

# The Well-Being of Essential Workers & Parents in the COVID-19 Pandemic

Institute for Research on Poverty Webinar  
University of Wisconsin-Madison

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As of today in the US there has been:

- 468k COVID-19 related deaths (roughly the size of Kansas City, MO)
- 27.2 million confirmed COVID-19 cases
- March 13, national emergency declared
- By end of March, 30 states had stay-at-home orders

⇒ The pandemic has altered the very fabric of everyday American life. Our research aims to better understand just how it has impacted the lives of American households at various levels.

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Today I will focus on our paper,

**Racial and Ethnic Disparities: Essential Workers,  
Mental Health, and the Coronavirus Pandemic**

**Co-authors**



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Indiana University, SPEA



Joaquin Rubalcaba  
UNC Chapel Hill, Public Policy



Edward Vargas  
Arizona State, Transborder Studies

# Other COVID related work

## Papers

- *Distance Learning & Parental Mental Health During COVID-19*  
Educational Researcher (2021) with Cassandra Davis, Jevay Grooms, Joaquin Alfredo-Angel Rubalcaba, & Edward Vargas
- *How Schools Can Build Trust & Meet Expectations: Evidence from the Coronavirus Pandemic*, working paper (2021) with Cassandra Davis, Jevay Grooms, & Joaquin Alfredo-Angel Rubalcaba

## Other Work

- *The COVID-19 public health & economic crises leave vulnerable populations exposed* - Brookings Blog Post (2020)
- *Racial Disparities in Mental Health during COVID19* - ASHEcon Newsletter (2020)

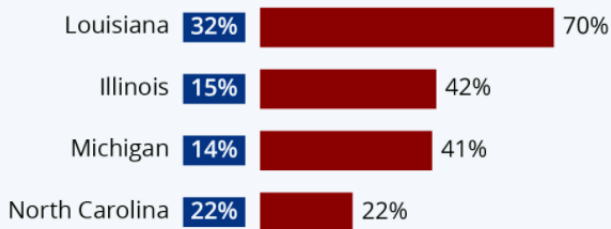
# Motivation for this paper.

As the US charts a path forward, how will it incorporate **policies that ensure racial & ethnic equality** as a part of the recovery without understanding how the COVID-19 has impacted Black & Hispanic communities beyond viral exposure & mortality?

# COVID-19 and the Black Community

African American share of state/city populations and COVID-19 deaths (as of Apr 06, 2020)

■ Share of state/city's population   ■ Share of COVID-19 deaths



Source: CDC & statista

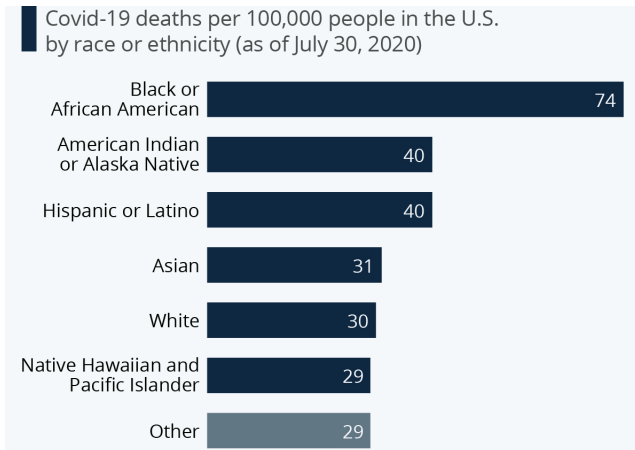
# As of April 15th

Of the states that collected information on race & ethnicity, below are the number of states which reported an over-representation of COVID-19 deaths by race/ethnicity:

- **Asian:** 1 of 19 states
- **Black:** 18 of 23 states
- **Hispanic:** 0 of 20 states
- **Indigenous:** 1 of 12 states
- **White:** 0 of 23 states



# COVID-19 and the Racial/Ethnic Disparity



# What are we interested in?

Given the racial & ethnic disparities in COVID-19 cases, mortality, & exposure we use a nationally representative survey to assess...

How reported mental health distress differ by race/ethnicity & across current employment status?

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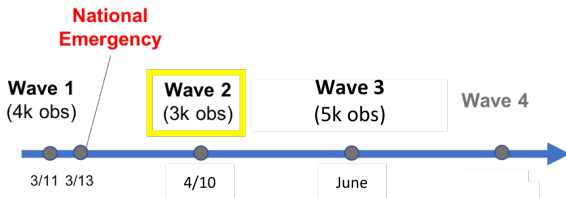
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**How reported mental health distress differ by race/ethnicity & across current employment status?**

## The National Panel Study of COVID-19 (NPSC19)

The data we utilize has been collected as part of a larger survey fielded by UCLA in collaboration with UNM, ASU & UNC. Administered by:

- Matt Barreto
- Tyler Reny
- Gabriel Sanchez



# Data - Wave 2

## **Wave 2:** 3,338 observations

- roughly 2,000 from Wave 1
- roughly 1,000 a fresh cross section
- national household survey
- zip-codes

## **Racial/Ethnic Breakdown:**

- 70% White
- 9.6% Hispanic
- 12.2% Black

⇒ Economic & health questions were added in Wave 2.

# Survey Questions

## ■ Employment

- 1 Not in labor force (1,210 obs)
- 2 Unemployed (458 obs)
- 3 Employed non-essential worker (working from home) (684 obs)
- 4 Employed essential non-healthcare worker (615 obs)
- 5 Employed essential healthcare worker (200 obs)

- Financial: UI benefits, stimulus, income, financial stability
- Mental Health: depression (quasi PHQ-9), anxiety (quasi GAD-7)
- Physical Health: exercising, eating habits, substance use
- Distance Learning
- Other: age, size & composition of households

# Mental Health Survey Questions

*In the past 2 weeks, how often have you been bothered by the following problems?*

## Outcome Variable: Mental Health Distress

### ■ Anxiety (GAD-7 Inventories)

- 1 *Feeling nervous, anxious, or on edge*
- 2 *Not being able to stop or control worrying*

### ■ Depression (PHQ-9 Inventories)

- 1 *Little interest or pleasure in doing things*
- 2 *Feeling down, depressed, or hopeless*
- 3 *Trouble sleeping at night*

# Survey Question Responses

*Each of the mental health items were surveyed using a four-point scale, as follows:*

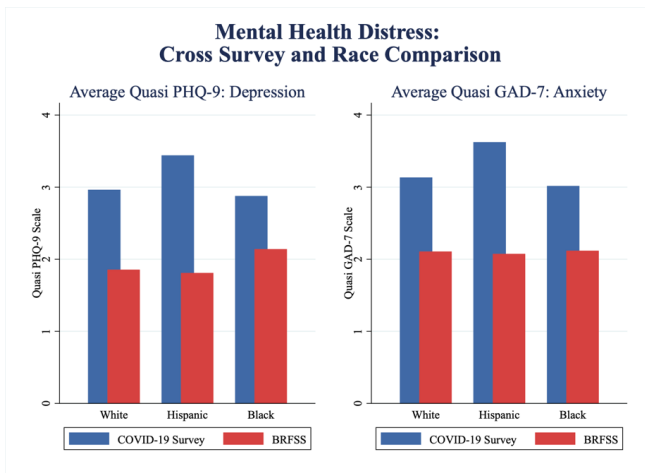
- 1 Not at all
- 2 Several days
- 3 More than half the days
- 4 Nearly every day



# Limitations

- Analysis is **descriptive**, not causal.
- Selection bias in terms of employee type represented  
⇒ weight the data
- No baseline  
⇒ look at The Behavioral Risk Factor Surveillance System (CDC)
- Worker typology is self-reported and no way to cross reference

# Mental Distress Levels: Pre-COVID & COVID



Higher levels of mental health distress during COVID compared to BRFSS 2018.

# Revisiting the Research Question

How does reported mental health distress differ by race/ethnicity & across current employment status?

## Preview of Results

We observe a statistically significant difference in the mental health distress of Black & Hispanic respondents in some of the worker typologies relative to their White counterparts.

Results suggest **elevated mental health distress**:

- for all Black workers, particularly essential non-healthcare
- for Hispanic essential non-healthcare workers

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# Methods

To assess mental health distress across race/ethnicity & worker typology, we employ two models.

## Models

- 1 The probability of experiencing mental health distress across each individual inventory
- 2 The severity of mental health distress from the quasi GAD-7 & PHQ-9 scores.

**Base Group:** White & unemployed

# Model 1

The logistic regression model is,

$$Pr(h_i = 1) = \Lambda (\gamma_s + \eta E_i + \rho R_i + \alpha(E_i \times R_i) + D'\omega + X'\beta) \quad (1)$$

where,  $h_i$  is a dichotomous variable,

- 1 if any worry in the past two weeks
- 0 if no worry was reported

$E_i$  is a categorical indicator for employment &  $R_i$  a race binary

**Other Variables:**  $\gamma_s$  controls for state fixed effects,  $D$  is a vector of state-level pandemic response policies,  $X$  is a vector of individual level characteristics.

## Model 2

**We transform our measures of severity using the z-score. This approach allows us to interpret inter-group differences of symptom severity in terms of standard deviations.**

The OLS model is,

$$Z_i = \gamma_s + D\omega + \eta E_i + \rho R_i + \beta(E_i \times R_i) + X\alpha + \varepsilon_i \quad (2)$$

where,  $Z_i$ , represents the transformed quasi GAD-7 or PHQ-9 scores

Note: the model is linear, we interpret the marginal effects directly

# Probability of Mental Health Distress - Model 1

	<i>GAD-7 Inventories</i>		<i>PHQ-9 Inventories</i>		
	Anxiety	Worry	Depression	Pleasure	Sleep
<i>Employment status × Race &amp; Ethnicity</i>					
Black: non-essential	0.28** (0.12)	0.31** (0.12)	0.05 (0.12)	0.06 (0.11)	0.28*** (0.10)
Black: essential non-health	0.31*** (0.12)	0.52*** (0.13)	0.27** (0.11)	0.28** (0.11)	0.30*** (0.10)
Black: essential health	0.43*** (0.14)	0.41*** (0.15)	0.18 (0.14)	0.34** (0.14)	0.30*** (0.14)
Hispanic: non-essential	0.01 (0.11)	0.05 (0.11)	0.28* (0.15)	0.26 (0.16)	0.21 (0.18)
Hispanic: essential non-health	0.41*** (0.10)	0.33*** (0.10)	0.62*** (0.15)	0.55*** (0.17)	0.50*** (0.19)
Hispanic: essential health	0.11 (0.12)	0.02 (0.13)	0.29* (0.16)	0.39** (0.18)	0.31* (0.19)
No. Observations	2,026	2,045	2,046	2,049	2,053



# Elevated Mental Distress - Model 1

## Essential non-health care (green)

- **B:** increased & significant for all inventories (27 to 52 % points)
- **H:** increased & significant for all inventories (33 to 62 % points)

## Essential health care (orange)

- **B:** increased & significant for 4 of 5 inventories (30 to 43 % points)
- **H:** not significant

## Non-essential

- **B:** increased & significant for 3 of 5 inventories (28 to 31 % points)
- **H:** not significant

## Mental Health Distress - Model 2

	Depression (PHQ)	Anxiety (GAD)
<i>Employment status × Race &amp; Ethnicity</i>		
Black: non-essential	0.68** (0.29)	0.78** (0.33)
Black: essential non-health	0.79*** (0.27)	0.74** (0.31)
Black: essential health	0.83** (0.41)	0.63 (0.40)
Hispanic: non-essential	0.44 (0.45)	0.22 (0.29)
Hispanic: essential non-health	1.13*** (0.42)	0.88*** (0.28)
Hispanic: essential health	0.41 (0.53)	0.17 (0.43)

**B:** 0.7 - 0.8 standard deviation elevated depression & anxiety

**H:** 0.9 - 1.1 standard deviation elevated depression & anxiety

Results are robust to:

- limiting data to working age (under 65)
- across multiple measures of anxiety & depression
- including & excluding 5 states with no stay-at-home order
- control for perception of COVID-19 exposure

# Conclusion

- Across all inventories, essential non-health care Black & Hispanic workers have elevated levels of mental health distress
- Strong evidence that Black & Hispanic workers face different mental health stressors than White counterparts

Especially important given,

- Black & Hispanic workers are over-represented in jobs (front-line industries) with relatively lower wages & often no employer-provided health insurance (Darity Jr et al., 2018)

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Especially important given,

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# Other COVID related work on Mental Health Distress

## Distance Learning & Parental Mental Health During COVID-19 *Educational Researcher (2021)*

- Distance-learning format → forced parents into new teaching roles as *proxy educators*
- We find that parents with children who struggled with distance learning experienced elevated mental distress.
- Given the relationship between teacher burnout and student outcomes, we argue the importance of supporting parents during this time to improve students schooling

# Moving Forward

Given our findings in both projects,

- it is essential to ensure that pre-existing barriers in seeking mental health treatment do not further exacerbate the prevailing disparities in diagnoses & treatment of mental illnesses.
- also, interventions to help combat a looming mental health crises, might focus on meeting people where they are to help provide adequate mental health care.

# COVID & Education Research

An immense shout-out to **Cassandra Davis** at UNC Chapel Hill who has made all of our educational projects possible with her knowledge and expertise on disasters and educational outcomes.





# Thank You!

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