruses.[9]

As the pandemic progressed, the reported rates of poor mental health across adult populations increased. The number of US adults reporting symptoms of anxiety or depressive disorder increased from 10% in January 2019 to 40% in January 2021. Moreover, many Americans reported difficulty sleeping (36%), difficulty eating (32%), and increases in alcohol consumption (12%) due to anxiety and stress over the COVID-19 pandemic.[10] Variations of the term "stress and worry over the COVID-19 pandemic" reference an amalgamation of factors that may contribute to poor mental health, but regardless of whatever these specific factors are, the pandemic has undeniably caused widespread negative impact outside of the physical dangers it possesses.

How Has Job Loss, Health Insurance Coverage Status, and Variation in State Policies Contributed to Mental Health Status Across the United States?

As stated, public policies and federal mandates that aim to lessen the spread of the pandemic have undeniable wide-spread consequences—whether intentional or unintended. Beyond the aforementioned possibilities of personal impacts these measures have, such as loneliness or social isolation, they also have severe economic impacts resulting in job loss and uncertainty related to health insurance coverage and financial security. During the COVID-19 pandemic, the United States reached unemployment levels of 14.7% which is the highest unemployment rate since the Great Recession.[11] Additionally, many who retained their jobs

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[9] Asmundson and Taylor, "Coronaphobia."
[10] Panchal, Kamal, and 2021, "The Implications of COVID-19 for Mental Health and Substance Use."
[11] "Unemployment Rate Rises to Record High 14.7 Percent in April 2020."

faced large cuts in their work hours and pay. The anxieties associated with job loss during the pandemic reach beyond losing a steady income. Considering the threat to the general health of the population that the pandemic poses, having health insurance is of utmost importance. Due to the free-market approach that the United States has adopted in relation to health insurance plans, the majority of insured Americans maintain private health insurance coverage through employers. According to the US Census Bureau, in 2020, employer-sponsored health insurance was the most popular means of coverage totaling to around 54.4% of Americans (Keisler-Starkey & Bunch, 2020). Therefore, job loss and loss of health insurance coverage go hand-in-hand.

The simultaneous widespread job loss and loss of health insurance coverage emphasizes the importance for supportive state and federal policies. One of these federal policies is the Coronavirus Aid, Relief, and Economic Security (CARES) Act which implemented, and later expanded, unemployment insurance and benefits. Beyond the obvious effects of unemployment insurance (i.e., helping individuals cover food, rent payments, and other necessities), unemployment insurance may have short-term health effects by allowing populations to meet health-related social needs, cover health care access expenses, and improve mental health by reducing the impact of household income shocks.[12] Unfortunately, some individuals who reported pandemic-related job loss did not receive unemployment insurance, including adults with lower levels of educational attainment and Hispanic populations.[13] Therefore, programs such as CARES Act, function more as a bandage rather than a long-term solution.

The Affordable Care Act's Medicaid Expansion and COVID-19

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[12] Berkowitz and Basu, "Unemployment Insurance, Health-Related Social Needs, Health Care Access, and Mental Health During the COVID-19 Pandemic."

[13] Berkowitz and Basu.

In effort to mitigate the outrageous levels of uninsured individuals in the United States, former President Barack Obama signed the Affordable Care Act (ACA) in 2010. In the wake of the 2008 housing market crash and the accompanying recession until the instatement of the Affordable Care Act (ACA), the number of uninsured non-elderly adults in the US rose to 46.5 million (17.8% of the population). After it was signed and major coverage provisions went into effect, the uninsurance rate fell to a historic low of approximately 10% of the population by 2016.[14] One of the provisions within the Affordable Care Act calls for the expansion of Medicaid eligibility in attempt to cover more low-income Americans by extending it to adults (regardless of having children or not) with incomes up to 138% of the federal poverty level. Despite the significant increases in coverage that Medicaid expansion provides, the US Supreme Court decided in *NFIB v. Sebelius* that Medicaid expansion was optional and up the discretion of states. During the COVID-19 pandemic, the importance of Medicaid expansion was corroborated by the number of individuals who have enrolled in Medicaid. Through cross-sectional differences-in-differences regressions comparing changes in health insurance coverage source in states that expanded Medicaid against states that have not, researchers found that, during the pandemic-associated recession, many individuals in expansion states who gained coverage through the ACA would have been ineligible prior to expansion.[15] Prior research clearly illustrates that the coverage provided as a result of Medicaid expansion is necessary as many low-income individuals would have otherwise been left without coverage during a global health crisis.

Knowing the extent to which Medicaid expansion can provide support to Americans experiencing loss of coverage during the COVID-19 pandemic combined with the fact that

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[14] Damico, Garfield, and Orgera, "The Uninsured and the ACA."
[15] Benitez and Dubay, "COVID-19-Related Unemployment and Health Insurance Coverage in Medicaid Expansion and Non-Expansion States."

twelve states have yet to expand coverage suggests that there may be highly variable mental

health outcomes or access to mental health care across different regions of the US. Beyond

Medicaid expansion status, there is a high degree of variation across other state-level policies

and governing ideologies based on region alone which may help or hurt mental health outcomes

of populations living within them. For instance, previous research found that states with the

highest prevalence of depression among people who have experienced household income shocks

often lack social policies related to economic security and access to care.[16] Furthermore, other

research suggests that states with more conservative policies have reduced life expectancies in

recent years compared to so-called "blue" states (defined as states that routinely vote for

Democrats).[17] Considering the limited body of research on this topic, this thesis focuses on the

mental health outcomes of Southern non-expansion states compared to the rest of the country

that has expanded Medicaid. In doing so, I plan to identify state-level variations in adverse

mental health outcomes and where mental health services are needed most. This study will

inform important policy changes for states to be better prepared for possible future large-scale

disasters and to evaluate the associations of Medicaid expansion status on the mental health

outcomes of adults in the United States.

METHODS

Data Source

      This study analyzes data from the United States Census Bureau's Household Pulse

Survey to address the research question. The Household Pulse Survey is a nationally

representative survey of non-institutionalized adults aged 18 years and older. It monitors a wide

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[16] Donnelly and Farina, "How Do State Policies Shape Experiences of Household Income
Shocks and Mental Health during the COVID-19 Pandemic?"
[17] Montez et al., "US State Policies, Politics, and Life Expectancy."

variety of topics related to COVID-19, including access to care, mental health outcomes, vaccine hesitation, health behaviors, and financial/food insecurity with the goal of measuring how the COVID-19 pandemic is impacting the nation on both a social and economic perspective.

Study Sample & Mental Health Outcomes

Our analytical sample includes non-institutionalized adults living in the United States aged 18 years and older and was separated based on whether individuals met the criteria for generalized anxiety disorder (*n=16,128*) and clinical depression (*n=12,946*). The Household Pulse Survey determined whether individuals met the criteria for generalized anxiety disorder by using the Generalized Anxiety Disorder 2-item (GAD-2) criteria which asked respondents "over the last 2 weeks, how often have you been bothered by feeling nervous, anxious, or on edge?" and "over the last 2 weeks, how often have you been bothered by not being able to stop or control worrying?" Participants could respond with "not at all," "several days," "more than half the days," and "nearly every day." The first answer choice was assigned a value of 0 and the fourth assigned a value of 3. An individual is considered to meet the criteria for generalized anxiety disorder if the sum of their two answers is 3 or higher.[18] The survey determined if individuals met the criteria for clinical depression by using the Patient Health Questionnaire 2-item (PHQ-2) criteria which asked respondents "over the last 2 weeks, how often have you been bothered by having little interest or pleasure in doing things?" and "over the last 2 weeks, how often have you been bothered by feeling down, depressed, or hopeless?" The answer choices were the same as the GAD-2 questions and the same scoring system was assigned to each

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[18] Staples et al., "Psychometric Properties and Clinical Utility of Brief Measures of Depression, Anxiety, and General Distress."

answer. If a respondent scored 3 or higher, major depressive disorder is probable based on pre-existing research.[19]

Independent Variables Analyzed

The possible risk factors considered for generalized anxiety disorder and major depressive disorder and analyzed here are the following: age (18-25, 36-34, 35-49, 50-64, 65+), biological sex (male, female), race/ethnicity (non-Hispanic white, non-Hispanic Black, non-Hispanic Asian, Hispanic, other), health insurance coverage (private health insurance, public health insurance, uninsured), relationship status (married, widowed, never married), sexual orientation (heterosexual/straight, gay/lesbian, bisexual, something else, I don't know), children present in household (yes, no), educational attainment (less than high school, high school graduate, some college, bachelor's degree or higher), family income ($0-$49,999, $50,000-$99,999, $100,000-$149,999, $150,000+), employment (employed, unemployed, not in labor force). We also examined whether living in a Medicaid expansion state (yes, no) predicted differences in clinical depression and anxiety. It is possible for some data to be missing depending on the participant's response; therefore, we include an indicator for missing data.

Statistical Analysis

To characterize the study sample, we used descriptive statistics to evaluate the prevalence of each risk factor within the entire population of individuals surveyed. We then estimated multivariable logistic regression models to determine the associations between our independent variables of interest (age, sex, race/ethnicity, health insurance status, marital status, sexual orientation, the presence of children in the household, educational attainment, family income, employment status, and whether an individual lives in a Medicaid expansion state) with clinical

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[19] "Patient Health Questionnaire (PHQ-9 & PHQ-2)."

depression and anxiety outcomes. Logistic regression results are presented as adjusted odds ratios (aOR) with 95% confidence intervals (CI) and associated p-values. The level of statistical significance is also noted for each aOR, with $p < 0.05$ considered as statistically significant.

RESULTS

The full study sample included 67,844 US adults aged 18 years and older in August of 2021. Approximately seventy-five percent of the study participants identified as non-Hispanic white during this phase of the Household Pulse Survey. Over eighty-five percent of respondents were at or above thirty-five years of age, with approximately ten percent and four percent coming from the twenty-six to thirty-four and eighteen to twenty-five age categories, respectively. Despite the fact that over half of the sample reported being married, only one third of the sample reported having children present in their household. At the time of the acquisition of this sample, just under ten percent of the sample reported that they were unemployed with approximately fifty-nine and thirty-one percent reporting that they were currently employed or not in the labor force, respectively.

Age

The "age" variable consists of five different categories that cover all adults aged 18 and older. The youngest category consists of individuals between ages 18 and 25 years. This age range is useful as the implementation of the Affordable Care Act requires that plans and issuers offering dependent child coverage to make this coverage available until an individual reaches the age of 26, including both married and unmarried children.[20] The largest proportion of respondents fell within the 65+ age range whereas the lowest are from the 18-25 range. Although

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[20] "Young Adults and the Affordable Care Act: Protecting Young Adults and Eliminating Burdens on Businesses and Families FAQs | U.S. Department of Labor."

only 3.7% of the respondents fell within the range of 18-25 years of age, over 14.8% of individuals reporting clinical depression and 14.1% reporting clinical anxiety came from this category. Inversely, 27.9% of respondents were age 65 years and older yet only 12.5% and 11.4% reported clinical depression and anxiety, respectively.

The regression data describes how age may suggest which age ranges are at greater risk of poor mental health outcomes. As inferred from the descriptive data, this regression data confirms that individuals in younger age ranges are at much greater risk for both depression and anxiety compared to those aged 65 years and older. Individuals aged 18-25 years old are 3.79 times ([OR]=3.79, 95% CI, 2.88-4.99, $P < 0.001$) more likely to report clinical depression and are 4.75 times ([OR]=4.75, 95% CI, 3.66-6.16, $P < 0.001$) more likely to report clinical anxiety than the reference group (65 years and older). The 26-34 years old age group showed similar results to the 18-25 years old age group, being 4.05 times ([OR]=4.05, 95% CI, 3.27-5.03, $P < 0.001$) more likely to report clinical depression and 4.74 times ([OR]=4.74, 95% CI, 3.86-5.83, $P < 0.001$) more likely to report clinical anxiety. Beyond those age ranges, the likelihoods of reporting these outcomes decreases with increased age. Individuals in the 35-49 years old age group are 3.51 times ([OR]= 3.51, 95% CI, 2.89-4.25, $P < 0.001$) more likely to report clinical depression and 3.60 times ([OR]= 3.60, 95% CI, 3.00-4.32, $P < 0.001$) more likely to report clinical anxiety compared to the reference. Lastly, individuals in the 50-64 years old age group are 2.30 times ([OR]= 2.30, 95% CI, 1.93-2.73, $P < 0.001$) more likely to report clinical depression and 2.44 times ([OR]= 2.44, 95% CI, 2.08-2.87, $P < 0.001$) more likely to report clinical anxiety compared to the reference. Therefore, the odds that an individual qualifies as clinically depressed is highest in the 26-34 years old age range and the odds that an individual qualifies as clinically anxious is highest in the 18-25 years old age range.

The inverse relationship between age category and risk of reporting either clinical anxiety or clinical depression suggests that there are environmental factors among younger individuals that may increase the likelihood of poor mental health.

Sex

The "sex" variable describes outcomes of male and female respondents. The Household Pulse Survey asks participants to provide the sex they were assigned at birth. There was notably more participation from women than men: 40.2% of responses were from men while 59.9% were from women. This implies that women are overrepresented within this survey compared to the population of the US (men make up about 49.2% of the population while women make up about 50.1%).[21] The results of those reporting clinical depression and clinical anxiety reflect the participation percentages, with women comprising a greater percentage of both groups. Interestingly, despite being the minority of respondents, 49.3% of those reporting no depression and 51.0% of those reporting no anxiety were men. In both cases though, it was about an even split between men and women in terms of those reporting no depression (49.3% men and 50.7% women) or no anxiety (51.0% men and 49.0% women).

Compared to male individuals, female individuals were 1.17 times ([OR]= 1.17, 95% CI, 1.06-1.29, $P < 0.01$) more likely to report symptoms of clinical depression. Similarly, female individuals were 1.46 times ([OR]=1.46, 95% CI, 1.33-1.60, $P < 0.001$) more likely to report symptoms of clinical anxiety. This indicates that there are factors increasing the likelihood of poor mental health outcomes in female individuals during the COVID-19 pandemic compared the male individuals.

Race/Ethnicity

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[21] "U.S. Census Bureau QuickFacts."

The "race" variable consists of five different categories: non-Hispanic white, non-Hispanic Black, non-Hispanic Asian, Hispanic, and all others. Most respondents were non-Hispanic white individuals, comprising 74.6% of the study population. This makes sense as 76.3% of United States residents are non-Hispanic white.[22] Despite comprising such a large portion of the population, non-Hispanic white individuals make up only 60.4% and 61.8% of respondents meeting the criteria for clinical depression and anxiety, respectively.

For the most part, there is little statistical significance between race/ethnicity variables and likelihood of reporting clinical depression or anxiety. The one exception to this is observed with non-Hispanic Asian individuals. Non-Hispanic Asian adults are 0.77 times ([OR]= 0.77, 95% CI, 0.62-0.96, $P < 0.05$) less likely to qualify as clinically depressed and 0.51 times ([OR]= 0.51, 95% CI, 0.42-0.63, $P < 0.001$) less likely to qualify as clinically anxious compared to non-Hispanic white individuals. This may suggest that there is some factor protecting Asian individuals against poor mental health outcomes compared to other racial or ethnic groups.

Health Insurance Coverage

The "insurance" variable is split up into four different variables, accounting for private health insurance, public health insurance, uninsured, or missing data. The majority of respondents were covered by private health insurance (48.9%) and about one third of respondents were covered by public health insurance (33.5%). Only 4.2% of respondents claimed to be uninsured while the remainder did not provide their health insurance status.

Compared to individuals covered by private health insurance, those on public health insurance are 1.20 times ([OR]=1.20, 95% CI, 1.04-1.36, $P < 0.01$) more likely to classify as clinically depressed while uninsured individuals are 1.35 times ([OR]=1.35, 95% CI, 1.13-1.60,

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[22] "U.S. Census Bureau QuickFacts."

$P < 0.01$) more likely to classify as clinically depressed. Individuals categorized with missing data showed no statistically significant relationship between their insurance status and likelihood of reporting clinical depression. Interestingly, there are no statistically significant relationships between health insurance coverage type and reporting clinical anxiety.

Relationship Status

The "relationship status" variable is broken down into three categories: married, widowed/divorced/separated, or never married. Most individuals who participated in the survey reported being currently married (58.9%) while 18.7 reported never being married and the remaining individuals are either widowed, divorced, or separated.

In our logistic regression models, married individuals were the reference group. Compared to the reference group, those who are widowed, divorced, or separated from their partner are at 1.41 times ([OR]=1.41, 95% CI, 1.25-1.59, $P < 0.001$) greater odds of reporting clinical depression. Those who were never married were also at increased odds; they were 1.39 times ([OR]=1.39, 95% CI, 1.20-1.62, $P < 0.001$) more likely to report clinical depression.

Similarly, individuals who were widowed, divorced, or separated from their partner were 1.27 times ([OR]=1.27, 95% CI, 1.14-1.42, $P < 0.001$) more likely to qualify as clinically anxious. There was no statistically significant relationship between adults who were never married and adults who were married when examining clinical anxiety.

These results suggest that there are factors protecting married individuals from clinical anxiety or depression when compared to those who are widowed, divorced, or separated from their partner. This makes sense as social isolation was a large factor contributing to poor mental health outcomes in the United States and relationships ameliorate the magnitude of isolation's impact on mental health.

Sexual Orientation

The "sexual orientation" variable consists of five possible options: heterosexual/straight, gay/lesbian, bisexual, something else, and "I don't know." As expected, most respondents identify as straight, comprising a total of 90.8% of the survey participants. That being said, 91.6% of the individuals not experiencing symptoms of clinical depression and 92.0% of the individuals not experiencing symptoms of clinical anxiety were straight suggesting that the mental health of straight individuals is better than that of non-heterosexual individuals.

Our logistic regression data confirms this speculation. Using heterosexual/straight individuals as the reference group, we found that gay/lesbian individuals are 1.49 times ([OR]=1.49, 95% CI, 1.16-1.91, $P < 0.01$) more likely to report symptoms of clinical depression and are 1.63 times ([OR]=1.63, 95% CI, 1.34-1.99, $P < 0.001$) more likely to report symptoms of clinical anxiety. Bisexual individuals reported the greatest odds of adverse mental health outcomes. Bisexual individuals are 2.39 times ([OR]=2.39, 95% CI, 1.94-2.93, $P < 0.001$) more likely to report symptoms of clinical depression and 2.20 times ([OR]=2.20, 95% CI, 1.80-2.60, $P < 0.001$) more likely to report symptoms of clinical anxiety. Respondents who identified as something else are 1.87 times ([OR]=1.87, 95% CI, 1.20-1.56, $P < 0.001$) more likely to qualify as clinically depressed and are 2.04 times ([OR]=2.04, 95% CI, 1.48-2.80, $P < 0.001$) more likely to qualify is clinically anxious compared to heterosexual individuals. Lastly, those who reported that they aren't sure what their sexual orientation are 2.39 times ([OR]=2.39, 95% CI, 1.51-3.70, $P < 0.001$) and 1.76 times ([OR]=1.76, 95% CI, 1.11-2.79, $P < 0.01$) more likely than the reference to qualify as clinically depressed and clinically anxious, respectively.

Overall, these data demonstrate that participants who do not fit into the heteronormative classification as straight/heterosexual are at greater risk for both clinical depression and anxiety.

Of these individuals, those who identify as bisexual seem to be at the greatest risk for adverse mental health outcomes. This may be due to marginalization of sexual orientations that are outside of the societal norm and expose them to double discrimination (e.g., homophobia and biphobia)

Children Present in Household

The "children present in the household" variable asked participants to identify whether they have any children under the age of 18 years living with them in their household. Most of the survey participants (66.6%) reported to not have any children living in their home while 33.4% reported living with children under the age of 18.

There was no statistically significant relationship between children present in the household and risk for clinical depression. Those with children in the household, though, are 1.14 times ([OR]=1.14, 95% CI, 1.02-1.28, $P < 0.05$) more likely to report symptoms of clinical anxiety than those without children present. Despite the lack of a relationship between depression and presence of children in the household, the data on anxiety's relationship to this variable may suggest that the presence of dependents in the home during the pandemic increased reported rates of parental anxiety. This can be presumed to be the result of school closures requiring a parent to stay home to take care of their children. In addition, fears surrounding contracting the virus may be heightened for those with children going to school as children were ineligible for the vaccine early in the pandemic.

Educational Attainment

The "educational attainment" variable contains four possible options: less than high school, high school graduate, some college, and bachelor's degree or higher. This variable identifies the highest level of education each respondent obtained. Over half of the survey

respondents obtained a bachelor's degree or higher, 31.8% of respondents completed some college, 11.7% graduated from high school, and 1.9% did not complete high school.

The results of our logistic regression show no statistically significant relationship between individuals who are educated at a level less than high school and the likelihood of reporting symptoms of clinical depression or clinical anxiety. Furthermore, there was no statistically significant relationship between those who graduated high school and clinical anxiety. Using individuals who reported obtaining a bachelor's degree or higher as the reference group, we found that those whose highest level of education was high school were 1.37 times ([OR]=1.37, 95% CI, 1.20-1.56, $P < 0.001$) more likely to report symptoms of clinical depression. Those who completed some college but did not obtain a bachelor's degree were 1.35 times ([OR]=1.35, 95% CI, 1.21-1.48, $P < 0.001$) more likely to report clinical depression and were 1.12 times ([OR]=1.12, 95% CI, 1.02-1.22, $P < 0.05$) more likely to report clinical anxiety.

These results imply that those who are less educated, specifically those who graduated high school and those graduated high school then proceeded to only complete some college, were at an increased likelihood of reporting clinical depression. This may imply that higher education indirectly provides some protection against poor mental health outcomes.

Family Income

The "family income" variable contains four ranges of yearly income: $0-$49,999, $50,000-$99,999, 100,000-$149,999, and $150,000+. The variable accounts for the combined income of all adult individuals living within a household. As expected, the large majority of individuals reporting symptoms of clinical depression and generalized anxiety disorder are low-income and from the $0-$49,999 income bracket despite comprising 28.6% of all respondents (54.6% of depressed individuals and 49.0% of clinically anxious individuals).

Our logistic regression data show that there is a statistically significant increase in odds that an individual within any income bracket below the $150,000 bracket will report symptoms of clinical depression or generalized anxiety disorder compared to the reference group (the $150,000 or greater group). Individuals whose family income falls within the $0-$49,999 range are at 2.50 times ([OR]=2.50, 95% CI, 2.02-3.08, $P < 0.001$) greater odds of reporting clinical depression and are 2.08 times ([OR]=2.08, 95% CI, 1.74-2.49, $P < 0.001$) more likely to report symptoms of generalized anxiety disorder. Those whose family income falls within the $50,000-$99,999 range are 1.49 times ([OR]=1.49, 95% CI, 1.24-1.80, $P < 0.001$) more likely to report symptoms of clinical depression and are 1.33 times ([OR]=1.33, 95% CI, 1.15-1.53, $P < 0.001$) more likely to report symptoms of generalized anxiety disorder. Lastly, those within the $100,000-$149,999 range are 1.30 times ([OR]=1.30, 95% CI, 1.07-1.58, $P < 0.01$) more likely to report symptoms of clinical depression and are 1.24 times ([OR]=1.24, 95% CI, 1.05-1.46, $P < 0.05$) more likely to report symptoms of generalized anxiety disorder than participants in households earning more than $150,000 annually. Again, these results are consistent with a large body of previous research: an individuals' odds of poor mental health outcomes (i.e., qualifying for clinical depression or generalized anxiety disorder) increases as their family income decreases.

Employment

The "employment" variable contains three categories to describe an individual's employment status: employed, unemployed, or not in the labor force. In this survey, 59.4% of respondents were employed, 31.1% were not in the labor force, and 9.5% were unemployed. Those who were unemployed comprised a much greater percentage of those reporting clinical depression and generalized anxiety disorder symptoms (17.8% and 16.9%, respectively).

Participants who were not employed were at increased odds of reporting poor mental health outcomes during the pandemic when compared to the reference group (i.e., employed individuals). Individuals who are not in the labor force were 1.32 times ([OR]=1.32, 95% CI, 1.15-1.49, $P < 0.001$) more likely to report symptoms of clinical depression and are 1.30 times ([OR]=1.30, 95% CI, 1.15-1.46, $P < 0.001$) more likely to report symptoms of generalized anxiety disorder. Those who were unemployed reported an even greater risk for both variables, with 1.47 times ([OR]=1.47, 95% CI, 1.25-1.71, $P < 0.001$) greater odds of reporting symptoms of clinical depression and are 1.52 ([OR]=, 95% CI, 1.31-1.78, $P < 0.001$) greater odds of reporting symptoms of generalized anxiety disorder. These data suggest that job security may function as a protective factor against poor mental health outcomes throughout the pandemic.

Lives in Medicaid Expansion State

The final variable of interest, "lives in Medicaid expansion state," divides the entire sample and categorizes the participants as either "yes" meaning they live in one of the 38 states that expanded Medicaid under the affordable care act or "no" meaning they live in one of the 12 states that have not yet expanded Medicaid. There was no statistically significant difference between living in a Medicaid expansion state and a non-expansion state in terms of both clinical depression and generalized anxiety disorder.

State-Level Variation in Depression and Anxiety

Figures 1 and 2 contain maps comparing the state-variation in depression and anxiety across the United States. The states with the highest levels of respondents qualifying as clinically depressed were Oklahoma, Louisiana, Nevada, Missouri, and Georgia. The states with the highest rates of reported clinical anxiety were Oklahoma, Louisiana, West Virginia, Mississippi, and New Mexico. For both outcomes, Oklahoma and Louisiana had much higher rates compared

to the other states, reporting 35.1% and 34.9% of their populations qualifying for clinical anxiety

and 31.2% and 30.4% qualifying for clinical depression, respectively.

The states with the lowest rate of respondents qualifying as clinically depressed were

North Dakota, South Dakota, Connecticut, Iowa, and Minnesota. The states with the lowest rates

of reported clinical anxiety were South Dakota, North Dakota, New Jersey, Minnesota, and

Wyoming. For both outcomes, North Dakota and South Dakota had notably lower rates

compared to the other states, reporting 20.1% and 19.2% of their populations qualifying as

clinically anxious and 13.1% and 14.4% qualifying as clinically depressed, respectively.

DISCUSSION

The results presented in this thesis do not align with the initial hypothesis that living in

states that have not yet expanded Medicaid had a negative association with mental health on its

residents during the COVID-19 pandemic. The findings presented here do however indicate high

levels of need for mental health services among the vast majority of states resulting from the

widespread repercussions in physical health, employment, and general disruptions to normal life.

The long-term implications of these outcomes must not be overlooked despite the lack of a

significant relationship between the Medicaid expansion status and the reported mental health

outcomes of a state's residents.

Of all the variables analyzed, age category is one of the largest predictors of clinical

depression and clinical anxiety with younger age groups showing a much greater risk. It is well

known that the pandemic poses a low direct threat to young people's physical health, but it did

have far-reaching impacts on their lives with a large impact to employment opportunities within

the labor market.[23] Studies have shown that during the pandemic, individuals who are unable to perform their jobs from home were more likely to become unemployed.[24] These studies have further indicated that younger adults lacking higher education are more likely to be concentrated in fields whose tasks are less likely to be performed from home.[25] This aligns with our findings that those who graduated high school but did not pursue or complete any higher education are at greater risk for anxiety. The cumulative effects of the inability to find employment and significant disruptions to social interactions left younger populations more susceptible to negative outcomes compared to older age groups. Due to the negative association between financial instability and psychological distress, the lack of financial stability compared to older adults may have played a large role in the magnitude of risk observed in younger cohorts. Multiple studies have shown that the mental health of older adults was significantly better than that of younger adults, which is consistent with our findings.[26]

Employment status and family income, expectedly, were two significant predictors for risk of clinical depression and generalized anxiety disorder. As shown in previous studies, these two factors have immense implications on the status of an individual's mental health. Furthermore, it has been suggested that across the many risk factors for poor mental health, the economic component of these risk factors is the core problem.[27] Knowing the extent to which shocks to household income negatively impacts mental health outcomes makes sense of why variables such as age, biological sex, and educational attainment are indicators for the studied outcomes. In the family income brackets our study analyzed, the demonstrated risk for both

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[23] Achdut and Refaeli, "Unemployment and Psychological Distress among Young People during the COVID-19 Pandemic."
[24] Brodeur et al., "A Literature Review of the Economics of COVID-19."
[25] Brodeur et al.
[26] Vahia, Jeste, and Reynolds, "Older Adults and the Mental Health Effects of COVID-19."
[27] Rohde et al., "The Effect of Economic Insecurity on Mental Health."

generalized anxiety disorder and clinical depression approximately doubles once moving down a single income bracket (i.e., $50,000–$99,000 to $0–$49,999). The unemployment variable comes with other implications different than family income. Considering that about 50% of the United States population is covered by employer-sponsored health insurance, shocks to one's employment, especially during a pandemic, can have both financial and health-related impacts.[28] In addition to the direct financial impacts associated with job loss, social support through one's occupation was either limited or nonexistent due to social distancing and lockdown resulting in even further negative outcomes depending on the degree of social support and sense of identity individuals associated with their workplace.[29]

The last variable that was a significant predictor of mental health outcomes during the pandemic is sexual orientation. This analysis indicated that all individuals who self-reported their sexuality as anything other than heterosexual/straight showed a much greater degree of risk for both generalized anxiety disorder and clinical depression. Considering sexual minority populations are at greater risk for these outcomes when compared to heterosexual individuals prior to the pandemic, these results are understandable. There were factors about the pandemic, though, that were reported to be harder on the LGBTQ+ population than for others. Especially among young adults early in the pandemic when stay-at-home orders were first issued, LGBTQ+ individuals cited quarantining with unsupportive families and isolation from chosen families as sources of significant stress.[30, 31] In addition, individuals from LGBTQ+ populations are at

[28] "2020 Employer Health Benefits Survey."
[29] Brodeur et al., "A Literature Review of the Economics of COVID-19"; Backhans and Hemmingsson, "Unemployment and Mental Health—Who Is (Not) Affected?"
[30] Gonzales et al., "Mental Health Needs Among Lesbian, Gay, Bisexual, and Transgender College Students During the COVID-19 Pandemic."
[31] Rummler, "COVID Is Making Employment and Health Disparities Worse for LGBTQ People."

greater risk for homelessness, consistently struggle with access to affirming health care, and report facing greater barriers seeking employment due to their sexual orientation.[32] Similar to the other risk factors discussed, the LGBTQ+ population felt a significant negative impact of the pandemic due to the combined effects of isolation from their social support groups along with negative economic implications. Thus, we recommend that President Joe Biden take administrative actions aimed at addressing these incredibly high rates of poor mental health and suicidality among the LGBTQ+ population.[33]

The overarching narrative described by our results suggest that there is an immediate need for state-level support to ameliorate the widespread negative impact the pandemic has had on the nation's mental health outcomes. Despite this seemingly obvious statement, the results showed no statistically significant relationship between Medicaid expansion status and risk for clinical depression or generalized anxiety disorder. Due to the limitations of the dataset, it is not possible to account for every single one of the variables that may impact mental health. Specifically, variation in perception of the severity of COVID-19 across the country led to a variety of responses based on state of residence. When comparing a state such as Texas – one of the states that has yet to expand Medicaid – with a state like New York, it is difficult to determine what factor contributed most to poor mental health. In New York City, COVID-19 restrictions were quite strict in comparison to those seen in Texas. For this reason, residents in states like Texas, Tennessee, and Florida may not have experienced the effects of social isolation to the same degree as residents in states that more strictly enforced measures to limit the spread of the virus. In addition, these lenient rules resulted in small businesses and restaurants

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[32] Gruberg, Halpin, and Mahowald, "The State of the LGBTQ Community in 2020."
[33] Panchal, Kamal, and 2021, "The Implications of COVID-19 for Mental Health and Substance Use."

experiencing less impact of the pandemic compared to cities and states that enforced closure rules upon these establishments. So, although these states may have provided less state-level support for their residents in need, the lessened enforcement of social isolation may have offset these negative outcomes.

This null findings on Medicaid expansion during the pandemic do not lessen the importance of state-level support nor does it devalue the importance of Medicaid expansion among the remaining non-expansion states. In 2019, 9.2% of United States citizens were uninsured.[34] Of the twelve states that have not expanded Medicaid, eleven of them had rates of uninsurance greater than the US average with Texas reporting over 18% of their population uninsured.[35] Studies have shown that the impact Medicaid expansion would make to the rates of uninsured individuals would be significant, especially during the COVID-19 pandemic. On average, 42.5% of unemployed workers become uninsured in non-expansion states compared to 22.6% in expansion states.[36] Therefore, it is evident that Medicaid expansion would provide necessary relief to a significant number of individuals who became unemployed during the course of this pandemic and, in doing so, likely lessen mental health outcomes such as anxiety and depression. Our results show that uninsured populations are at greater risk for anxiety than those who are covered by either public or private health insurance, but by expanding Medicaid, this may also lessen levels of depression by decreasing the negative psychological impact associated with fear of job loss due to concern over insurance coverage status

At the time of this writing, the Families First Coronavirus Response Act has required state programs to match COVID-19 testing without cost sharing, has extended coverage to

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[34] "Health Insurance Coverage of the Total Population."
[35] "Health Insurance Coverage of the Total Population."
[36] Dorn, "The COVID-19 Pandemic and Resulting Economic Crash Have Caused the Greatest Health Insurance Losses in American History."

uninsured individuals for COVID-19 testing, and has prevented states from terminating Medicaid

coverage during the pandemic. This is certainly a step in the right direction, but this policy does

not address the lack of coverage for those without health insurance coverage. Furthermore,

Medicaid expansion under supplemental funds from the American Rescue Plan during the

COVID-19 pandemic have not led to new Medicaid expansions. Therefore, the first step at

addressing the widespread lack of coverage should be the exploration of alternative financing

and payment mechanisms to extend coverage to uninsured individuals.

In addition to the positive mental health effects experienced indirectly from Medicaid

expansion, steps must also be taken to directly address the widespread levels of clinical

depression and generalized anxiety disorder that have increased from the pandemic. These

results indicate high levels of need in the immediate future for accessible and affordable mental

health services. In effort to increase access to mental health services, states should consider

expanding Medicaid coverage to broader provider types that may deliver services via telehealth,

and by allowing new services to be delivered via telehealth.[37] Despite these major steps for

accessibility during the pandemic, there has been no guarantee that these modifications to

Medicaid's coverage of telehealth will be permanent. We recommend that mental health services

remain covered by Medicaid to allow for the long-term treatment of adverse mental health

outcomes some populations may have experienced during the pandemic. Furthermore, although

the Substance Abuse and Mental Health Services Administration (SAMHSA) granted $110

million to aid individuals with substance use and serious mental health disorders, this is not

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[37] Panchal, Kamal, and 2021, "The Implications of COVID-19 for Mental Health and Substance Use."

enough funding to possibly address all individuals experiencing mental health issues.[38]

Therefore, we recommend that Congress, through the Coronavirus Aid, Relief, and Economic

Security (CARES) Act, allocate substantially more money to SAMHSA to allow for more

individuals to receive care during the pandemic for substance use and mental illness.

LIMITATIONS

The US Census Bureau's Household Pulse Survey did not provide information on

whether an individual's health insurance status changed over the course of the pandemic. For this

reason, we were unable to identify whether individuals who recently became unemployed were

able to receive Medicaid under the Affordable Care Act. This information would have allowed

us to give an accurate prediction of how many individuals in non-expansion states would have

benefitted from expansion. In addition, all data regarding mental health status is based on self-

reported information and thereby was not confirmed by a licensed physician or mental health

provider. Due to of the cross-sectional nature of data collection, we were unable to follow the

same individuals over time or to establish causal pathways. Lastly, we were unable to estimate

utilization of mental health services, such as psychotherapy, counseling, prescription

medications, or inpatient/outpatient services. Future analyses with Medicaid administrative data

may identify trends in access to and utilization of mental health services during the COVID-19

pandemic.

CONCLUSION

The findings from this study indicate high levels of need for mental health services across

the country. Specific groups, particularly younger adults, unemployed individuals and low-

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[38] "SAMHSA Moves Quickly to Begin Releasing $110 Million in Emergency Grant Funding to Provide Americans with Substance Use Treatment and Mental Health Services during the COVID-19 Pandemic."

income families, and those identifying as sexual minorities self-reported the highest levels of

clinical depression and anxiety. We did not find any differences between living in a Medicaid

expansion state versus non-expansion state in mental health outcomes. Despite the inability to

establish Medicaid expansion status of a state as a predictor for depression and anxiety, the

results of this study combined with outside research, illustrate that expansion of Medicaid in the

twelve remaining non-expansion states may provide necessary relief to uninsured populations.

The national and state-level governments can address disparities in access and affordability by

extending the breadth of mental health services covered by Medicaid and other insurers, such as

tele-mental health services. Furthermore, many of the poor mental health outcomes are

presumably rooted in concern surrounding financial instability suggesting that state-level

financial support may be necessary in the years following the pandemic.

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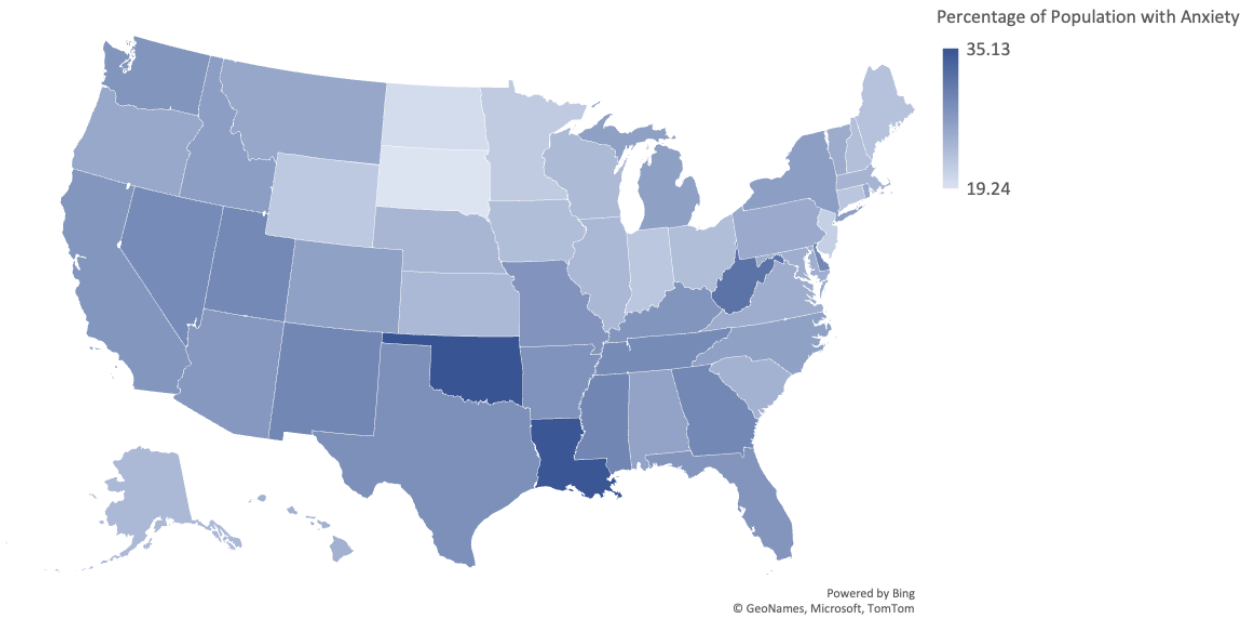
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Table 1. Mental Health of United States Adults During COVID-19 Pandemic

	Depression			Anxiety		
	No Depression	Clinical Depression	P Value	No Anxiety	Clinical Anxiety	P Value
	n=47,690	n=12,946		n=44,550	n=16,128	
Weighted Percent	78.6	21.4		73.4	26.6	
Age, years						
18-25	7.6	14.8		7.4	14.1	
26-34	13.8	22.1		13.1	22.6	
35-49	25.0	27.6	<0.001	24.4	28.8	<0.001
50-64	27.3	23.0		27.6	23.1	
65+	26.3	12.5		27.6	11.4	
Sex						
Male	49.3	44.2	<0.001	51.0	40.7	<0.001
Female	50.7	55.8		49.0	59.3	
Race/Ethnicity						
Non-Hispanic White	65.7	60.4		65.6	61.8	
Non-Hispanic Black	10.4	11.5		10.5	11.1	
Non-Hispanic Asian	5.6	3.9	<0.001	5.9	3.3	<0.001
Hispanic	15.1	18.9		14.8	19.0	
Other	3.1	5.4		3.1	4.8	
Insurance Coverage						
Private Health Insurance	53.8	48.2		52.5	52.9	
Public Health Insurance	36.4	35.0	<0.001	37.6	3.2	<0.001
Uninsured	6.8	13.9		6.9	12.3	
Missing	3.1	2.9		3.0	3.0	
Relationship Status						
Married	61.9	41.1		61.6	46.0	
Widowed	16.8	20.4	<0.001	17.2	18.9	<0.001
Never Married	21.3	38.5		21.3	35.1	
Sexual Orientation						
Heterosexual/Straight	91.6	79.5		92.0	80.7	
Gay/Lesbian	3.0	4.8		2.9	4.8	
Bisexual	2.7	8.9	<0.001	2.5	8.3	<0.001
Something else	1.4	3.5		1.3	3.3	
"I don't know"	1.3	3.3		1.3	2.8	
Children Present in the Household						
No	64.4	61.9	0.025	65.9	58.5	<0.001
Yes	35.6	38.1		34.1	41.6	
Educational Attainment						
Less than high school	6.5	9.0		6.5	8.5	
High school graduate	28.8	33.4	<0.001	30.3	28.4	<0.001
Some college	29.2	34.5		28.8	34.6	
Bachelor's degree or higher	35.5	23.1		34.4	28.5	
Family Income						
0-49,999	32.0	54.6		32.4	49.0	
50,000-99,999	30.8	24.8		30.8	25.9	
100,000-149,999	16.5	10.8	<0.001	16.2	12.7	<0.001
150,000+	17.0	7.8		16.8	10.3	
Missing data	3.7	2.0		3.8	2.0	
Employment						
Employed	60.2	56.2		59.5	58.8	
Unemployed	10.1	17.8	<0.001	9.9	16.9	<0.001
Not in labor force	29.8	26.0		30.7	24.3	
Lives in Medicaid Expansion State						
No	30.9	31.3	0.676	30.6	32.0	0.163
Yes	69.1	69.0		69.4	68.0	

Table 2. Characteristics of U.S. Adults by Anxiety and Depression Diagnoses

	% Clinical Depression	Adjusted Odds Ratio (95% CI)	% Clinical Anxiety	Adjusted Odds Ratio (95% CI)
Age, years				
18-25	14.8	3.79 (2.88 - 4.99)***	14.1	4.75 (3.66 - 6.16)***
26-34	22.1	4.05 (3.27 - 5.03)***	22.6	4.74 (3.86 - 5.83)***
35-49	27.6	3.51 (2.89 - 4.25)***	28.8	3.60 (3.00 - 4.32)***
50-64	23.0	2.30 (1.93 - 2.73)***	23.1	2.44 (2.08 - 2.87)***
65+	12.5	1.00 [Reference]	11.4	1.00 [Reference]
Sex				
Male	44.2	1.00 [Reference]	40.7	1.00 [Reference]
Female	55.8	1.17 (1.06 - 1.29)**	59.3	1.46 (1.33-1.60)***
Race/Ethnicity				
Non-Hispanic white	60.4	1.00 [Reference]	61.8	1.00 [Reference]
Non-Hispanic Black	11.5	0.86 (0.72 - 1.01)	11.1	0.84 (0.71 - 1.00)
Non-Hispanic Asian	3.9	0.77 (0.62 - 0.96)*	3.3	0.51 (0.42 - 0.63)***
Hispanic	18.9	0.88 (0.75 - 1.04)	19.0	0.88 (0.75 - 1.03)
All other	5.4	1.32 (1.04 - 1.68)*	4.8	1.17 (0.96 - 1.42)
Insurance Coverage				
Private Health Insurance	48.2	1.00 [Reference]	52.9	1.00 [Reference]
Public Health Insurance	35.0	1.20 (1.04 - 1.36)**	3.2	1.03 (0.90-1.17)
Uninsured	13.9	1.35 (1.12 - 1.60)**	12.3	1.20 (0.96-1.49)
Missing	2.9	1.31 (0.69 - 2.46)	3.0	0.89 (0.49-1.59)
Relationship Status				
Married	41.1	1.00 [Reference]	46.0	1.00 [Reference]
Widowed, Divorced, or Separated	20.4	1.41 (1.25 - 1.59)***	18.9	1.27 (1.14-1.42)***
Never Married	38.5	1.39 (1.20 - 1.62)***	35.1	1.12 (0.97-1.29)
Sexual Orientation				
Heterosexual/Straight	79.5	1.00 [Reference]	80.7	1.00 [Reference]
Gay/Lesbian	4.8	1.49 (1.16-1.91)**	4.8	1.63 (1.34-1.99)***
Bisexual	8.9	2.39 (1.94-2.93)***	8.3	2.20 (1.80-2.60)***
Something else	3.5	1.87 (1.37-2.57)***	3.3	2.04 (1.48-2.80)***
"I don't know"	3.3	2.39 (1.51-3.70)***	2.8	1.76 (1.11-2.79)**
Children Present in the Household				
No	61.9	1.00 [Reference]	58.5	1.00 [Reference]
Yes	38.1	0.93 (0.82-1.04)	41.6	1.14 (1.02-1.28)*
Educational Attainment				
Less than high school	9.0	1.25 (0.93-1.68)	8.5	1.03 (0.73-1.44)
High school graduate	33.4	1.37 (1.20-1.56)***	28.4	0.96 (0.85-1.08)
Some college	34.5	1.35 (1.21-1.48)***	34.6	1.12 (1.02-1.22)*
Bachelor's degree or higher	23.1	1.00 [Reference]	28.5	1.00 [Reference]
Family Income				
0-49,999	54.6	2.50 (2.02-3.08)***	49.0	2.08 (1.74-2.49)***
50,000-99,999	24.8	1.49 (1.24-1.80)***	25.9	1.33 (1.15-1.53)***
100,000-149,999	10.8	1.30 (1.07-1.58)**	12.7	1.24 (1.05-1.46)*
150,000+	7.8	1.00 [Reference]	10.3	1.00 [Reference]
Missing data	2.0	0.91 (0.62-1.32)	2.0	0.89 (0.65-1.22)
Employment				
Employed	56.2	1.00 [Reference]	58.8	1.00 [Reference]
Unemployed	17.8	1.47 (1.25 - 1.71)***	16.9	1.52 (1.31-1.78)***
Not in labor force	26.0	1.32 (1.15 - 1.49)***	24.3	1.30 (1.15-1.46)***
Lives in Medicaid Expansion State				
No	31.3	1.00 [Reference]	32.0	1.00 [Reference]
Yes	69.0	1.13 (0.70-1.85)	68.0	1.34 (0.86-2.10)

Notes: *$p<0.05$; **$p<0.01$, ***$p<0.001$.

Prevalence of US Residents with Anxiety

Percentage of Population with Anxiety

35.13

19.24

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Prevalence of US Residents with Depression

Percentage of Population with Depression

31.22

13.14

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