

**COVID-19 Educational Inequities:  
Shining a Light on Disparities in a Graduate School of Social Work**

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**Abstract:** In the wake of COVID-19, universities and schools of social work face unprecedented challenges and uncertainty in aligning their academic models with public health protocols and best practices, while prioritizing the safety and well-being of their students. In order to best respond to these challenges and uncertainty, more research is needed to advance a greater understanding of (1) *what* challenges students face, (2) *who* is most at risk and impacted by these challenges, and (3) *how* universities can best support students. Through a survey administered during the spring 2020 semester at a large research university in the Midwest, we explored the attitudes, experiences, and needs of graduate students in social work, public health, and social policy programs. We observed notable disparities by race and ethnicity, international student status, first-generation student status, and gender. Additionally, our survey results suggest that protective factors, such as university and social supports, may inform how students navigate and cope with the challenges related to or exacerbated by the pandemic. In addition to advancing a better understanding of student experiences during COVID-19, our findings build on the previous research that highlights the distinct needs and disparate impacts of vulnerable student populations in higher education.

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## 1. Introduction

Universities are not only a provider of courses and instruction for their students, but also a place that many rely on for employment, housing, food, and healthcare needs. Moreover, universities can provide a physical, social, and emotional space for gathering and building community—both inside and outside of classrooms. As a result, COVID-19—and the sudden transition to online learning and social distancing midway through the 2020 spring semester—created a significant disruption for students, professors, and administrators. Currently, universities face unprecedented challenges and uncertainty in adapting their academic models to ensure financial viability, while prioritizing public health protocols, best practices, and the safety and well-being of their students. In order to best respond to these challenges and uncertainty, more research is needed to advance a greater understanding of (1) *what* challenges students face, (2) *who* is most at risk and impacted by these challenges, and (3) *how* universities can best support students to navigate health, academic, and other related challenges. By shining a light on the too often overlooked and unaddressed disparities among university students during COVID-19, there exists an opportunity for examining inequities and potential remedies both during and after the COVID-19 pandemic.

Much of the early research—across a wide variety of geographies and fields of study—has focused on mental health associations with COVID-19, finding that the pandemic increased anxiety and depression among university students (Aqeel, Shuja, Abbas, Rehna, & Ziapour, 2020; Cao et al., 2020; Han, Han, Luo, Jacobs, & Jean-Baptiste, 2013; Odriozola-González, Planchuelo-Gómez, Irurtia, & de Luis-García, 2020; Qiu et al., 2020). These findings are in line with previous research on other disruptions, such as hurricanes, earthquakes, and even labor strikes (Davis III, Grills-Taquechel, & Ollendick 2010; Wickens, 2011). Early research has also

identified important protective factors for university students, such as having income stability and living with one's parents (Cao et al., 2020). While universities and researchers work to ascertain a wider range of immediate and long-term impacts of COVID-19 on students, calls for research and interventions to address identified gaps have recently emerged. Specifically, research has called for a better understanding of barriers to academic progress, coping strategies, and how universities might find success in reducing adverse academic and psychosocial outcomes among students (Grubic, Badovinac, & Johri, 2020).

Additionally, as many universities try to effectively identify who might be most at risk for adverse academic and psychosocial outcomes in the midst of COVID-19, Harper (2020) and others have called for research that highlights opportunities for Universities to increase equity across vulnerable populations. This is especially true for research on graduate students, who often carry additional responsibilities. For example, The International Federation of Social Workers notes the importance of research examining the pandemic's impact on international student populations in university settings and beyond (Firang, 2020). Moreover, as Ghose, Ali, and Keo-Meier (2018) discuss the importance of addressing challenges that confront students of color in Social Work doctoral programs more generally, universities might consider fitting their pandemic responses into longer term solutions for equity beyond the pandemic.

While some research has found that the effects of the pandemic tend to vary by demographic characteristics, such as socioeconomic status (Aucejo, French, Araya, & Zafar, 2020), gender (Zolotov, Reznik, Bender, & Isralowitz, 2020), and age (Qiu et al., 2020), few studies have comprehensively addressed these disparities. We fill this gap by exploring the different impacts of COVID-19 at a leading graduate school of social work, public health, and social policy housed within a top-ranked private university in the Midwest. Through a survey

administered during the spring 2020 semester, we observed notable disparities by race and ethnicity, international student status, first-generation student status, and gender. Additionally, our survey results suggest the interplay of protective and mitigating factors, such as university and social supports, for how graduate students cope with and navigate challenges related to or exacerbated by the pandemic.

The COVID-19 pandemic has put at risk the academic progress and trajectory of many students, particularly those with fewer resources and sources of support. In addition to advancing a better understanding of emerging social service leaders and practitioners' needs and responses during COVID-19, our findings build on the previous research that highlights unique experiences, distinct needs, and disparities across diverse student populations in higher education prior to the pandemic. Finally, remedies that arise from understanding the current challenges students face need not be limited to the COVID-19 pandemic response. Rather, this research can inform how Universities that are committed to diversity, equity and inclusion think about best supporting students. While an increased focus on the disparities among university students has emerged during the COVID-19 pandemic, many of these disparities existed long before the pandemic and will require further work to address them.

## **2. Conceptual Framework**

### **2a. COVID-19 Disparities**

Diderichsen, Evans, and Whitehead (2001) established a conceptual framework for health disparities that details how differential exposure rates, contraction rates, and treatment rates can lead to disparities among various racial/ethnic and social class groups. Originally modeled to account for the shocks of an extended natural disaster, Diderichsen et al.'s framework can be expanded upon through an examination and application of the COVID-19 pandemic. While early

evidence on COVID-19 demonstrates that differential rates of exposure, contraction, and treatment do occur among different racial/ethnic and social class groups (van Dorn, Cooney, & Sabin, 2020), the impacts of COVID-19 extend far beyond the disease itself. In addition to the more than 250,000 COVID-19 related deaths and over eleven million individuals known to have contracted the virus in the United States alone, COVID-19 has substantial economic and social impacts as well. For example, over forty million people have filed unemployment claims since the COVID-19 pandemic began (Despard, Grinstein-Weiss, Chun, & Roll, 2020)—causing millions of Americans to experience rippling financial shocks. Unsurprisingly, when considering the extended shutdowns, constant unearthing of new information, growing debates around COVID-19 science, and prolonged public health guidelines (e.g. face masks and social distancing), COVID-19 has also increased mental health issues as well (Pfefferbaum & North, 2020).

Moreover, similar to the disease itself, these additional shocks are unequally distributed among racial/ethnic and social class groups. For example, unemployment and eviction rates in the wake of COVID-19 have been largest for Hispanics (Montenovo et al., 2020; Grinstein-Weiss, Gupta, Chun, Lee, & Despard, 2020). Furthermore, the stress and trauma associated with these shocks have also led to disparities in mental health (Fortuna, Tolou-Shams, Robles-Ramamurthy, & Porche, 2020)—including suicidal thoughts (Czeisler et al., 2020). These findings mirror many of the findings of previous natural disasters. For example, research on Hurricane Katrina found that the most vulnerable groups experienced the slowest recovery (Finch, Emrich, & Cutter, 2010) and the largest disparities in mental health after the hurricane (Sastry & VanLandingham, 2009).

## **2b. COVID-19 Disparities in Higher Education**

In addition to general health and financial shocks, college students have faced added hardships during COVID-19, such as changes in learning arrangements (e.g. online learning) and uncertainties in the labor market (e.g. job prospects). While experiences and impacts of these changes and uncertainties may be unequally distributed, it is important to note that many inequities in higher education existed prior to COVID-19.

For example, recent research on inequities in higher education demonstrates that African American and first generation students are more likely to be food insecure, which is significantly related to dropping out, reduced course loads, neglected academics, and lower GPA (Phillips, McDaniel, & Croft, 2018). Furthermore, previous research by Pascarella, Pierson, Wolniak, and Terenzini (2004) demonstrate that first generation students are more likely to hold additional jobs and live off campus, which can limit opportunities for social connection, personal development, and—in some cases—academic achievement. These missed opportunities for extracurricular involvement are especially devastating for first generation students, as they tend to gain the most from these involvements (Pascarella et al., 2004). For graduate students, these involvements might consist of internships and practicums—many of which have been disrupted by COVID-19. Moreover, research by Dennis, Phinney, and Chuateco (2005) demonstrated the importance of peer support for first-generation and minority college students, which may also be disrupted by COVID-19. In among a sample of undergraduate and graduate Social Work students, Wilks (2008) also identifies social support moderating the negative relationship between academic stress and resilience

Thus, while having a laptop and a quiet place to study at home have now become essential items for many college students, these resources may significantly vary among racial/ethnic and social class groups. Moreover, we can assume that these disparities in resources

and opportunities often occur *before* and *in addition to* other health and financial shocks, like COVID-19. Furthermore, as disadvantages in cultural, social, and financial capital are often *hidden*, large shocks, like COVID-19, have a tendency to both exacerbate and highlight pre-existing disparities.

### **3. Current Study**

Graduate students are more likely to be older, more likely to work professionally previously and currently, more likely to have higher amounts of student debt, and more likely to live off-campus. Moreover, while university students tend to be of higher family socioeconomic status and tend to have higher levels of health literacy than the general population, not all students have the resources and flexibilities to effectively transition to online learning. This may be especially true of graduate students—who are more likely to have additional responsibilities. When taken together, many graduate students are more susceptible to the COVID-19 disease as well as the social and financial shocks associated with it. Unsurprisingly, research by Ebell, Bierema, and Haines (2020) found that graduate students were significantly more concerned about the risks and implications of in-person campus activities and learning when compared to undergraduate students during COVID-19.

Our survey was conducted at the Brown School at Washington University in St. Louis, which offers graduate programs in social work, public health, and social policy. The class entering the 2019-2020 academic year had a relatively higher percentage of international students (20%) than the overall international student population in the U.S. (approximately 12.6%). Additionally, 87% relocated to St. Louis to attend the Brown School, 44% identified as Black indigenous students of color (Black, Native American, and Hispanic), and 45% are first generation college students (Brown School Website). The majority (61%) of all Brown School

students are MSW (Master of Social Work) students. MPH (Master in Public Health) make up the second largest group (20%), followed by PhD Students (10%), dual degree students in social work, public health, and/or social policy (5%), and one-year MSP (Master in Social Policy) (4%).

In this study, we uncover the challenges students face, the groups of students who are most at risk and impacted by these challenges, and how universities can best support students to navigate these challenges. By doing so, our study advances the evidence of student experiences and hardships during the COVID-19 pandemic and provides a greater understanding of how universities can create a more equitable environment both during and after the pandemic.

#### **4. Data and Methods**

Our survey was administered through Qualtrics and sent out to all 625 graduate students at the Brown School. The survey tool was adapted from an instrument developed and administered by colleagues at the Hebrew University in Jerusalem and shared with additional universities in the United States and globally. As seen in Table 1, over half of the students surveyed identify as White/Caucasian (53%); over three-quarters of the students were born in the United States (77%), had a parent with a bachelor's degree (79%); and identified as female (80%). This represented a slight oversampling of white and female students, as well as a slight undersampling of Asian students relative to the overall Brown School population. The survey window lasted 10 days (from May 6<sup>th</sup> to May 15<sup>th</sup>), and non-respondents were sent up to two reminders to complete the survey. All students who completed the survey received \$10 Amazon gift cards for their time. During the survey window, Missouri was considered by the CDC as a state having "Widespread Community Transmission," and stay-at-home orders were in place in St. Louis City and St. Louis County (the Brown school sits at the border of these two areas). During the survey

window, the Spring semester was coming to a close with graduation taking place on the 15th. Fall 2020 plans had not yet been announced by the school. 341 students completed our survey, which represents a 54.6% response rate. Our data includes measures on exposure to Covid-19, concerns about Covid-19, hardships, academics experiences, pressures, support, mental health, media followings, university precautions, and health priorities. Please see Appendix 1. for a full list of survey questions. To demonstrate the differences across groups, we used independent sample t-tests, allowing the variances to be unequal.

## 5. Results

### 5.1 COVID-19 Challenges

#### 5.1.1 Navigating a Health Crisis

While over one-fifth (21%) of respondents felt symptoms of COVID-19 during the spring semester, only 2% of respondents reported receiving testing. The median respondent *moderately* (3/5) would trust the quality of medical care that they would receive if they would test positive. When considering acquaintances and family members, half (50%) of all respondents know someone who tested positive for COVID-19, and over one-fifth (21%) of all respondents had a close friend or immediate family member test positive for COVID-19. While the median respondent was only *moderately* (3/5) worried about personally becoming ill due to COVID-19, he/she was *very* (4/5) worried about their parents or older relatives becoming ill. Similarly, while the median respondent only *sometimes* (3/5) experienced concerns for their health, he/she *often* (4/5) experienced concerns for his/her family's health.

Alternatively, while the median respondent *often* (4/5) experienced concerns for their economic situation during COVID-19, he/she only *sometimes* (3/5) experienced concerns for his/her family's economic situation. 38% of all respondents lost employment hours.

Unsurprisingly, 14% reported experiencing housing hardships, while 19% reported experiencing food hardships (i.e. cutting or skipping meals). Notably, the median respondent *disagreed* (4/5) with the statement that COVID-19 made it more difficult for them to afford food and *neither agreed nor disagreed* (3/5) with the statement that COVID-19 made it more difficult for them to find healthy, nutritious food. Finally, 11% of all respondents reported experiencing discrimination related to COVID-19, and 40% knew someone personally who experienced discrimination related to COVID-19.

### **5.1.1 Academic Experiences**

The median respondent *moderately* (3/5) agreed that he/she was not emotionally available for learning during COVID-19. While the median respondent did *not at all* (1/5) indicate having inadequate equipment (laptop computer, WiFi, etc.), he/she *slightly* (2/5) had an inadequate environment (quiet place, etc.) for online learning. The median respondent *sometimes* (3/5) experienced difficulties using online learning platforms and completing course assignments. When compared to in-person courses, the median respondent thought that online courses were *somewhat less effective* (2/5) at meeting individual needs, creating a sense of community, and promoting participation and interaction. However, the median respondent thought that online courses were *equal* (3/5) in offering convenience and welcoming diverse opinions and experiences. Finally, the median respondent thought that COVID-19 had a *slight* (2/5) negative impact on their practicum or internship experience.

In terms of productivity, the median respondent experienced a *slight decrease* (2/5) in productivity in their class and practicum. While the median respondent *neither agreed nor disagreed* (3/5) with feeling increased pressure to be productive in their class, practicum, or work

experiences, he/she did *agree* (2/5) with feeling increased pressure to be socially connected with their friends and family.

### **5.1.3 University Response and Supports**

While only 10% of individuals responded *yes* to needing help in overcoming COVID-19, over half (54%) of respondents responded *maybe* and 35% responded *not at all* needing help. 41% of respondents requested university support and of these individuals, half (50%) felt that the school or university was able to assist them; 34% felt somewhat assisted; 8% felt that they were not assisted; and 7% were unsure or still waiting for a response or decision regarding requested assistance.

The median respondent *slightly* (2/5) needed assistance with their academics and *somewhat* (3/5) needed assistance with counseling services, student support networks, and financial assistance. Finally, on a scale from 1-10, the median respondent marked 7 for the amount of emotional support received from their surroundings (friends, parents, significant others, family members, etc.).

When considering communications about COVID-19, the median respondent found university communications about COVID-19 slightly more stressful than calming (5/10; 1 = very stressful; 10 = very calming), and news media communications more stressful than calming (3/10). The median respondent spent 20% of their free time following COVID-19 news/developments and was *usually* (4/5) able to stop searching for COVID-19 information if it became distressing. The median respondent had a moderate level of anxiety (7/21 on GAD-7) and a mild level of depression (8/27 on PHQ-9). Higher mean average scores (7.83 and 8.88) indicates a positive skew in student anxiety and depression. Additionally, the median respondent

marked 6 (on a scale of 1-10) for how well he/she was coping with the COVID-19 pandemic, as well as how optimistic he/she felt.

81% of all respondents believed that the university should restrict travel to countries with high levels of COVID-19; 67% believed that the university should restrict travel to states with high levels of COVID-19; and 68% believed that the university should restrict travel to cities with high levels of COVID-19. The median respondent believed that the university, local government, state government, and federal government should each *strongly prioritize* health concerns over economic concerns (1/5).

## **5.2 COVID-19 Disparities**

### **5.2.1 Navigating a Health Crisis**

While there were no significant differences across COVID-19 symptoms and testing, there were significant differences across knowing someone who had tested positive and trust in medical care. When compared to White students, Asian students had lower rates of personally knowing someone who had tested positive (56% vs 39%), as well as having a family member who had tested positive (23% vs 8%). When compared to domestic students, international students also had lower rates of knowing someone who had tested positive (54% vs 38%).

Black indigenous students of color, Asian students, international students (when compared to domestic students), and first generation students had higher levels of worry about becoming ill from COVID-19. Compared to White students, Black indigenous students of color and Asian students had lower levels of trust in the medical care that they would receive if they tested positive. Moreover, first generation students and female students had higher levels of worry about their parents becoming ill. Asian students, international students, and female students experienced more frequent health concerns than their respective counterparts. Finally,

Black indigenous students of color, international students, and first generation students had more frequent economic concerns—both for themselves and for their families.

Black indigenous students of color reported higher levels of housing hardships than White students (27% vs 11%), and first generation students reported higher levels of housing hardships than non-first generation students (23% vs 11%). In addition, Black indigenous students of color and first generation students experienced increased difficulties affording food and finding nutritious food. Asian students also reported increased difficulties finding nutritious food. Finally, Black indigenous students of color reported higher levels of food hardships (i.e. cutting and skipping meals) than White students (30% vs 16%). While anxiety and depression was highest for first generation students, Asian students, and Black indigenous students of color, these differences between groups were not statistically significant.

### **5.2.2 Academic Experiences**

Female students reported higher levels of not being emotionally available for learning during COVID-19 than male students. Black indigenous students of color reported higher levels of having inadequate learning equipment than White students, while both Black indigenous students of color and first generation students reported higher levels of having inadequate learning environments. Moreover, Black indigenous students of color and female students reported increased difficulties completing assignments. Furthermore, first generation students perceived the online courses to be more effective in meeting individual needs, while international students perceived the online courses to be less effective offering convenience.

First generation students experienced a drop in class productivity while simultaneously feeling increased pressure to be productive in class—along with Black indigenous students of color, Asian, and International students. The same was true for increased pressure to be

productive in practicum among Asian, international, and first generation students. Finally, International students felt increased pressure to be productive in their employment, while female students felt increased pressure to be productive in their social networks.

### **5.2.3 University Response and Supports**

A greater proportion of Black indigenous students of color reported needing help in overcoming COVID-19 when compared to White students (74% vs 61%). Asian and international students reported needing higher levels of academic, emotional, social, and financial assistance from the university. The same was true for needing academic, social, and financial assistance among Black indigenous students of color. Additionally, first generation students reported needing higher levels of social and financial assistance. Finally, while Black indigenous students of color, Asian, and first generation students reported lower levels of emotional support received from their surroundings, female students reported higher levels of emotional support received from their surroundings.

38% of Asian students experienced discrimination compared to just 3% of White students while international students experienced greater levels of discrimination than domestic students (29% vs 5%). A higher proportion of Asian students also knew someone who experienced discrimination when compared to White students (68% vs 34%). The same was true for international students when compared to domestic students (59% vs 35%).

International students found university communications to be more calming than stressful, while international students, along with Asian students and Black indigenous students of color, found news media communications to be more calming. Female students found news media communications to be less calming. Black indigenous students of color (29%), Asian students (29%), international students (32%), and first generation students (32%) spent a greater

percent of their free time following COVID-19 news than White students (21%), domestic students (23%), and non-first generation students (24%). Asian and international students were also less likely to be able to stop following the news if it became distressing. Black indigenous students of color and first generation students experienced lower levels of coping, while Asian students experienced lower levels of optimism.

A greater proportion of female students than male students thought that the university should restrict travel to countries with high levels of COVID-19 (85% vs 73%), as well as states with high levels of COVID-19 (70% vs 53%) and cities with high levels of COVID-19 (71% vs 57%). Asian students also thought that the university should restrict travel to cities with high levels of COVID-19 (83% vs 66%). There were not statistically significant differences observed between international and domestic students on restricting travel to countries with high levels of COVID-19.

Notable differences emerged across groups around how universities and government should prioritize health or economic concerns in their responses to the pandemic. Female students believed that the university, as well as local, state, and the federal government should prioritize health over economic concerns. Conversely, international students believed that local, state, and the federal government should prioritize economic concerns over health concerns. Additionally, Asian students also believed that the state and the federal government should prioritize economic concerns. Finally, Black indigenous students of color believed that the federal government should prioritize economic concerns as well.

## **6. Discussion**

Sparked by instances of police brutality against unarmed Black people across the U.S., calls for increased equity grew louder during COVID-19 and extended beyond the criminal justice

domain and into education, healthcare, housing, and employment domains. As education, healthcare, housing, and employment domains can converge in graduate school, we explore how inequities within these domains occur across race and ethnicity, international student status, first-generation student status, and gender. We use a sample of graduate students in a graduate school of Social Work, Public Health, and Social Policy at an elite midwestern university. Specifically, we explored (1) *what* challenges students face, (2) *who* is most at risk and impacted by these challenges, and (3) *how* universities can best support students to navigate health, academic, and other related challenges. While many of these disparities may have emerged long before COVID-19, we hope that by shining a light on them in this time of crisis, we can begin to build long-term solutions that extend beyond the COVID-19 pandemic.

We first explore how students navigate the COVID-19 health crisis, finding that over one-fifth of respondents had felt COVID-19-like symptoms in the past and had personally known someone who tested positive for COVID-19. While these exposure trends did not vary widely across student groups, Black indigenous students of color, Asian students, international students, and first generation students did experience higher levels of worry about becoming ill from COVID-19. This may be due to the fact that some of these groups—particularly Black indigenous students of color and Asian Students—had lower levels of trust in the medical care that they would receive if they tested positive. Given a long history of racial discrimination in health care (Cuffee et al., 2013), these trends can be expected.

Generally, respondents were more concerned about their parents and family members' health conditions, yet more concerned with their own financial situations. Unsurprisingly, these financial concerns were well-founded, as nearly two-fifths of respondents lost employment hours and nearly one-fifth of respondents experienced food insecurity. However, these concerns and

hardships were not equally distributed across students. Rather, Black indigenous students of color, international students, and first generation students had more frequent economic concerns—both for themselves and for their families. Moreover, Black indigenous students of color experienced housing hardships and food insecurity far more often than White students, which—when considering the prevalence of food insecurity and related hardships among Black college students (Wood & Harris, 2018)—can also be expected.

While respondents expressed varying concerns with the overall transition to online learning, Black indigenous students of color experienced greater difficulties with online learning equipment and environments. Given these trends, we were unsurprised to find that Black indigenous students of color also experienced increased difficulties completing assignments. Additionally, as some students returned home after Spring break, students from lower-income households may have lacked adequate space and privacy for effective online learning, which might explain why first generation students experienced a drop in class productivity.

Concerning communications, respondents found university communications more stressful than media communications, and while respondents spent roughly one-fifth of their free time following COVID-19 news/developments, most students were able to stop searching if it became distressing. However, female students did find news media communications less calming than males, which may partially explain their lower levels of emotional availability for learning and, ultimately, their increased reports of experiencing difficulties completing assignments. Respondents were also very concerned about health more broadly. For example, respondents believed that the university, local government, state government, and federal government should each *strongly* prioritize health concerns over economic concerns. However, Black indigenous students of color believed that the federal government should also prioritize economic concerns,

which again, might be a result of their current economic situations. Health concerns also informed how students viewed travel. At the time of the survey, respondents were more in favor of restricting travel to countries with high levels of COVID-19, but less so with states and cities in the US.

In addition, many students felt increased pressure to be socially connected with their friends and family. Given the large number of other concerns students were facing, we were unsurprised to find that respondents had moderate levels of anxiety and mild levels of depression. While there were no significant differences across anxiety and depression measures, Black indigenous students of color and first generation students experienced lower levels of coping, which might be explained by reports of them receiving lower levels of emotional supports, despite increased levels of academic, emotional, social, and financial needs. It is also worth noting that Asian students experienced lower levels of optimism, which may be due to the disproportionate amount of discrimination they received—almost two-fifths of Asian students experienced COVID-19-related discrimination. We are unsurprised by this finding, as discrimination against Asian individuals has been documented widely since COVID-19's spread from Wuhan, China (Devakumar, Shannon, Bhopal, & Abubakar, 2020). Review of qualitative responses indicate a few frequently referenced student experiences were widely shared and supported among the student body, and a notable divide was observed between white and Asian students knowing someone who experienced discrimination related to COVID-19.

When considering Diderichsen and his colleagues' (2001) conceptual framework for health disparities, our study expands upon what is commonly thought of as “exposure and contraction rates.” While there were no discernable differences in *direct* exposure and contraction (i.e. suffering from COVID-19), there were dramatic differences in *indirect* exposure

and contraction (i.e. suffering from the repercussions of COVID-19). Indeed, those from disadvantaged groups were more likely to experience and suffer from the social, financial, and educational shocks associated with COVID-19. Thus, for universities, pandemic preparedness is not only a matter of isolation, testing, treatments, and contact tracing, but also bolstering social, financial, and educational supports for disadvantaged students *prior to* the pandemic.

Finally, when considering our study's context, it is important to note that inequities can persist in elite spaces as well. In *No Longer Separate, Not Yet Equal*, Espenshade and Radford (2009) found that resource and opportunity gaps, as well as instances of isolation and exclusion, occurred often at an elite institution with commitments to diversity and inclusion. Similarly, in *The Privileged Poor: How Elite Colleges Are Failing Disadvantaged Students*, Jack (2019) found resource and opportunity gaps among poor students at a similar university.

## **7. Implications and Limitations**

Our results offer meaningful takeaways for University leaders and policymakers, while opening up new lines of inquiry for future analyses. Generally, our results indicate that universities should consider opportunities to provide additional social supports to Black indigenous students of color, first generation, international, and female students. Additional financial supports should also be considered for Black indigenous students of color and first generation students. Although the university has made adjustments to accommodate students for classes in the fall semester, problems with remote learning and related stress persist as the pandemic worsens across the United States. As schools contemplate their academic programs, they should also consider providing additional tools and environments for effective online learning—especially for Black indigenous students of color. Another matter of concern for universities are national policies in review that severely impact the timeframe for international students to complete their degrees in

the states, adding to the stress of students and families. University leaders and policymakers must understand the nuances of issues faced by university students to address concerns during this unprecedented time, coming up with forward-thinking solutions and policies to offer support.

When considering larger policy responses in the U.S., the Coronavirus Aid, Relief, and Economic Security (CARES) Act was passed by Congress and signed into law on March 27, 2020. The CARES Act allocated more than \$2 trillion in response to COVID-19, including \$14 billion for Universities and Colleges through the Higher Education Emergency Relief Fund. As Washington University in St. Louis was able to use parts of these funds to provide supports to students—including some of the students in our survey, future relief bills should also be considered—especially for schools that serve more vulnerable student populations, such as HBCUs.

We also acknowledge the limitations of our study that should be kept in mind when interpreting or applying our results in other contexts, as well as when considering future opportunities for further exploration on this timely, critical topic. First, the cross-sectional sample provides a snapshot of student experience and attitudes during a nine-day period in May, 2020. In order to deepen our understanding of the long-term coping, supports, experiences, and needs of students, future studies should consider multiple survey waves and longitudinal analyses of student experiences.

While we focus on differences across groups, we recognize that group status is only one facet of identity, and that future studies should also consider intersectional identities and approaches. Second, while over 50% of students in the Brown School participated in the survey and the sample was representative of the larger student body composition, the sample was not large enough to disaggregate Black, Latinx, and Native American students (or large enough to

consider alternative gender identities), whose distinct attitudes, experiences, and needs are not reflected in disaggregated form. While “Black indigenous students of color” has recently been used in the literature to reflect historically marginalized groups, we recognize that it is inherently limited in its ability demonstrate the uniqueness of each group. Future explorations should seek larger sample sizes, so that these groups can be further disaggregated and their unique experiences can be portrayed and explored.

Furthermore, in terms of external validity, as survey participants were comprised of graduate students in social work, public health, and social policy, it is important to recognize that their experiences may differ from other graduate students. Moreover, while Washington University in St. Louis followed the guidance of local and state authorities for decisions around opening and closing in-person operations and activities, it is important to recognize that surrounding University contexts can vary widely across geographies. Thus, the connections between public policy decisions and university decision-making should be examined across different cities, counties, states, and even countries that vary widely in their experiences and responses to the pandemic. In particular, as multiple universities have implemented similar survey instruments, future analyses can look across a much larger, more geographically and demographically diverse group of students to understand the broad impacts and disparities beyond a single graduate school.

Finally, mental health in university settings is a topic of ongoing study and discussion at research, program, and policy levels. As our results indicate that the impacts of COVID-19 are being most felt by Black indigenous students of color, international students, and first-generation students, examining correlations around student mental health, supports, and coping might

further inform University responses to the pandemic and in doing so, work to uncover these underlying disparities.

## **8. Conclusion**

The fields of Social Work, Public Health, and Social Policy are charged with and ethically responsible for responding in times of crisis and disaster (NASW, 2017; APHA, 2019). Students in these fields are also much more likely to be actively engaged in coursework, practicum, field research, or other employment connected to responses to events such as natural disasters and pandemics. It is likely that many of the pressing issues that Social Work, Public Health, and Social Policy students will be working on *after* they graduate will involve the lingering social and economic effects of COVID-19. Thus, the pandemic represents a double-edge sword for schools like the Brown Schools. On one edge, COVID-19 highlights many disparities that the pandemic exacerbated; on the other edge, it can hamper the progress of students who are or will eventually be working on the front lines of the pandemic. Effective University responses can also respond in turn as a double-edge sword—they can work to dismantle some of the current disparities across diverse groups of student, while providing them with opportunities to progress throughout their training and education as these Universities prepare them to battle the pandemic on the front lines.

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**Table 1. Group Breakdowns**

	<b>White</b>	<b>Black/Native American/Hispanic</b>	<b>Asian</b>	<b>Domestic</b>	<b>International</b>	<b>Parent BA Degree</b>	<b>No Parent BA Degree</b>	<b>Male</b>	<b>Female</b>
Proportion	53%	26%	21%	77%	23%	79%	21%	20%	80%
Number	167	81	65	245	75	257	70	62	252

Non-Hispanic Black = 49; Non-Hispanic Native American = 7; & Hispanic = 25

**Table 2. Variable Descriptions**

<b>Variable</b>	<b>Range</b>	<b>Mean</b>	<b>SD</b>	<b>Median</b>
<b><i>Exposure</i></b>				
Symptoms of COVID-19	0 (No) – 1 (Yes)	0.21		
Tested for COVID-19	0 (No) – 1 (Yes)	0.02		
Acquaintance Tested Positive	0 (No) – 1 (Yes)	0.50		
Family Member Tested Positive	0 (No) – 1 (Yes)	0.21		
<b><i>Concerns</i></b>				
Trusts COVID-19 Medical Care	1 (Not at All) – 5 (Entirely)	3.00	0.88	3.00
Illness Worry – For Self	1 (Not at All) – 5 (Extremely)	2.90	1.02	3.00
Illness Worry – For Parent	1 (Not at All) – 5 (Extremely)	3.96	1.05	4.00
Health Concerns – For Self	1 (Never) – 5 (Always)	2.77	0.96	3.00
Health Concerns – For Family	1 (Never) – 5 (Always)	3.50	1.00	4.00
Economic Concerns – For Self	1 (Never) – 5 (Always)	3.47	1.09	4.00
Economic Concerns – For Family	1 (Never) – 5 (Always)	2.98	1.31	3.00
<b><i>Hardships</i></b>				
Lost Employment Hours	0 (No) – 1 (Yes)	0.38		
Experienced Housing Hardships	0 (No) – 1 (Yes)	0.14		
Experienced Food Hardships	0 (No) – 1 (Yes)	0.19		
No Difficulties Affording Food	1 (Strongly Agree) – 5 (Strongly Disagree)	3.43	1.23	4.00
No Difficulties Finding Nutritious Food	1 (Strongly Agree) – 5 (Strongly Disagree)	3.10	1.29	3.00
<b><i>Academics</i></b>				
Not Emotionally Available	1 (Not at all) – 5 (Exactly)	3.27	1.28	3.00
Inadequate Learning Equipment	1 (Not at all) – 5 (Exactly)	1.42	0.89	1.00
Inadequate Learning Environment	1 (Not at all) – 5 (Exactly)	2.54	1.27	2.00
Experienced Online Learning Difficulties	1 (Never) – 5 (Always)	2.76	1.30	3.00
Experienced Assignment Completion Difficulties	1 (Never) – 5 (Always)	2.96	1.31	3.00
Online Course Effectiveness – Met Individual Needs	1 (Much Less Effective) – 5 (Much More)	2.19	1.01	2.00
Online Course Effectiveness – Offered Convenience	1 (Much Less Effective) – 5 (Much More)	3.19	1.22	3.00
Online Course Effectiveness – Created Sense of Community	1 (Much Less Effective) – 5 (Much More)	1.87	0.92	2.00
Online Course Effectiveness – Promoted Participation	1 (Much Less Effective) – 5 (Much More)	2.04	0.96	2.00
Online Courses – Promoted Diversity	1 (Much Less Effective) – 5 (Much More)	2.46	0.88	3.00
Positive Practicum Impact	1 (Substantial Negative Impact) – 5 (Substantial Positive Impact)	2.04	0.97	2.00
<b><i>Pressures</i></b>				
COVID-19 Impact on Productivity – Class	1 (Substantially Decreased) – 5 (Substantially Increased)	1.72	0.86	2.00
COVID-19 Impact on Productivity – Practicum	1 (Substantially Decreased) – 5 (Substantially Increased)	1.88	0.96	2.00

Increased Productivity Pressures – Class	1 (Strongly Agree) – 5 (Strongly Disagree)	2.79	1.26	3.00
Increased Productivity Pressures – Practicum	1 (Strongly Agree) – 5 (Strongly Disagree)	2.92	1.25	3.00
Increased Productivity Pressures – Work	1 (Strongly Agree) – 5 (Strongly Disagree)	2.75	1.25	3.00
Increased Productivity Pressures – Social	1 (Strongly Agree) – 5 (Strongly Disagree)	2.39	1.02	2.00
<b>Support</b>				
Support Needed	0 (Not at All) – 1 (Maybe/Yes)	0.65		
University Support Requested	0 (No) – 1 (Yes)	0.41		
University Support Received (if requested)	0 (No/Somewhat) – 1 (Yes)	0.54		
University Assistance Needed – Academic	1 (Not at All) – 5 (Very Much)	2.54	1.37	2.00
University Assistance Needed –Emotional	1 (Not at All) – 5 (Very Much)	2.91	1.56	3.00
University Assistance Needed – Social	1 (Not at All) – 5 (Very Much)	2.71	1.37	3.00
University Assistance Needed – Financial	1 (Not at All) – 5 (Very Much)	2.95	1.68	3.00
Emotional Support Received	1 (No Support) – 10 (A Lot of Support)	7.33	2.08	8.00
<b>Discrimination</b>				
Experienced COVID-19 Related Discrimination	0 (No) – 1 (Yes)	0.11		
Acquaintance Experienced COVID-19 Related Discrimination	0 (No) – 1 (Yes)	0.40		
<b>Mental Health</b>				
Coping	1 (Not Coping Well at All) – 10 (Coping Extremely Well)	5.99	1.86	6.00
Optimism	1 (Not Optimistic at All) – 10 (Very Optimistic)	5.37	1.91	6.00
Anxiety (GAD-7)	0-21	7.83	5.53	7.00
Depression (PHQ-9)	0-27	8.88	5.90	8.00
<b>Media</b>				
COVID-19 Communications Calming (University)	1 (Very Stressful) – 10 (Very Calming)	4.98	1.71	5.00
COVID-19 Communications Calming (Media)	1 (Very Stressful) – 10 (Very Calming)	3.28	1.63	3.00
Percent of Free Time Spent Following COVID-19 News	0-100	25.29	19.0	20.00
			6	
Ability to Stop Following COVID-19 News	1 (Not at All) – 5 (Always)	4.02	0.96	4.00
<b>Precautions</b>				
Restrict Travel – Countries with High Levels of COVID-19	0 (No) – 1 (Yes)	0.81		
Restrict Travel – States with High Levels of COVID-19	0 (No) – 1 (Yes)	0.67		
Restrict Travel – Cities with High Levels of COVID-19	0 (No) – 1 (Yes)	0.68		
<b>Priorities</b>				
Health and Economic Concerns – University	1 (Strongly Prioritize Health Concerns) – 5 (Strongly Prioritize Economic Concerns)	1.60	0.93	1.00
Health and Economic Concerns – Local Government	1 (Strongly Prioritize Health Concerns) – 5 (Strongly Prioritize Economic Concerns)	1.74	0.96	1.00
Health and Economic Concerns – State Government	1 (Strongly Prioritize Health Concerns) –	1.85	1.06	1.00

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Health and Economic Concerns – Federal Government	5 (Strongly Prioritize Economic Concerns) 1 (Strongly Prioritize Health Concerns) – 5 (Strongly Prioritize Economic Concerns)	1.97	1.22	1.00
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**Table 3. Group Differences**

	White	Black/ Native American/ Hispanic	Asian	Domestic	International	Parent BA Degree	No Parent BA Degree	Male	Female
<b><i>Exposure</i></b>									
Symptoms of COVID-19	0.24	0.17	0.14	0.21	0.19	0.22	0.16	0.23	0.20
Tested for COVID-19	0.04	0.01	0.02	0.03	0.01	0.03	0.02	0.03	0.02
Acquaintance Tested Positive	0.56	0.52	0.39*	0.54	0.38*	0.53	0.42	0.53	0.49
Family Member Tested Positive	0.23	0.30	0.08**	0.22	0.16	0.22	0.17	0.15	0.22
<b><i>Concerns</i></b>									
Trusts COVID-19 Medical Care	3.26	2.63***	2.77***	3.03	2.93	3.03	2.89	2.98	3.04
Illness Worry – For Self	2.70	3.07**	3.12**	2.79	3.26**	2.79	3.36***	2.84	2.94
Illness Worry – For Parent	3.95	4.06	3.88	3.97	3.99	3.91	4.20*	3.69	4.04*
Health Concerns – For Self	2.64	2.85	2.95*	2.70	2.96*	2.73	2.93	2.45	2.83**
Health Concerns – For Family	3.49	3.56	3.51	3.53	3.47	3.48	3.64	3.24	3.59*
Economic Concerns – For Self	3.32	3.74**	3.52	3.39	3.68*	3.36	3.90***	3.45	3.48
Economic Concerns – For Family	2.70	3.57***	3.06	2.90	3.28*	2.81	3.70***	3.02	2.98
<b><i>Hardships</i></b>									
Lost Employment Hours	0.44	0.41	0.34	0.41	0.36	0.41	0.37	0.34	0.42
Experienced Housing Hardships	0.11	0.27**	0.05	0.13	0.16	0.11	0.23*	0.16	0.13
Experienced Food Hardships	0.16	0.30**	0.17	0.18	0.20	0.18	0.24	0.21	0.18
No Difficulties Affording Food	3.59	3.11**	3.42	3.48	3.31	3.51	3.13*	3.30	3.47
No Difficulties Finding Nutritious Food	3.25	2.90*	2.86*	3.11	3.07	3.17	2.82*	2.92	3.18
<b><i>Academics</i></b>									
Not Emotionally Available	3.22	3.45	3.20	3.34	3.03	3.23	3.44	2.87	3.35**
Inadequate Learning Equipment	1.26	1.72***	1.45	1.40	1.49	1.39	1.54	1.52	1.37
Inadequate Learning Environment	2.34	2.88**	2.60	2.53	2.59	2.42	2.97**	2.60	2.49
Experienced Online Learning Difficulties	2.64	2.99	2.83	2.73	2.87	2.72	2.93	2.48	2.82
Experienced Assignment Completion Difficulties	2.80	3.33**	2.91	2.90	3.12	2.90	3.19	2.60	3.04*
Online Course Effectiveness – Met Individual Needs	2.11	2.30	2.29	2.20	2.23	2.13	2.46*	2.18	2.20
Online Course Effectiveness – Offered Convenience	3.34	3.08	3.13	3.31	2.99*	3.17	3.35	3.46	3.16
Online Course Effectiveness – Created Sense of Community	1.81	1.84	2.06	1.85	1.95	1.82	2.06	1.97	1.86
Online Course Effectiveness – Promoted Participation	1.97	2.11	2.15	2.05	2.11	2.03	2.12	2.05	2.06

<b>Online Course Effectiveness – Promoted</b>									
Diversity	2.45	2.43	2.46	2.49	2.43	2.46	2.49	2.47	2.49
Positive Practicum Impact	2.13	1.84	2.03	2.06	1.95	2.09	1.90	1.97	2.04
<b>Pressures</b>									
COVID-19 Impact on Productivity – Class	1.73	1.73	1.73	1.73	1.71	1.78	1.49*	1.91	1.68
COVID-19 Impact on Productivity – Practicum	1.92	1.98	1.71	1.88	1.83	1.90	1.83	1.97	1.87
Increased Productivity Pressures – Class	3.09	2.42***	2.51**	2.91	2.49*	2.89	2.44*	2.74	2.81
Increased Productivity Pressures – Practicum	3.09	2.92	2.47*	3.04	2.50*	3.03	2.49*	3.00	2.90
Increased Productivity Pressures – Work	2.95	2.65	2.51	2.87	2.38*	2.78	2.67	2.80	2.75
Increased Productivity Pressures – Social	2.34	2.37	2.49	2.35	2.53	2.35	2.50	2.62	2.32*
<b>Support</b>									
Support Needed	0.61	0.74*	0.67	0.63	0.72	0.64	0.69	0.61	0.66
University Support Requested	0.40	0.51	0.37	0.43	0.35	0.39	0.50	0.39	0.42
University Support Received (if requested)	0.50	0.66	0.43	0.57	0.50	0.52	0.64	0.52	0.55
University Assistance Needed – Academic	2.24	2.72**	3.13***	2.35	3.04***	2.46	2.77	2.66	2.49
University Assistance Needed –Emotional	2.63	2.95	3.66***	2.72	3.53***	2.93	2.83	2.90	2.93
University Assistance Needed – Social	2.46	3.04**	3.03**	2.59	3.15**	2.62	3.09*	2.73	2.70
University Assistance Needed – Financial	2.61	3.40**	3.19*	2.80	3.33*	2.84	3.39*	3.11	2.94
Emotional Support Received	7.72	7.16*	6.74**	7.42	6.95	7.49	6.72**	6.66	7.52**
<b>Discrimination</b>									
Experienced COVID-19 Related Discrimination	0.03	0.05	0.38***	0.05	0.29***	0.10	0.15	0.15	0.08
Acquaintance Experienced COVID-19 Related Discrimination	0.34	0.30	0.68***	0.35	0.59***	0.41	0.36	0.35	0.40
<b>Mental Health</b>									
Coping	6.17	5.68*	5.97	5.92	6.28	6.11	5.56*	6.24	5.94
Optimism	5.38	5.73	4.86*	5.36	5.39	5.42	5.19	5.58	5.32
Anxiety (GAD-7)	8.05	7.53	7.85	8.03	7.04	7.92	7.62	7.02	7.95
Depression (PHQ-9)	8.64	9.10	9.54	8.81	8.91	8.72	9.60	8.31	8.83
<b>Media</b>									
COVID-19 Communications Calming (University)	4.89	5.07	5.09	4.80	5.41**	4.95	4.99	5.23	4.93

COVID-19 Communications Calming (Media)	3.04	3.49*	3.62**	3.14	3.71**	3.31	3.10	3.82	3.17**
Percent of Free Time Spent Following COVID-19 News	21.24	29.36**	29.38**	23.38	31.69**	23.72	31.50**	27.32	24.90
Ability to Stop Following COVID-19 News	4.16	4.12	3.63***	4.12	3.72**	4.05	3.90	3.87	4.06
<b>Precautions</b>									
Restrict Travel – Countries with High Levels of COVID-19	0.81	0.78	0.89	0.81	0.80	0.80	0.84	0.73	0.85*
Restrict Travel – States with High Levels of COVID-19	0.66	0.62	0.77	0.67	0.65	0.66	0.69	0.53	0.70*
Restrict Travel – Cities with High Levels of COVID-19	0.66	0.62	0.83**	0.67	0.71	0.67	0.70	0.57	0.71*
<b>Priorities</b>									
Health and Economic Concerns – University	1.53	1.74	1.52	1.56	1.68	1.60	1.62	1.86	1.52**
Health and Economic Concerns – Local Government	1.63	1.82	1.86	1.66	1.96*	1.69	1.92	2.10	1.64**
Health and Economic Concerns – State Government	1.68	1.93	2.06*	1.73	2.17**	1.81	1.97	2.11	1.77*
Health and Economic Concerns – Federal Government	1.74	2.09*	2.26**	1.80	2.44***	1.92	2.16	2.37	1.86**

\*\*\*p < 0.001; \*\*p < 0.01; \*p < 0.05