

STRUCTURAL RACISM AND THE COVID-19 EXPERIENCE IN THE UNITED STATES

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The long, fallacious history of attributing racial disparities in public health outcomes to biological inferiority or poor decision making persists in contemporary conversations about the COVID-19 pandemic. Given the disproportionate impacts of this pandemic on communities of color, it is essential for scholars, practitioners, and policymakers to focus on how structural racism drives these disparate outcomes. In May and June 2020, we conducted a 6-state online survey to examine racial/ethnic differences in exposure to COVID-19, risk mitigation behaviors, risk perceptions, and COVID-19 impacts. Results show that Black and Hispanic individuals were more likely than White respondents to experience factors associated with structural racism (eg, living in larger households, going to work in person, using public transportation) that, by their very nature, increase the likelihood of exposure to COVID-19. Controlling for other demographic and socioeconomic characteristics, non-White respondents were equally or more likely than White respondents to take protective actions against COVID-19, including keeping distance from others and wearing masks. Black and Hispanic respondents also perceived higher risks of dying of the disease and of running out of money due to the pandemic, and 40% of Black respondents reported knowing someone who had died of COVID-19 at a time when the US death toll had just surpassed 100,000 people. To manage the current pandemic and prepare to combat future health crises in an effective, equitable, and antiracist manner, it is imperative to understand the structural factors perpetuating racial inequalities in the COVID-19 experience.

Keywords: COVID-19, Structural racism, Racial disparities

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*The negro health problem is one of the “white man’s burdens,” and it is by no means the least of those burdens. [...] It is undoubtedly true that the negro race has deteriorated physically and morally since slavery times. In some ways he is perhaps more intelligent, but freedom has not benefited his health, nor improved his morals. There is more sickness and inefficiency and crime among them now than before the war.*¹

– L.C. Allen (1914)

INTRODUCTION

LIKE MANY OTHER infectious diseases, COVID-19 has had disparate impacts on communities of color throughout the United States, with Black individuals experiencing substantially higher exposure, illness, and death rates than White individuals. A root cause of these trends is structural racism, which has permeated our medical, social, and economic systems since before the United States was a country. Just over 100 years ago, Dr. L.C. Allen addressed the general sessions of the American Public Health Association meeting with a racism-fueled diagnosis of the reasons for poor health outcomes among Black Americans.¹ His rhetoric about the “negro” population of the South being susceptible to a greater morbidity burden echoed late 18th and early 19th century medical descriptions of blackness as a fundamental marker of inferiority. This sentiment was leveraged to justify the pilfering of Black bodies from Africa, improve plantation labor efficiency, safeguard the chattel slave system, physically and mentally dominate the enslaved population, and perpetuate notions of White supremacy.² Myths about differences between Black and White bodies, such as larger genitalia, smaller skulls, weaker lungs, stronger bones, and imperviousness to pain, were central to the rationalization of slavery.^{3–9} Fallacies of physiological dysfunction and flaws “validated” a dogma that Black bodies were only fit for forced labor, which could “vitalize” the blood, “expand the mind,” and “improve the morals” of the enslaved who would otherwise “indulge in idleness and invariably [fall] victim to ‘unalterable physiological laws.’”^{7,10,11} When enslaved people resisted or absconded from service by running away, their behavior was further pathologized as drapetomania, a disease that could be remedied by “whipping the devil out of them.”⁷ This and other “diseases” of the Black body were presented as empirically based maladies, legitimized in medical journals, and used to support racist ideology and discriminatory policies, creating a sentiment of culpability within the Black community for health disparities.

*“The most difficult social problem in the matter of negro health is the peculiar attitude of the nation toward the well-being of the race. There have, for instance, been few other cases in the history of civilized peoples where human suffering has been viewed with such peculiar indifference.”*¹²

– W.E.B. Du Bois (1899)

Around the same time Allen and others were promulgating racist explanations for poor health in Black communities, an alternative narrative also existed. W.E.B. Du Bois, a prominent sociologist and civil rights activist, refuted theories of biological racial inferiority in 1899 with his publication of *The Philadelphia Negro: A Social Study*.¹² In this landmark study, Du Bois was the first to name *structural* issues, specifically the “condition of living” and the “peculiar indifference” of the nation toward Black Americans—rather than “marked racial weaknesses”—as the root cause of health inequities.^{12,13} Since the late 1940s, and perhaps before, sociologists have demonstrated that “established racial classification systems are arbitrary and evolved from systems of stratification, power and ideology,”^{14–17} confirming Du Bois’s arguments that racial differences in health were a reflection of unsanitary housing, poor air quality, irregular food, and other social conditions representing poverty and marginalization—that is, social determinants of health.¹⁸

STRUCTURAL RACISM AND COVID-19 RACIAL HEALTH DISPARITIES

More than a century later, the tension between racist and antiracist explanations for racial disparities in health outcomes persists today. COVID-19 is a prime illustration. COVID-19 infection and death rates disproportionately affect communities of color,¹⁹ resulting in a death rate that is at least double that of White and Asian Americans.²⁰ Specifically, Black Americans have 1.4 times higher infection rates, 3.7 times higher hospitalization rates, and 2.8 times higher death rates from COVID-19 than White Americans.²¹ The Color of Coronavirus project reports that Black and Indigenous Americans “continue to suffer the highest rates of loss—with both groups now experiencing a COVID-19 death toll exceeding 1 in 750 nationally,” in contrast to 1 in 1,325 for White Americans.²⁰

Present-day explanations for racial disparities in COVID-19 outcomes continue to echo debunked racist theories that blame and pathologize communities of color.²² Some early biological explanations leaned on baseless centuries-old notions of genetic differences in lung function across racial and ethnic groups.^{23–25} For instance, early in the pandemic there were false notions of COVID-19 immunity among Black Americans, and currently most medical facilities in the United States use different standards and race-adjusted algorithms to measure various health functions and outcomes for Black patients versus others, potentially affecting COVID-19 detection and

care.^{26,27} Others have pointed to behavioral explanations. In June 2020, at an Ohio Senate Health and Human Services Committee hearing, state senator and emergency room doctor Stephen Huffman conjectured: “Could it just be that African Americans—or the colored population—do not wash their hands as well as other groups? Or wear masks? Or do not socially distance themselves?”²⁸ During a press briefing in April 2020, US Surgeon General Jerome Adams, a Black American, asserted that he did not believe Black Americans or communities of color were biologically predisposed to contract or die from COVID-19. Despite this, he perpetuated racial stereotypes when he implored communities of color to “step up” and “avoid alcohol, tobacco, and drugs,” adding: “Do it for your abuela, do it for your granddaddy, do it for your big momma, do it for your pop-pop. We need you to understand, especially in communities of color.”²⁹ Adams’s comments reinforced stereotyped notions that the individual behaviors of some communities, rather than policies and structural factors, were responsible for COVID-19 disparities. His use of racially coded language imploring people of color to change their behaviors is a present-day example of how ignorance of the structural gridirons that perpetuate racism exacerbates health disparities.

Continuing the work of Du Bois, antiracist voices have responded to these racist explanations for COVID-19 disparities by emphasizing the structural drivers of COVID-19 health outcomes. Early in the COVID-19 pandemic, Ibram X. Kendi wrote a piece titled “Stop Blaming Black People for Dying of the Coronavirus”²² that called out a tendency to “blame the choices made by Black people, or poverty, or obesity—but not racism” for higher rates of sickness and death in Black communities. In contrast, antiracist explanations focus on structural racism as the culprit for COVID-19 and other health disparities.³⁰ Rooted in legacies of oppression, slavery, and genocide, structural racism refers to “mutually reinforcing systems of housing, education, employment, earning, benefits, credit, medical [healthcare], and criminal justice” that perpetuate racial discrimination and disparities.³¹ Racism operates at a macro-level, across social, institutional, ideologic, and cultural processes that interact to generate and reinforce health (and other) inequities in a way that makes them appear inevitable.^{32,33} The persistence of racism lies not only in interpersonal attitudes of White superiority, but also in systems and structures that, throughout time, continue to legitimize racism and uphold inequity.

Advancing health security in the face of the COVID-19 pandemic and other public health challenges requires grappling with the structural drivers of persistent racial health disparities. Indeed, recent work in this journal has noted a “chronic failure of leadership to address the structural factors that drive disparities and the underlying racism that support these structures.”³⁴ Heeding the call of scholars like Du Bois, Kendi, and others,³⁵ this article examines the structural context for COVID-19 health disparities and their drivers.

METHODS

To better understand the structural drivers of racially disparate health outcomes during the COVID-19 pandemic, we analyzed data from a representative 6-state survey conducted in the United States in May and June 2020 to address the following research questions:

1. Are there differences in exposure to COVID-19 risk across racial/ethnic groups?
2. Are there differences in COVID-19 risk mitigation behaviors across racial/ethnic groups?
3. Are there differences in COVID-19 experiences and perceived risks across racial/ethnic groups?

Survey Data Collection and Analysis Methods

The Risk and Social Policy Working Group conducted an online survey of 3,059 respondents between May 15 and June 7, 2020, across 6 states: Colorado, Iowa, Louisiana, Massachusetts, Michigan, and Washington. At the time of survey development, we selected states that were current or emerging COVID-19 hotspots (Figure 1) and demonstrated variation in the relative stringency of risk mitigation policies, although most states in the United States were under stay-at-home orders or beginning a phased re-opening process during the study period. Moreover, while structural racism is persistent throughout the United States, the states in our sample have strong histories of racial injustice that manifest in diverse ways. With a problematic history of housing discrimination, community disinvestment, and environmental pollution, Colorado recently identified racism as a public health crisis.³⁷ Racist redlining housing practices limited housing opportunities for people of color in Iowa in the 1930s and the impacts of these policies on residential segregation persist today.³⁸ Louisiana is home to Cancer Alley, the 85-mile stretch between Baton Rouge and New Orleans composed of predominantly Black neighborhoods, with 150 petrochemical plants that have been linked to disproportionate rates of cancer, cardiovascular, and respiratory diseases.^{39–41} In Massachusetts, school segregation is a persistent problem that has worsened in recent years.⁴² Michigan is home to the Flint water crisis, which resulted in 12,000 children in a predominantly Black city being exposed to lead-contaminated drinking water in one of the most egregious examples of racism’s impacts on environmental health in recent history.^{43–45} In Washington, historical and current oppression of Indigenous people has perpetuated disparities in life expectancy and infant mortality, among other outcomes.^{46,47}

This study was designed to measure variation in COVID-19 risk perceptions and behaviors over time across states. Data presented here are from the first wave of a 4-wave panel survey. A power calculation based on key indicator variables

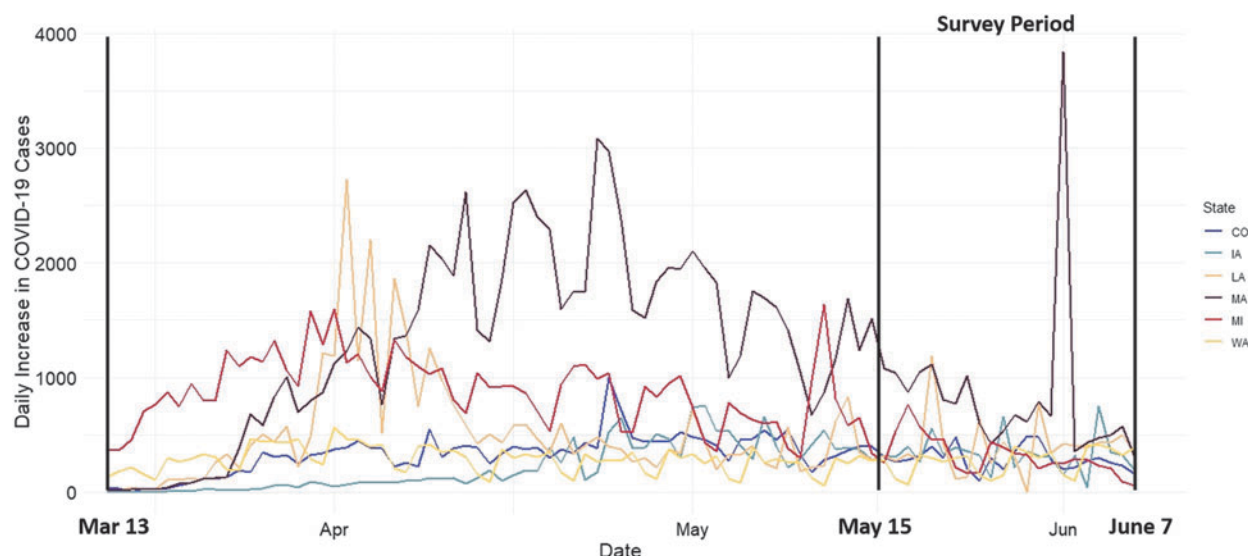


Figure 1. Time-series plot of new COVID-19 cases before and during the survey period. Data derived from the COVID Tracking Project.³⁶ Racially disaggregated COVID-19 data are also available by state from this source.

and a multilevel modeling approach indicated a need for roughly 500 responses per state. We contracted Qualtrics, a survey software and analytics company, to conduct the survey using their proprietary panels of online survey respondents recruited for academic and market research. Surveys were conducted in English and self-administered. We instructed Qualtrics to recruit respondents with a proportional representation of each state's age, race/ethnicity, and income census demographics. Consistent with other national surveys and to align with the US Census, respondents reported ethnicity and race with 2 items: "Are you Hispanic or Latino/a/x?" (possible answers: yes, no) and "What is your race? Select all that apply" (possible answers: White, Black, American Indian or Alaska Native, Asian, Native Hawaiian or Pacific Islander, Other). A 5-category composite variable was created, which categorized participants as non-Hispanic White, Hispanic, non-Hispanic Black, non-Hispanic Asian, or non-Hispanic other/multiple races.^{48,49} In this article, we refer to these categories as White, Hispanic, Black, Asian, and Other.

Respondents were asked about several factors that could potentially affect their risk of exposure to COVID-19. COVID-19 is transmitted most easily through prolonged periods of indoor contact with other people; the more time that people spend indoors with others, the more likely they are to contract the virus, making living and working conditions strong predictors for COVID-19 mortality.^{50,51} Thus, we measured factors that influence contact with others, including (1) household size, (2) working outside the home, (3) taking public transportation, and (4) leaving home to care for family members. We also asked respondents about their risk mitigation behaviors, including physical distancing and mask wearing. Finally, we measured respondents' COVID-19 experience and risk per-

ceptions by asking whether they or people they knew had COVID-19 and eliciting their perceived risk of getting COVID-19, dying from COVID-19, and running out of money due to economic effects of the pandemic.

For each exposure, risk mitigation, and risk perception variable, we conducted bivariate analyses to examine differences across racial/ethnic groups. We then estimated multivariate regression models (linear regression for continuous outcomes and linear probability models for binary outcomes) to assess whether racial/ethnic differences in outcomes persisted after controlling for other demographic and socioeconomic variables including gender, age, income, education, and political ideology. State fixed effects were also included in all regressions. Statistical analyses were performed using Stata/MP version 16.1 (StataCorp LLC, College Station, TX).

Ethical approval for survey implementation and analysis methods was obtained through the institutional review boards of Bentley University, University of Central Florida, University of Colorado, University of Maryland, University of Montana, and University of Nevada.

RESULTS

Table 1 shows demographic and socioeconomic characteristics for participants in the survey sample. The sample included 3,059 individuals; 70.8% White, 10.6% Hispanic, 10.8% Black, 4% Asian, and 4% other racial/ethnic groups—American Indians and Alaskan Natives (0.4%), Native Hawaiians and Pacific Islanders (0.4%), and multiracial or other racial/ethnic groups (3.1%). The table also shows how other demographic and socioeconomic characteristics of the sample varied across racial/ethnic groups. While Qualtrics's sampling procedure involved meeting specified quotas for age, income, and race/ethnicity, there

Table 1. Demographic and Socioeconomic Characteristics of the Sample

<i>Variable</i>	<i>% Total (N= 3,059)</i>	<i>% White (n= 2,166)</i>	<i>% Hispanic (n= 323)</i>	<i>% Black (n= 331)</i>	<i>% Asian (n= 121)</i>	<i>% Other (n= 118)</i>	<i>P Value</i>
Gender							
Female ^a	60.1	58.9	61.9	67.7	50.4	66.1	<.001
Male	39.3	36.8	36.8	31.7	49.6	31.4	
Age (years)							
18 to 34 ^a	34.8	25.5	61.0	55.0	63.6	46.6	<.001
35 to 55	38.3	40.7	31.6	34.7	29.8	29.7	
55 or older	27.0	33.8	7.4	10.3	6.6	23.7	
Household income (2019)							
Less than \$40,000 ^a	25.3	20.1	38.7	47.7	17.4	28.8	<.001
\$40,000 to \$80,000	35.3	33.3	43.7	36.3	35.5	44.9	
\$80,000 to \$150,000	28.8	33.9	14.2	12.4	31.4	19.5	
>\$150,000	10.6	12.7	3.4	3.6	15.7	6.8	
Education							
High school or lower ^a	22.2	19.4	36.8	32.6	10.7	16.1	<.001
Some college	23.8	23.2	24.8	28.1	13.2	31.4	
College degree	36.8	38.5	27.2	31.1	42.2	43.2	
Graduate degree	17.2	19.0	11.2	8.2	33.9	9.3	
Political ideology							
Liberal	30.5	30.2	29.7	27.2	44.6	33.1	<.001
Moderate ^a	38.7	36.3	47.7	45.3	41.3	38.1	
Conservative	30.8	33.5	22.6	27.5	14.1	28.8	

Note: Reported *P* values are for χ^2 tests of differences in proportions across race/ethnicity groups.

^aReference category for subsequent multivariate analyses.

were no requirements to balance characteristics within racial/ethnic groups, and unsurprisingly, we found significant differences across racial/ethnic groups in these variables. In general, non-White respondents were younger than White respondents. Income and education levels were lower among Hispanic and Black respondents and higher among Asian respondents, compared with White respondents. Politically, Hispanic and Black respondents were more likely to be moderate compared with White respondents, and Asian respondents included a higher proportion of self-described liberals. Correlations among race/ethnicity and socioeconomic variables are a reflection of persistent structural racism in the United States. We thus examine both unadjusted differences in COVID-19-related variables and adjusted differences accounting for demographics and socioeconomics in this paper.

COVID-19 Exposure Risk Factors

Our findings showed statistically significant differences across racial/ethnic groups across multiple factors that can affect exposure to COVID-19. Supplemental Figure 1 (www.liebertpub.com/doi/suppl/10.1089/hs.2021.0031) plots average household size and the proportion of respondents by race/ethnicity who said they had gone to

work in person at least weekly in the past month, had taken public transportation 5 or more times in the past 2 months, and had left home to care for family members in the past month. We found that each exposure measured was higher for non-White groups compared with White respondents. Non-White respondents lived in larger households than White respondents; on average, White respondents lived in households with 0.6 to 0.7 fewer people than Black and Hispanic households, respectively. Black and Hispanic respondents were significantly more likely than other racial/ethnic groups to report having worked outside the home at least weekly in the previous month—39% of Hispanic respondents and 44% of Black respondents, compared with 29% of White respondents.

Differences in the use of public transportation were even larger: only 2.3% of White respondents said they had taken public transportation 5 or more times in the past 2 months, compared with 13.6% of Black respondents, 6.8% of Hispanic respondents, 5.1% of respondents from other racial/ethnic groups, and 4.1% of Asian respondents. Finally, we observed differences in the proportion of respondents who said they needed to leave their homes to care for other family members. Almost a fifth (18.1%) of White respondents reported caring for family members outside the home, compared with over a quarter (25.7%) of Black respondents.

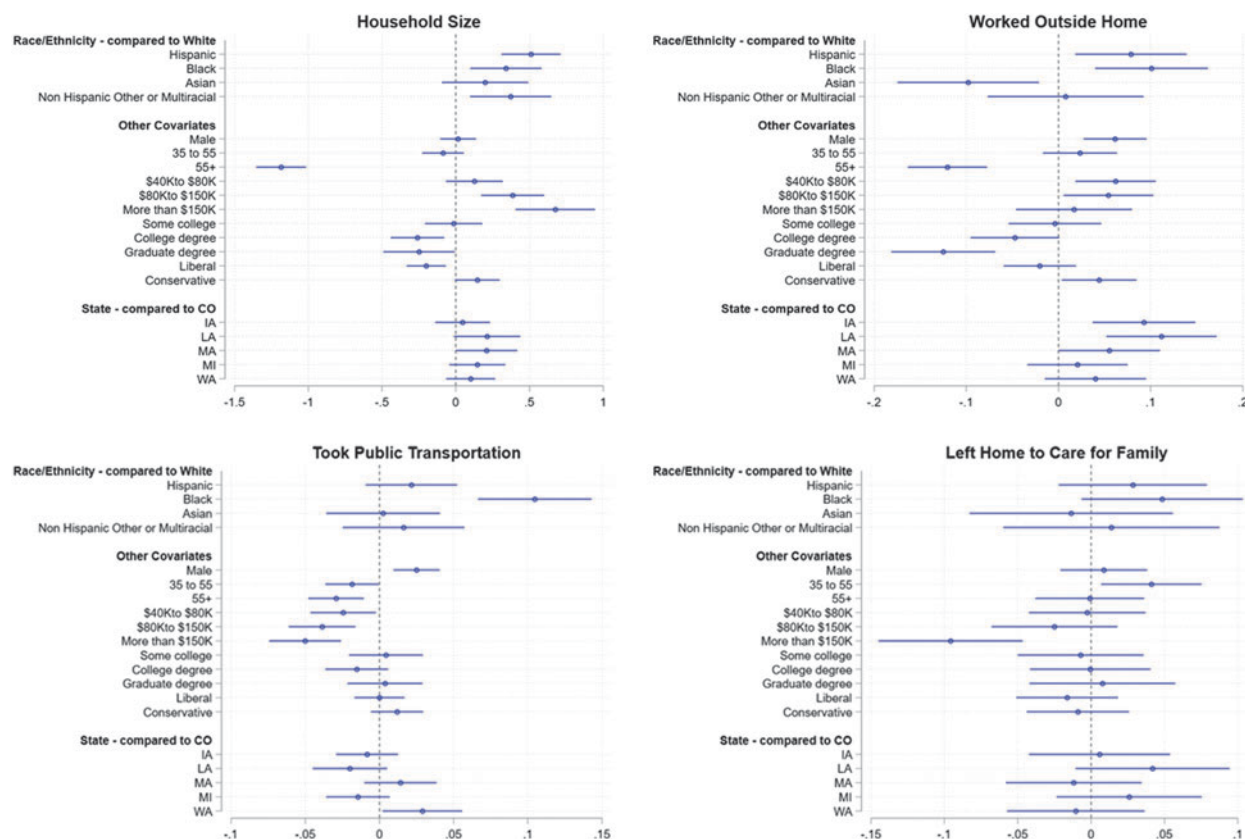


Figure 2. Multivariate regression results showing associations between risk of COVID-19 exposure and race/ethnicity, controlling for other characteristics. Points and lines correspond to regression coefficients and their 95% confidence intervals, respectively. The gray line indicates the comparison group for each variable: Race/Ethnicity=White; Gender=Female; Age=Under 35; Income=Less than \$40K; Education=High School or Lower; Political Ideology=Moderate; State=Colorado.

Multivariate regression analyses showed that most of the racial/ethnic differences in exposure persisted after controlling for other demographic and socioeconomic variables (Figure 2). Controlling for gender, age, income, education, political ideology, and state, we found that Hispanic respondents had about 0.5 more people living in their households compared with White respondents. This difference was slightly smaller between Black and White respondents and between respondents from other racial groups and White respondents. Differences in household size between Asian and White respondents were not statistically significant.

Black and Hispanic respondents were 10.4% and 8.3%, respectively, more likely to report working outside the home compared with White respondents, whereas Asian respondents were less likely (-9.7%). Rates of public transportation use were substantially higher among Black respondents than White respondents (10.5%) after controlling for other characteristics; differences between rates of public transit use between White and Hispanic, Asian, and other racial/ethnic groups were not statistically significant. Finally, we found that differences in caregiving across racial/ethnic groups were not statistically significant after controlling for other factors, al-

though point estimates indicate higher rates of caregiving among Black (4.8% more likely) and Hispanic (2.8%) respondents than White respondents.

COVID-19 Risk Mitigation Behaviors

After investigating differences in COVID-19 exposure, we assessed rates of racial/ethnic group participation in 2 behaviors that can help mitigate exposure risk: keeping the prescribed distance from others ("social" or "physical" distancing) and wearing a mask or face covering (Supplemental Figure 2, www.liebertpub.com/doi/suppl/10.1089/hs.2021.0031). Specifically, we asked respondents how often they kept the prescribed distance from others when outside their home in the past week and how often they wore a mask in indoor public spaces in the past week. A majority (82.4%) of White respondents said they often or always kept the prescribed distance from others outside the home, compared with 75.2% and 76.1% of Hispanic and Black respondents, respectively. Approximately 65% of White, Hispanic, and Black respondents said they always wore a mask in indoor public

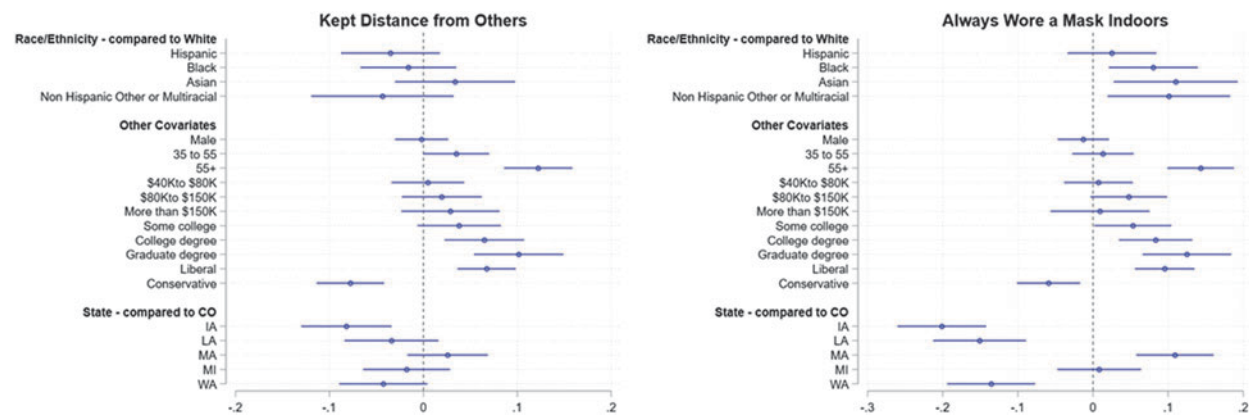


Figure 3. Multivariate regression results showing association between COVID-19 risk mitigation variables and race/ethnicity, controlling for other characteristics. Points and lines correspond to regression coefficients and their 95% confidence intervals, respectively. The gray line indicates the comparison group for each variable: Race/Ethnicity = White; Gender = Female; Age = Under 35; Income = Less than \$40K; Education = High School or Lower; Political Ideology = Moderate; State = Colorado.

spaces—which was even higher among Asian respondents and other racial/ethnic groups.

Figure 3 shows multivariate regression results assessing factors associated with risk mitigation behaviors. Differences among racial/ethnic groups in maintaining prescribed distance from others were not statistically significant after accounting for demographic, socioeconomic, and geographic variables. Rather, we found that older, more highly educated, and politically liberal respondents were more likely to report maintaining the prescribed distance. Multivariate results indicated significant racial/ethnic differences in the proportion of respondents reporting that they always wore a mask in indoor public spaces. Controlling for other factors, however, Black, Asian, and other racial/ethnic group respondents were 8%, 11%, and 10%, respectively, more likely to wear masks compared with White respondents. Age, income, and political ideology are also significant predictors of mask-wearing behavior. We saw large differences in mask wearing across states, after controlling for other individual characteristics, likely due in part to differences in mask mandate policies.

To better understand differences in the rates of engagement in risk mitigation behaviors, we asked respondents a follow-up question about reasons why they may not always keep the prescribed distance from others and why they may not always wear a mask outside their home. (These questions included precoded multiple response options as well as an “other” option.) About 22% of White respondents selected a response indicating that it was impossible to keep the prescribed distance from others when they were at work, compared with 28% of Hispanic respondents ($\chi^2 P = .012$).

Supplemental Figure 3 (www.liebertpub.com/doi/suppl/10.1089/hs.2021.0031) plots the proportion of respondents who selected perceptions of different types of discrimination as possible barriers to wearing a mask. Asian

respondents were significantly more likely to report that they thought others would think they were sick if they wore a mask; nearly 7% of Asian respondents mentioned this concern compared with 2% of White respondents. Meanwhile, concerns about being perceived as a criminal or being stopped by the police while wearing a mask were particularly high among Black respondents. Less than 1% of White and Asian respondents voiced concerns about being stopped by the police, compared with nearly 8% of Black respondents.

COVID-19 Experience and Risk Perceptions

Finally, we analyzed COVID-19 experience and risk perceptions among respondents. Overall, about 10% of survey respondents reported thinking they had had COVID-19; differences across racial groups were not statistically significant. Black respondents were significantly more likely than other respondents to have direct experiences with COVID-19 in their social networks, with nearly 70% of Black respondents reporting knowing someone who had it, 48% knowing someone who had been hospitalized, and 40% knowing someone who had died (see Supplemental Figure 4, www.liebertpub.com/doi/suppl/10.1089/hs.2021.0031). In contrast, just 14% of White respondents reported knowing someone who had died. These differences are particularly striking given that these data were collected relatively early in the pandemic, when roughly 109,000 people had died in the United States compared with over 400,000 who had died by early 2021.^{52,53}

Respondents also indicated their perceived likelihood of becoming infected with COVID-19 in the next 3 months on a scale of 0% to 100% and their perceived likelihood of dying from COVID-19. Additionally, we asked respondents how likely they would be to run out of money due to

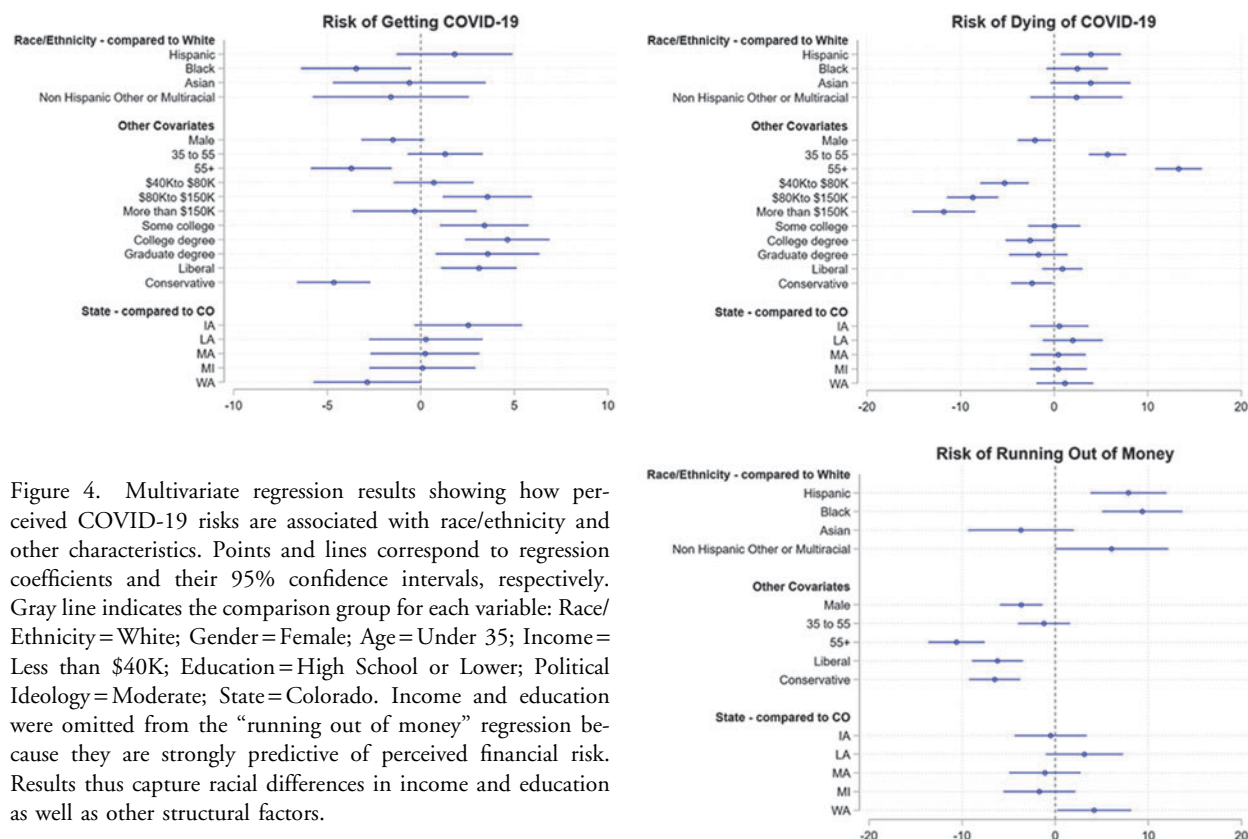


Figure 4. Multivariate regression results showing how perceived COVID-19 risks are associated with race/ethnicity and other characteristics. Points and lines correspond to regression coefficients and their 95% confidence intervals, respectively. Gray line indicates the comparison group for each variable: Race/Ethnicity = White; Gender = Female; Age = Under 35; Income = Less than \$40K; Education = High School or Lower; Political Ideology = Moderate; State = Colorado. Income and education were omitted from the “running out of money” regression because they are strongly predictive of perceived financial risk. Results thus capture racial differences in income and education as well as other structural factors.

the pandemic in the next 3 months. Results are plotted by race/ethnicity in Supplemental Figure 5 (www.liebertpub.com/doi/suppl/10.1089/hs.2021.0031). The perceived risk of becoming infected with COVID-19 was somewhat lower among Black respondents, and the perceived risk of dying from COVID-19 was somewhat higher among Black and Hispanic respondents than White respondents. The perceived financial risk was substantially higher among Black and Hispanic respondents compared with other groups.

For each of these risk perceptions, we also estimated multivariate regression models (Figure 4). Controlling for demographic and socioeconomic factors, as well as whether the respondent reported that they had already had COVID-19, the perceived risk of becoming infected with COVID-19 was 2.8% lower among Black respondents than White respondents; differences between White respondents and other racial groups were not significant. The perceived risk of dying from COVID-19 was higher among Black (3.2%), Hispanic (4.6%), and Asian (5.1%) respondents compared with White respondents. Finally, we observed higher levels of concern about the financial impacts of COVID-19 among Black, Hispanic, and other/multiracial groups compared with White respondents. Black respondents perceived a 9.3% higher likelihood of running out of money in the next 3 months compared with White respondents; this difference was 7.9% for Hispanic respondents and 6.0% for other/multiracial respondents.

DISCUSSION

The Color of COVID-19

Over a century ago, W.E.B. Du Bois argued that the health and wellbeing of Black communities reflected structural conditions rather than racial susceptibilities or inferiorities. Our study lends further evidence to this persistent truth in the context of COVID-19. Similar to reports by other researchers and mainstream media, our survey data demonstrate the disproportionate risk of COVID-19 exposure experienced by people of color.⁵⁴ Critically, these differences do not reflect easily modifiable “choices.” Instead, they point to life circumstances shaped by a long history of structural racism in policies and practices. For example, decades of redlining—discriminatory and obstructive mortgage lending practices for communities of color—created interlocking patterns of disinvestment in housing, transportation, schools, and other resources that have created legacies of unequitable impacts.^{55,56} In this vein, we found that Black and Hispanic respondents were more likely to live in larger households, work outside the home, and take public transportation—all of which are structural realities that increase the risk of exposure to COVID-19.

Our results also demonstrate how the toll of the pandemic on communities of color goes beyond individual illness experiences. Nearly half (40.6%) of Black

respondents knew someone who had died from COVID-19 in contrast to just 14% of White respondents. While all non-White respondents reported a higher perceived risk of dying from COVID-19 compared with White respondents, the perceived risk of losing financial footing during the pandemic was significantly higher among Black and Hispanic respondents. Racial profiling, coupled with the heightened risk of losing a loved one, running out of money, and even dying from COVID-19, all contribute to a toxic stress burden on communities of color, which in turn can affect mental and physical health.

Shaming and Blaming the Sick

Americans have long perceived disease and illness in communities of color as the result of personal failures of non-White individuals and groups. Historians have described waves of disease connected with waves of hate toward specific groups,⁵⁷ and the COVID-19 pandemic is no different. When COVID-19 was identified in the United States in January 2020, racism targeted against Asian and Black Americans emerged. Researchers found that racial prejudice, along with selection of news sources (eg, Fox News), were the primary predictors of blaming Asian Americans for the pandemic. This racism and xenophobia fueled racial attacks throughout the nation, supported by targeted bigoted terminology—eg, “China virus” or “Chinese virus”—used by former President Trump.⁵⁸⁻⁶¹ Our finding that Asian Americans were concerned about being perceived as sick if they wore masks may be connected to this form of racism. Black, Hispanic, and Asian respondents also had a higher perceived risk of dying from the disease, after controlling for other covariates, potentially reflecting concerns about discrimination in the US healthcare system or an awareness of racial disparities in mortality outcomes.

Similarly, our results show that Black respondents who considered wearing a mask for COVID-19 protection were much more concerned about being racially profiled by the police than White respondents. These concerns are based on a seemingly continuous stream of media reports on police killings as well as an abundance of statistical evidence. Between January 1, 2013, and December 31, 2020, there were 8,778 police killings in the United States. Although Black and White Americans make up 13% and 60%, respectively, of the population,⁶² Black Americans account for 28% of the people killed by police.⁶³ For young men of color, police violence is one of the leading causes of death in the United States; Black men are 2.5 times more likely to be killed by police over their life course than White men, and Black women are 1.4 times more likely to be killed by police compared with White women.⁶⁴ Against this backdrop, many Black people have seen mask wearing as requiring a difficult choice between avoiding COVID-19 and avoiding additional interactions with police.^{65,66}

The “follow all the rules and you won’t get sick” mindset has also led to accusations that Black Americans are not

responding to the COVID-19 pandemic with an appropriate level of seriousness.^{67,68} However, our work found no evidence that people of color—specifically, Black and Hispanic respondents—were taking the virus less seriously or failing to engage in public health precautions and recommendations when possible, although structural factors potentially limit these opportunities. Lower levels of physical distancing among respondents of color appear to be due in part to difficulties keeping distance at work and are not apparent after controlling for other variables. Non-White respondents were more likely to wear masks after controlling for demographics and socioeconomic factors. These findings mirror those from other communicable disease contexts, including HIV and influenza, that Black individuals may engage in preventive behaviors as often or more often than White individuals but continue to experience more infection.⁶⁹⁻⁷¹

Not a Monolith

Finally, we note that experiences of Black, Hispanic, Asian, White, and other communities are distinct. In our sample, Asian communities appeared relatively privileged regarding COVID-19 exposure. In addition to having higher income and education, Asian respondents were less likely to work outside the home or care for family members outside the home than White respondents, had similar household sizes compared with White respondents, and engaged in risk-reduction behaviors at the highest rates. As noted already, however, they were significantly more likely to connect mask wearing with perceptions of being sick, potentially tied to COVID-19-related xenophobia and racism. Our sample of respondents included few Indigenous individuals. Other data, however, show the high, and often permanent, effects that COVID-19 has had on Indigenous communities in the United States and around the world.⁷² For instance, high death rates among Indigenous elders has led to significant and irreversible losses in Indigenous language.⁷³

Accurate and timely data on racial health disparities are key to identifying specific problems affecting different communities of color and devising effective solutions, but these data were woefully incomplete at the start of the COVID-19 pandemic, with race/ethnicity data available for only 30% of COVID-19 cases as late as May 2020.⁷⁴ By then, states like Louisiana, Illinois, and Michigan, were reporting COVID-19 mortality rates of Black American residents that were nearly 3 times that of the overall American population.⁷⁵ By June, nearly 6 months into the pandemic, the US Department of Health and Human Services finally mandated the collection of race and ethnicity data for COVID-19 surveillance.⁷⁶ Lack of systematic data on COVID-19 by race obscured disparities early on and hindered options for antiracist actions.

While systematic quantitative data has been lacking at times, qualitative and anecdotal evidence on the impacts of structural racism have been abundant. Perhaps no case is

more striking than that of Susan Moore, a Black American doctor who became more than “just another COVID-19 mortality statistic” when she died on December 20, 2020, after being discharged prematurely by White physician Eric Bannec.⁷⁷ Moore tested positive for COVID-19 on November 29, 2020 and was hospitalized at IU Health North Hospital in Carmel, Indiana, by December 4, 2020. On December 5, she offered us a firsthand account of the medical racism experienced throughout the pandemic when she shared this Facebook post from her hospital bed:

I am so scared please give me some advice on how to proceed. [...] I presented with respiratory rate in the 30s, heart rate in the 150s and a fever of 101.5. I had to beg to get the Remdesivir because Dr. Bannec said my chest x-ray was normal. I then had to beg for a CT of my chest which I finally got and it showed large mediastinal lymphadenopathy right lower lobe infiltrate in a new left lower lobe infiltrate. After receiving two infusions of the Remdesivir. Dr. Bannec said I don't qualify, I'm not short of breath, he doesn't know why my neck hurts and he doesn't feel comfortable giving me any narcotics. All I can do is cry I was in so much pain. He said you can just go home right now. Of note he did not even listen to my lungs he didn't touch me in any way. He performed no physical exam. I told him you cannot tell me how I feel.⁷⁸

Despite her medical training and expertise, Moore experienced what many other Black women have experienced in her situation—her concerns and requests for care were ignored by her providers. She was discharged from IU Health North Hospital on December 7, admitted to Ascension-St. Vincent Hospital (also in Carmel, Indiana) 12 hours later, and died of COVID-19 complications on December 20, 2020. The tragedy of Moore's experience as a Black physician seeking and failing to receive care in the medical community highlights the extensive and encompassing reach of racism in patient care.

Limitations

We note several key limitations to our survey design. First, the research team had no control over and limited knowledge of the processes used to recruit survey respondents into Qualtrics' proprietary online panels. While the demographics of our samples match those of the states from which they were drawn, these samples are not randomly drawn from the general population and caution is needed in generalizing results. Our sampling was also limited to English-speaking panel respondents. Because respondents were recruited proportionally to states' racial/ethnic composition, we have small samples of Asian, Indigenous, and other non-White groups, which limits our ability to examine COVID-19 exposures and experiences among these groups. Our survey measures also lack detail in certain areas, particularly around occupational categories and factors that could affect COVID-19 exposure in the workplace (eg, contact with others at work, indoor vs outdoor work).

(Related work published by our research team addresses differences in exposure and other outcomes between essential and nonessential workers.)⁷⁹ While our survey was designed to measure a broad range of COVID-19-related determinants and outcomes, we are not equipped to measure determinants of COVID-19 disease outcomes (eg, illness, deaths).

CONCLUSION

Health disparities for communities of color during the COVID-19 pandemic are clearly driven by structural conditions. No longer should our American society continue to lean on baseless claims of racialized biological or behavioral susceptibilities to explain differential impacts of COVID-19 or other health conditions. In the face of clear and centuries-old evidence showing that structural racism is killing Americans, our longstanding reticence to accept this evidence and take appropriate action is inexcusable. Although addressing structural racism as the root cause of COVID-19 and other health and social disparities is a difficult and long-range task, Americans are capable of bold action where the will exists. Failure to take this action is a choice, and our nation's health security for all hangs in the balance.

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