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David B. Taullahu
DePaul University, dtallah@depaul.edu

Jason S. Snyder
DePaul University, jsnyde21@depaul.edu

Alyssa R. Minton
DePaul University, aminton3@depaul.edu

Brooke Nyberg
DePaul University, bnyberg@depaul.edu

Joseph A. Mikels
jmikels@depaul.edu

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Pandemic Pressure: Race, Job Insecurity, and Perceived Stress in COVID-19

David B. Taullahu*, Jason S. Snyder*, Alyssa R. Minton*, and Brooke Nyberg*

Department of Psychology

Joseph A. Mikels, PhD*

Department of Psychology

ABSTRACT With the ongoing pressure of the COVID-19 pandemic, the working world has been drastically altered. Additionally, pandemic related pressures are not evenly distributed across racial groups—with negative outcomes being exacerbated as a byproduct of structural inequities for people of color (Seldan & Berdahl, 2020). Using the Perceived Stress Scale (Cohen et al., 1983), and Job Insecurity Scale (Ashford et al., 1989), we aimed to determine how various work-related factors such as job insecurity, essential worker status, and race relate to overall perceived stress in daily life. Participants ($n = 266$; $M_{\text{age}} = 50.56$ years, $SD = 7.83$; age range: 18-76 years; 49% white, 51% Black) completed a variety of measures through an online survey collected between mid-April and late May 2021. The results indicated that for white workers who identified as *non-essential*, and Black workers who identified as *essential*, increased job insecurity predicted an increase in perceived stress. The results of the study provide a launching point for identifying which demographic groups may need more support in the working world. Black essential workers and white non-essential workers likely would greatly benefit from support, resources, and interventions aiming to reduce workplace stress and improve wellbeing.

INTRODUCTION

Over the last two years, the COVID-19 pandemic has unleashed an enormous chronic stressor on the world. Even now, as restrictions evolve to allow for a distorted sense of normalcy, the ongoing weight of the pandemic has manifested itself in many forms; social and political

upheaval, declining motivation, and heightened fear and anxiety are all symptoms of a global population under immense chronic stress (Mehra et al., 2020; Preis et al., 2020; Hawes et al., 2021). Perhaps one of the most prevalent domains impacted is the workplace, as the very concept of

*dtallah@depaul.edu; *jsnyde21@depaul.edu; *aminton3@depaul.edu; *bnyberg@depaul.edu;
*jmikels@depaul.edu

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work itself has taken on new meaning since the beginning of the pandemic. In the current study, three key factors were identified as having the potential to contribute to perceived stress: job insecurity, essential worker status, and race. Following the opening descriptions of each component is a deeper analysis as to its significance in connection with perceived stress.

As policies regarding the pandemic continue to evolve, working individuals are faced with perpetual change in their work environments. For instance, the beginning of the pandemic forced many employers to reduce their employees' hours, or in some cases to cut them from the company altogether (U.S. Bureau of Labor Statistics, 2020). This harsh reality has led to increased feelings of job insecurity among many (Nemteanu, Dinu, & Dabija, 2021). Certain jobs have even been given an "essential" designation; *essential workers* are often required to work in physical environments where they have greater potential for exposure to COVID-19. Their work environments are not only riskier with respect to heightened exposure to the virus, but also often lack the proper preventative measures to protect their employees from the virus (McNicholas & Poydock, 2020). The increased risk and exposure of being an essential worker coupled with the lack of protective equipment would be a major source of stress for any individual.

But is the stress caused by the pandemic comparable for people of all races? In addition to increased job insecurity and designated essential or non-essential status as byproducts of the pandemic, its impact has varied across different demographic communities. Black workers, who are more likely to have jobs that are designated as essential than their white counterparts (Gould & Wilson, 2020), are more dramatically affected by COVID-19. Individuals in Black communities have been dealing with more COVID-19 cases and have a higher death rate (Gould, Perez, & Wilson, 2020; Gould & Wilson, 2020).

Taken together, job insecurity, essential worker status, and race, are all factors that should affect perceived stress during the pandemic. The goal of this work was to examine how those factors – job insecurity, essential worker status, and race –

interact to predict perceived stress. Each factor will be discussed further below to gain a better understanding of how each of these factors relate to perceived stress.

Job Insecurity

From the very beginning of the pandemic, companies applied a broad range of combative tactics in response to the COVID-19 virus. Some businesses equipped workers with electronics and software programs to work from home, whereas others began requiring employees to wear Personal Protective Equipment (PPE) in the workplace (e.g., face masks, face shields). Many companies reduced their hours of operation, with certain businesses shutting down altogether. In addition, when the pandemic reached the public stage in March of 2020, the United States saw an increase in its unemployment rate from 4% to 14% (U.S. Bureau of Labor Statistics, 2020).

For many, the threat of job insecurity quickly transformed from a distant threat to an unavoidable reality. Job insecurity – defined as the discrepancy between the level of security employees perceive their job to provide and the security they desire (Hartley et al., 1990) – is an extremely pertinent facet of the working world during the COVID-19 pandemic. A multifaceted concept, job insecurity includes such components as threats to stable working conditions and available hours, the risk of losing one's job entirely, and perceived powerlessness to resist such changes (Ashford, Lee, & Bobko, 1989).

Though the threat of such changes is ever-present in the modern working world, the COVID-19 pandemic forced these transformations upon many businesses at a greater rate than normal, leaving countless workers feeling extremely job insecure. Even outside of the context of the pandemic, such dramatic changes in one's work environment have the potential to disrupt many other life spheres, such as financial health or familial function (Larson, Wilson, & Beley, 1994). Furthermore, the perception of greater job insecurity, specifically during the pandemic, was found to correlate strongly with negative mental health; employees who reported high job insecurity demonstrated greater symptoms of anxiety and depression (Wilson et al., 2020).

High job insecurity can be detrimental to many other components of a worker's life, causing increased stress both inside and outside of the workplace. However, job insecurity is not the only workplace component that can intensify perceived stress.

Essential Worker Status

The onset of the COVID-19 pandemic gave birth to a new employee designation. Workers have now been classified as *essential* or *non-essential*, based on the importance of the work they do in the context of the country's vital infrastructures ("Essential Workforce," 2020). Examples of work settings deemed essential include pharmacies, grocery stores, hospitals, power plants, restaurants, retail businesses, and public transit ("COVID-19: essential workers," 2021). Those employees who are classified as essential workers are often unable to work from home because the tasks they perform require physical labor and are seen as necessary for society to function. As a result, essential workers *who are required* to work in-person are placed at a higher risk of exposure to the COVID-19 virus. This greater risk was especially pertinent in the beginning of the pandemic when a majority of employers did not provide their workers with proper PPE (McNicholas & Poydock, 2020).

Not only are essential workers placed at a higher risk for contracting COVID, but their awareness of their essential status also seems to contribute to increased negative mental health. Specifically, across multiple studies comparing essential and non-essential workers, essential workers have reported higher rates of anxiety and depression (Grooms et al., 2021; Shelvin et al., 2020). Their perception of their at-risk status has a strong impact on essential workers' psychological wellbeing. However, this pattern of results varies across different demographic groups.

Impact of Race during COVID-19

Individuals who identify as belonging to a minority race group, particularly as Black or African American, may experience higher stress in relation to their work environment during the pandemic compared to other race groups such as Caucasian or white people. In general, Black communities experience higher rates of poverty

and unemployment (Hoynes, Page, & Stevens, 2006). Additionally, these communities have more cases of chronic illness, which is a major risk factor for COVID-19 (Gould & Wilson, 2020).

These disparities have been further exacerbated since the onset of the pandemic. Argued by Selden and Berdahl (2020) to be systemic, the struggle of the Black community during COVID-19 revolves around the fact that its members are more likely to have jobs that are essential than their white counterparts. Because more Black employees are classified as essential workers than white employees, Black workers have fewer opportunities to work from home, placing them at a much higher risk objectively for exposure to and contraction of COVID-19.

Over the course of the pandemic this increased risk has manifested in higher COVID cases and deaths for Black communities. For example, in November of 2020, Black communities reported 1.4 times the number of cases in comparison to white communities, 3.7 times more hospitalizations, and 2.8 times more deaths (Center for Disease Control and Prevention, 2020). Even a year later, after the introduction of the COVID vaccine, Black communities still report 2.6 times the number of hospitalizations, and 1.9 times the number of deaths as white communities (Center for Disease Control and Prevention, 2021).

Not only have these cases taken a physical toll on the Black community, but there is also evidence to suggest an emotional and psychological toll as well, as Black essential workers have demonstrated poorer mental health than their white counterparts (Grooms et al., 2021). Grooms et. al (2021) found that Black and Hispanic essential workers reported higher levels of depression and anxiety, highlighting how these communities are disproportionately affected by the pandemic. This research stands in contrast to what Erving, Thomas, and Frazier (2019) describe as the "Black-white mental health paradox." In spite of factors such as higher stress exposure, greater chronic illness, and greater material hardship, Black Americans seem to experience similar or even lower rates of

psychiatric disorders generally. Given the stressors of job insecurity and essential status during the pandemic, it is possible that identifying as Black or African American may be an additional factor to increase perceived stress, and that the pandemic constitutes an exception to the mental health paradox. Using survey data, we examined how job insecurity and essential worker status (essential vs. non-essential) interacted differentially to predict perceived stress for Black and white Americans.

METHODS

Participants

Three hundred ninety-three participants ($M_{\text{age}} = 44.92$ years, $SD = 14.64$; age range: 18-83 years; 46% male, 54% female; 52% white, 48% Black) were recruited to participate in this online study and retained throughout the duration of the study. Data were collected from mid-April 2021 to mid-May 2021. Participants were recruited via Prolific and were compensated \$6.50 for completing this 1-hour survey. The responses of participants who did not pass at least three of the four attention checks ($n = 3$) were dropped from analyses. All participants were from the United States. This study was reviewed by DePaul University's Institutional Review Board (IRB). All participants were required to provide informed consent prior to the study.

Prior to analyzing any data, only participants who were categorized as working were included in the analyses ($n = 266$; $M_{\text{age}} = 50.56$ years, $SD = 7.83$; age range: 18-76 years; 49% white, 51% Black). From the total sample, 52% were working full time ($n = 206$, $M_{\text{age}} = 41.48$ years, $SD = 10.77$; age range: 18-75 years; 48% white, 52% Black). Only 13% of participants reported themselves as working part time ($n = 52$, $M_{\text{age}} = 46.02$ years, $SD = 14.71$; age range: 19-69 years; 56% white, 44% Black). Roughly 8% of participants reported their work status as employed but currently not at work ($n = 3$, $M_{\text{age}} = 43.33$ years, $SD = 14.71$; age range: 40-46 years; 67% white, 33% Black). Additionally, of those working ($n = 266$), 36% self-reported as essential workers ($n = 96$, 46% white, 54% Black), and 64% self-reported as non-essential workers ($n = 170$, 52% white, 48% Black).

Materials

The following measures were part of a larger data collection protocol. For the purposes of this project, only the focal measures will be described in greater detail. Among the omitted measures were: (a) emotional well-being measures (i.e., the Center for Epidemiological Studies — Depression Scale [CES-D; Radlof, 1977], the Beck Anxiety Inventory [BAI; Beck et al., 1988], the Modified Differential Emotions Scale [mDES; Fredrickson et al., 2003], and the UCLA Loneliness Scale [Russell et al., 1980]), and (b) emotion regulation and coping measures (i.e., the Coping Orientation to Problems Experienced Inventory, [COPE; Carver, 1989], the Response Rumination Scale [RRS; Nolen-Hoeksema & Morrow, 1991], primary and secondary control, and the Ego Resiliency Scale [ER89; Block & Kremen, 1996]).

Perceived Stress

Stress was measured using the Perceived Stress Scale (PSS; Cohen et al., 1983). The PSS is a 10-item scale that measures the degree to which people appraise their life as stressful during the past week. Participants indicated their responses on a 5-point scale (0 = *Never*, 4 = *Very often*). Items 4, 5, 8, and 9 were reverse coded. Responses to each item were averaged ($\alpha = .92$), with higher scores indicating greater perceived stress.

Job Insecurity

Job insecurity was assessed using the Job Insecurity Scale (Ashford et al., 1989) The JIS is a 6-item scale that measures a participant's conceptualization of job insecurity. Though the JIS catalogue presents many more than 6 items, the survey presented a reduced selection of those items to decrease the possibility of participant fatigue throughout the study. Therefore, only items pertaining to the threat or possibility of job loss, as well as the emotions associated with this potential threat were included. Participants indicated their responses on a 5-point Likert scale (1 = *Strongly disagree*, 5 = *Strongly agree*). Responses to each item were averaged ($\alpha = .86$), with higher scores demonstrating greater feelings of job insecurity.

Demographics

Participants provided general demographic information (e.g., age, birthdate, sex, education level, marital status, ethnicity, race, and socioeconomic status). To assess current employment status, participants chose one of the following: “working full time (30 hours or more per week)”, “working part time (less than 30 hours per week)”, “employed, but currently not at work due to temporary illness, vacation, or strike)”, “unemployed; laid off / furloughed; looking for work”, “retired and not working”, “retired and now working”, or “other” and asked to specify. Participants were also asked if they were considered an essential worker (yes/no response).

Procedure

After providing informed consent, participants completed a series of questionnaires. Participants were first informed that the survey would ask them about their emotional experiences, social life, and how they dealt with difficult or challenging events in their lives. Next, participants completed the questions about their health status, perceptions of vulnerability to COVID-19, and social distancing behaviors. Afterwards, participants completed the emotional well-being measure, followed by the emotion regulation and coping measures. Next, participants completed the ISEL and the general demographics questionnaire (i.e., age, birthdate, sex, education level, employment status, marital status, ethnicity, race, and socioeconomic status). Finally, participants were thanked and compensated for their participation.

RESULTS

Data were analyzed using R Version 4.0.2 (R Core Team, 2019). Two independent samples *t*-tests were conducted to determine if there were any significant differences in perceived stress and job insecurity as a function of race. In addition, a chi-square test of independence was conducted to determine if essential worker status was roughly proportionally distributed between the two race groups. Finally, an exploratory moderated regression was conducted to probe whether

perceived stress is differentially predicted by job insecurity, essential worker status, and race.

Perceived Stress

An independent samples *t*-test indicated that whites ($M = 1.68$, $SD = .90$) reported greater perceived stress than their Black counterparts ($M = 1.40$, $SD = .78$), $t(264) = -.381$, $p < .001$, $d = 0.33$.

Job Insecurity

An independent samples *t*-test indicated that both Black ($M = 2.12$, $SD = .90$) and white ($M = 2.03$, $SD = .94$) individuals reported similar levels of job insecurity, $t(264) = .61$, $p = .54$, $d = -0.09$

Essential Worker Status

A 2 (essential status: essential vs not essential) x 2 (race group: white vs. Black) chi-square test of independence indicated that both white and Black workers were similarly likely to be essential workers, with 33.59% of white employees self-reporting as essential compared to 39.69% of Black employees, $\chi^2(1, N = 266) = 0.50$, $p = .478$.

Does essential worker status, job insecurity, and race predict perceived stress?

A moderated regression was conducted to explore whether race, essential worker status, and job insecurity predicted perceived stress. Job insecurity served as the predictor variable and was mean-centered. Race (reference = white) and essential worker status (reference = essential) served as the moderator variables. Perceived stress served as the outcome variable. Predictors and their interaction terms were submitted to a multiple moderated regression.

Neither essential worker status ($b = -.18$, $SE = .12$, $t = -1.25$, $p = .213$) nor job insecurity ($b = .17$, $SE = .12$, $t = 1.42$, $p = .158$) significantly predicted perceived stress. There was a main effect of race such that Black participants (relative to white participants) reported lower perceived stress on average ($b = -0.34$, $SE = .16$, $t = -2.10$, $p = .036$). Additionally, no two-way interactions approached significance. Essential status did not interact with race ($b = .04$, $SE = .20$, $t = 0.22$, $p = .825$), nor with job insecurity ($b = .25$, $SE = .15$, $t = 1.67$, $p = .096$) to predict

perceived stress. Furthermore, race and job insecurity did not interact to predict perceived stress ($b = 0.13$, $SE = .16$, $t = 0.81$, $p = .419$).

However, a significant three-way interaction between essential status, race, and job insecurity did emerge ($b = -0.45$, $SE = .21$, $t = -2.11$, $p = .036$). For white individuals who identified as *non-essential workers*, increased job insecurity predicted an increase in perceived stress ($b = .42$, $SE = .09$, $t = 4.51$, $p < .01$). The data revealed a similar pattern for Black individuals who identified as *essential workers*, with increased job insecurity tracking with an increase in perceived stress ($b = .30$, $SE = .11$, $t = 2.77$, $p = .01$). Job insecurity did not predict perceived stress for white individuals who identified as *essential workers* ($b = .17$, $SE = .12$, $t = 1.42$, $p = .16$), or Black individuals who identified as *non-essential workers* ($b = .10$, $SE = .11$, $t = 0.96$, $p = .34$). Please refer to Figure 1 for the plotted three-way interaction.

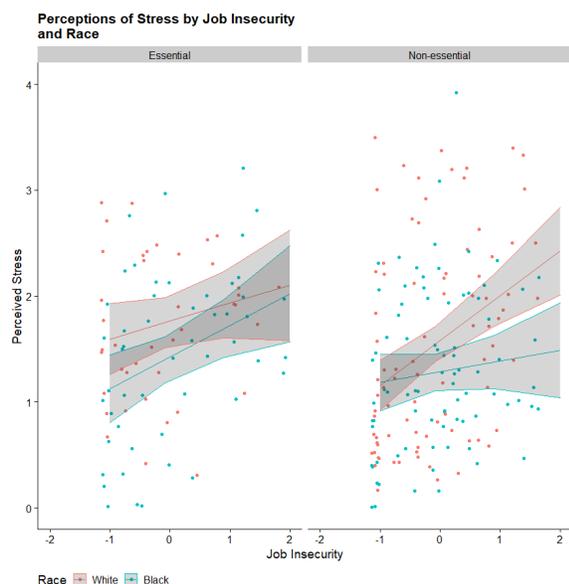


Figure 1. The left panel contains predicted perceived stress by race for essential workers. The right panel contains predicted perceived stress by race for non-essential workers. The red lines represent white or Caucasian participants. The blue lines represent Black or African American participants. Standard errors are represented by the shaded regions.

DISCUSSION

This study set out to explore how job insecurity, essential work status, and race interact with each other to predict perceived stress for workers during the COVID-19 pandemic. On their own, only race predicted perceived stress, but job insecurity and essential worker status did not. Combined, a significant interaction emerged between all three to predict perceived stress for white non-essential workers and Black essential workers as job insecurity increased. The same pattern, however, was not necessarily true for white essential workers and Black non-essential workers. Additionally, though it may be very likely that increases in job insecurity led to increases in perceived stress, the lack of a main effect of job insecurity in the regression analysis demonstrates no evidence to support this hypothesis.

However, the findings from the current study do challenge some of the existing literature surrounding workers during the pandemic. Firstly, much of the literature surrounding worker designation points to essential workers experiencing more stress and worse mental health during the pandemic (Wilson et al., 2020). This was true for only one race group in this study, and it had an interactive effect with job insecurity: Black essential workers who perceived their job to be more insecure reported higher perceived stress. For white participants, however, non-essential workers who perceived their job as more insecure reported higher perceived stress.

A possible explanation for this discrepancy may reside in the perception of available positions within the job market for different designations of workers. For example, an essential worker who loses their job may feel less stress because they recognize that the work they can provide is in high demand. Therefore, they may perceive the challenge of finding another job within the same field as relatively easier compared to a non-essential worker who may not have as many lateral job opportunities because their work is not viewed as necessary to promote the infrastructure of the country. Non-essential workers, as a result, may feel more stress as job insecurity increases because they perceive the challenge of finding a similar job as a much more impossible feat. As a result, increased job insecurity would have a

greater effect on non-essential workers' stress levels.

However, a major limitation of this possible explanation is the broad definition of the essential worker. The term "essential work" covers a diverse array of services, such as healthcare, fast food, and retail to name a few. This component of essential work proves extremely challenging when attempting to understand data trends regarding essential workers, as the experiences of a healthcare physician, whose labor is highly specialized and requires years of training and education, differ heavily from those of a fast food or retail worker, whose work does not require such extensive education or experience.

Perhaps the most important finding of the study directly contrasts the research by Grooms et al. (2021), who found that Black essential and non-essential individuals experienced higher rates of anxiety and worry than their white counterparts. In other words, regardless of essential worker status, Black individuals experienced higher rates of anxiety and worry compared to white individuals. Our data painted a different picture, such that essential Black workers and non-essential white workers reported more perceived stress with increased job insecurity. Although the surveys used to measure perceived stress, anxiety, and worry were not the same between Grooms et al. (2021) and the current work, it would stand to reason that a similar effect should have emerged from the data when comparing perceived stress between Black and white workers.

However, the current findings are consistent with the Black-white mental health paradox, in which Black Americans seem to experience similar or even lower rates of psychiatric disorders despite factors like greater chronic illness and material hardship. In general, in spite of the additional hardships outlined by Selden and Berdahl (2020) as disproportionately impacting Black communities during the pandemic, white employees reported higher perceived stress than Black employees. In our data, this pattern held even when the demographic pool was broken further into essential and non-essential workers, with white non-essential workers reporting the

highest rates of perceived stress. There are multiple possible explanations for this result, which have been used to understand the mental health paradox. For example, mental health may be more stigmatized within Black communities, leading Black participants to underreport feelings of stress and anxiety. Another explanation could be that given the additional hardships faced by Black individuals due to discrimination and systemic oppression, they may be more resilient to feelings of stress. Both of these explanations should be examined empirically, as they could aid in resolving the disparate results found in the current work.

There are some limitations to the current study. First and foremost, this was a battery of surveys without an experimental manipulation, meaning our data cannot speak to any direct causal influences of job insecurity, essential worker status, and race on perceived stress. Additionally, because the data were collected after COVID-19 entered the public conscious, there is no baseline data with which to compare measures such as perceived stress and job insecurity before and after the onset of the pandemic. However, given that the survey recorded responses from 266 working individuals, significant findings represent an appropriate sample size and are not likely to be due to random chance. Furthermore, participant samples were balanced in terms of race, meaning that the sample groups for white and Black participants were evenly split.

The results of this study yield pertinent implications for the working world, particularly in a world still in the throes of the COVID-19 pandemic. The data highlight Black essential workers and white non-essential workers who view their employment as insecure as two demographic groups which seem to be struggling the most during COVID. This information is crucial for employers, who in the interest of improving employee wellbeing as well as overall company productivity, can better utilize their resources to identify and aid those most in need. Black essential workers and white non-essential workers likely would greatly benefit from reassurance regarding the security of their work, as well as support, resources, and interventions aimed at reducing workplace stress. This

knowledge comes at a pertinent time given the increased attention on worker shortages occurring throughout the United States. In the aftermath of COVID-19, workers are setting higher standards for their employment and

refusing to settle for less. Companies who are better able to care for their workers will attract and retain more people, improving employee wellbeing and guaranteeing commercial success in the process.

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