

Crisis, Resilience, and Civic Engagement: Pandemic-Era Census Completion

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How do economic shocks and financial resilience shape civic engagement, especially for the economically insecure? I turn to the early months of the coronavirus pandemic for insights. In April 2020, with over 23 million adults unemployed, the U.S. government asked residents to participate in the Constitutionally-mandated decennial census. I test how variations in income shocks from the shutdown and sources of financial resilience predict disparities in census completion – a civic act designed to minimize participation barriers. First, I use nationally-representative survey data to show how policies that protect the economically vulnerable from the full impacts of economic shocks also predict higher census completion rates. Then, I use Google Trends data show that high unemployment search volume interacted with low resilience predicts depressed census completion. Findings shed light on how economic crises can widen participation gaps – with representation and resource consequences – and how policies that lessen acute economic shocks may reduce participation disparities.

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INTRODUCTION

In the wake of the coronavirus pandemic, unemployment in the United States reached historic levels, with widespread economic insecurity persisting months after the pandemic's onset. In June 2020, 32% of U.S. adults reported not having \$400 on hand for an emergency expense.¹ By August 2020, 57 million households, or nearly half the country, were reporting serious financial problems (RWJF, Health, and NPR 2020).² How does a major economic shock like the pandemic shutdown affect civic engagement, and can financial resilience mitigate crises' negative impacts on participation? By analyzing census completion during the early months of the pandemic, this paper sheds light on divergent participation trends: large income shocks correspond with decreased participation rates, but only when people lack access to economic safety nets such as government relief policies, unemployment benefits, or household savings.

As national unemployment peaked in April 2020 at 23 million people³, United States residents concurrently were asked to complete the decennial census. Who responds to this Constitutionally-mandated census has lasting representational and resource consequences. Census completion is a particularly useful lens for understanding the relationship between economic insecurity and civic engagement. By design, the census is a civic act that minimizes resources required; requirements of time, financial cost, knowledge, and access are all streamlined to make participation as easy as possible. Nevertheless, 1 in 4 households in the U.S. still did not complete the census in 2010,⁴ and rates are measurably lower in 2020. Even after a prolonged enumeration period during the pandemic, 1 in 3 households still had not completed the census as of September 2020.⁵ By minimizing obvious barriers

¹Based on my analysis of the Understanding America Study, Wave 7. Availability of funds calculated based on percentage of respondents who say they could pay a \$400 expense in cash or using credit payable within a month (Lusardi et al. 2011).

²Low-income households and households of color have disproportionately borne the brunt of the pandemic's economic fallout, as shown by these studies.

³See: <https://www.bls.gov/charts/employment-situation/civilian-unemployment-rate.htm>

⁴74% completion rate, see:

<https://web.archive.org/web/20111014151806/http://2010.census.gov/2010census/take10map>

⁵66.5% completion rate, see: <https://2020census.gov/en/response-rates/self-response.html>

to participation, the census enables an investigation of what additional factors may continue to depress civic engagement, particularly in times of crisis.

Past findings on the relationship between economic shocks and civic action have been mixed. From the standpoint of a resource model of civic engagement (Brady, Verba, and Schlozman 1995), unemployment can increase available time, resources, and issue salience for participation, but it can also heighten financial stress and decrease mental resources available for civic action. I posit that economic shocks like unemployment have heterogeneous effects on civic action based on the availability of protective policies and sources of resilience that insulate from major financial fallout. Greater resilience increases the relative resources available for participation in times of crisis, so protective factors such as access to government relief, unemployment benefits, and savings should reduce any demobilizing effects of economic stress.

I test the relationship between pandemic-induced economic insecurity and civic action in two ways. First, I use an original national survey to show how economic shocks correlate with lower census completion rates at the individual level. I also show how this negative relationship disappears when individuals experiencing economic shocks have access to local government relief. For example, I find that for U.S. residents most economically impacted by the pandemic, the likelihood of having completed the census by June 2020 is 16 percentage points lower than for others who did not experience a large economic shock. Importantly, however, this decrease *only* exists when impacted people lack access to state or local pandemic relief programs. For people who experience large economic shocks but who have access to relief policies, census completion resembles the rest of the population.

Secondly, I use Google Trends data on unemployment searches to model how higher attention paid to unemployment predicts lower census completion at the county level, controlling for 2010 completion rates. I find a significant interaction between high unemployment search rates and low financial resilience, as measured by low liquid assets and prevalence of service sector jobs. In counties where unemployment searches are high, low resilience predicts substantially lower census rates.

These insights from the pandemic have a broad range of applications for scholars and policymakers. First, the disparities in census completion rates illustrate how acute shocks can contribute to longer and more entrenched cycles of inequality, both for political representation and resource allocation.

Secondly, with high economic insecurity even prior to the pandemic, millions of households are vulnerable to "mundane" crises such as unexpected large expenses, illness, and layoffs.⁶ This paper lays the groundwork for understanding how these less visible shocks may still depress households' civic engagement (with impacts on resources and representation) at the time when they arguably need to be most visible to government actors and institutions.

As a result, this paper also fosters discussion of what structures may make political institutions accessible during times of crisis when resources (including mental bandwidth) for participation are limited. The pandemic highlights how a range of civic actions – including engagement of city councils, school boards, labor groups, state representatives, and more – can affect what resources are offered to communities in need, how those resources are distributed, and the quality of school or working environment experienced daily. The relationship observed here between economic shocks and civic actions like the census call for deeper thinking about how to make more complex forms of participation accessible even to people experiencing high economic insecurity or acute crisis.

Finally, if economic shocks decrease civic engagement and resilience factors protect against such decreases, what can increase households' resilience to future financial crises? This paper looks at government relief programs, unemployment benefits, job protections, and household savings as sources of resilience. Their connection to positive civic engagement can serve as a springboard for broader discussion of what kinds of protective programs and policies are effective, and along what metrics. The focus here on civic engagement suggests that financial resilience not only shapes how one weathers a crisis economically, but that there may be a range of downstream behavioral outcomes for scholars to consider.

This paper proceeds as follows. First, I provide theoretical motivation for the work. I then discuss heterogeneity in government shutdown policies, as well as policies aimed at mitigating economic damage from the pandemic. Then, I present household- and county-level studies on census completion, each with results. I conclude with a discussion of implications for civic participation and representation in the wake of economic shocks.

⁶While social safety nets are generally stronger in Europe, economic insecurity and vulnerability to unexpected economic shocks is high there as well (Kaplan, Violante, and Weidner 2014).

INSECURITY, RESILIENCE, AND CIVIC ENGAGEMENT

Economic insecurity reflects the degree to which individuals are protected against hardship-causing economic losses (Hacker et al. 2014). Economic insecurity is a related but distinct concept from poverty, in that it measures how vulnerable one is to economic shocks or crisis, regardless of income level. Even before the pandemic-induced economic downturn, high levels of economic insecurity existed in the U.S., rendering large numbers of households vulnerable to crisis. Studies from the pre-pandemic period consistently find that 30 to 40 percent of U.S. households lack \$1000 to cover an emergency expense (Hacker 2019; Lusardi et al. 2011; Roll and Grinstein-Weiss 2020). In other words, before the pandemic shutdown, 1 in 3 U.S. households were one crisis away from being unable to pay the bills, with this insecurity extending well into the middle class (Kaplan, Violante, and Weidner 2014).

Unemployment and underemployment from the coronavirus pandemic delivered an acute shock to millions of households, many of which were already economically insecure. The pandemic highlights the importance of understanding the relationship between economic shocks and political behavior, including the role that protective policies and other resilience factors play in buffering against negative impacts of crisis. Here, I draw connections between existing work on economic shocks, resilience, and behavior to generate expectations for how the coronavirus pandemic affects civic engagement.

Negative economic shocks and resilience

In this paper, I use the term *economic shock* to refer to a sudden income loss at the household level. Economic shocks have been linked to predictable, transient changes in political opinions, but insights into how shocks affect actual behavior have been more limited and less conclusive (Margalit 2019). The experience of unemployment has been shown to shift policy attitudes among the unemployed (Häusermann, Kurer, and Schwander 2016; Wehl 2019) as well as their social networks (Alt et al. 2020).

Beyond changes in public opinion, research has shown mixed results on the relationship between economic shocks and political behavior. Some work finds that at low socio-economic levels, unemployment corresponds with decreased perceived political efficacy (Scott and Acock 1979) and political engagement (Hunter et al. 2000; Lim and Sander 2013). Individuals facing foreclosure are less likely

to vote (Shah and Wichowsky 2019). However, other studies find that unemployment is related to increased turnout and participation, particularly in analyses of state-level unemployment data (Cebula 2017; Burden and Wichowsky 2014). Some work suggests economic shocks demobilize through a mechanism of reduced trust, while other findings have suggested a linkage between blame attribution and behavior (Levin, Sinclair, and Alvarez 2016). Unemployment also fosters withdrawal emotions that may decrease turnout (Aytaç, Rau, and Stokes 2020), particularly if the experience of unemployment also increases one's risk of depression (Ojeda 2015).

In times of crisis, structures at the household, workforce, and policy levels can promote resilience and buffer against negative impacts of an economic shock. Resilience at the household level comes from factors such as size of one's liquid assets or savings, access to credit, and social networks with an ability to provide support during hard times (Hacker et al. 2014). At the workforce level, resilience is greater where employee protections make sudden layoffs less likely, higher wages enable a higher savings rate, or laid-off workers receive severance compensation from employers. Government policies also can promote resilience through unemployment benefits or financial assistance to people experiencing economic shocks. For people with less resilience, economic shocks are more likely to have severe consequences. For example, where government policy offers limited insulation from economic shocks, households turn to debt to weather financial shortfalls (Wiedemann 2021b, 2021a). Furthermore, if social safety nets are weak and debt is high, people face greater risk that any future shock will result in arrears or bankruptcy (Morduch and Schneider 2017).

In terms of political behavior, the effects of greater financial support so far have been mixed. In the U.S., minimum wage increases are linked to higher turnout among low-wage workers (Markovich and White 2019), but natural resource windfalls correlate with lower turnout, potentially due to contemporaneous declines in educational attainment and substance use (Sances and You 2019). Though exogenous increases in unearned income are not linked to voting increases among recipients, this same unearned income increases voting among the children of low income recipients, suggesting that benefits of resilience can accrue across generations (Akee et al. 2020). In Spain, randomized financial support increases likelihood of voting for incumbents but does not change overall assessment of government (Bagues and Esteve-Volart 2016). The Mexican conditional cash transfer program Progresa has little or

no effect on either turnout or incumbent vote (Imai, King, and Velasco Rivera 2020). Despite recent advances in research on the impacts of cash windfalls on political behavior, much remains unknown about how shocks and protective factors interact, particularly for political behaviors beyond voting.

Economic stress and civic engagement

How does an acute economic shock – particularly for low-resilience households – affect what resources one has available for civic participation? The resource model of civic engagement considers how resources such as time, money, and knowledge predict political participation and help explain gaps in participation by socio-economic level (Brady, Verba, and Schlozman 1995). In politics, poverty raises the opportunity costs of political participation and increases the number of daily tasks that compete with political issues for one’s attention (Rosenstone 1982). Recent work on the resource model of civic engagement has found that policies can increase participation by reducing participation costs (Braconnier, Dormagen, and Pons 2017) and economic disparities (Baicker and Finkelstein 2018).

In this paper, I do not contest that resources like time and money matter. Instead, I assert that even if conventional participation barriers like time and monetary cost are minimized, economic shocks still make participation relatively more costly for those impacted most. Low-barrier civic actions (like census completion or voting by mail) still take time from other potentially urgent tasks like job hunting or working side jobs. Furthermore, I assert that economic shocks sap another necessary resource for participation: mental bandwidth.

Under stressful or crisis conditions, one’s attention is redirected to address the stressor, meaning that attention available for civic engagement decreases. While research on economic insecurity or shocks is more limited, evidence shows that poverty elevates one’s level cortisol, a hormonal indicator of stress (Haushofer and Fehr 2014). Mental tasks such as memory, goal setting, and impulse control (all elements of cognitive function called “executive control”) are disrupted when stress is high (Shields, Sazma, and Yonelinas 2016; Kim and Diamond 2002). This occurs automatically to increase the mental bandwidth one has available for addressing sources of stress (Brown, Gagnon, and Wagner 2020). In the case of poverty, the brain is forced to make trade-offs in finite cognitive bandwidth (Mani et al. 2013), resulting

in more short-sighted behaviors that can undermine one's long-term self-interest (Shah, Mullainathan, and Shafir 2012; Bickel et al. 2016). Economic insecurity also is linked to behaviors that exhibit higher cognitive load, and these effects remain for the economically insecure across socio-economic levels (Weinstein and Stone 2018). Economic insecurity increases anxiety and risky behaviors, and research in public health has found that food insecurity corresponds with lower impulse control (Nettle, Andrews, and Bateson 2017; Staudigel 2016).

Much of the existing research on economic insecurity and politics has focused on insecurity's effect on political opinion and policy support (Hacker, Rehm, and Schlesinger 2013; Ballard-Rosa, Jensen, and Scheve 2018), including changes in policy support when people in one's social network experience insecurity (Newman 2014). Work on insecurity in Brazil finds results similar to my expectations in the U.S.: poverty and economic insecurity have different relationships with political action, where insecurity – rather than absolute income level – corresponds with decreased political engagement (Brooks 2014). A limited number of studies also have begun to test how stress leads to changes in political behavior. Randomly cueing people to think about stressful events correlates with decreased voter turnout (Hassell and Settle 2017). Messages that have high issue salience may inadvertently demobilize their target audience by making them anxious (Levine 2015). However, so far the mechanism for these effects is untested.

Recent work on the resource model of civic engagement also suggest that well-designed support systems can temper negative impacts of stress on decision-making and behavior. For example, while in general low socioeconomic status correlates with lower levels of protest, well organized and visible vehicles for political action reduce socio-economic disparities in participation (Kurer et al. 2019). This echoes other research showing that when people are experiencing stress, policies which streamline procedures and make information more accessible result in higher uptake and better performance (Mullainathan and Shafir 2013).

Studying census completion rates enables me to explore less overt ways in which shocks may further depress political participation, even when participation barriers are low. The census is an example of civic engagement where resources needed to participate are minimized, but where economic shocks would make action costlier for those impacted in terms of available time and mental bandwidth. The

census by design minimizes many of the conventional barriers to participation (time, cost, knowledge, etc.), and residents respond in minutes based on their preexisting knowledge, without needing to seek information about political issues or candidates. Census completion is even easier than voting by mail in most states: 2020 forms arrive automatically, participation is either online or by mail, and postage is prepaid. Finally, census completion is mandatory; while usually not enforced, non-compliers legally can be fined (LII 2020).

Previous research on census participation has studied what demographics have higher completion rates (Couper, Singer, and Kulka 1998), how sensitive questions impact completion (Baum et al. 2019), how mode of completion affects participation (Dillman, West, and Clark 1994); and what kinds of messaging boosts participation (Dillman et al. 1996; Trujillo and Paluck 2012). Significant opportunity exists to further understand how economic insecurity affects census completion rates.

I expect that if stress induced by economic shocks increases the amount of attention demanded by the crisis (in this case, the coronavirus pandemic and household economic impacts), less mental resources will be available to take action. Time will also be relatively more costly when one has an urgent need to replace lost wages. I expect this to be the case even when the opportunity for civic engagement is designed to be as easy and accessible as possible, as in the case of census completion.

It is possible that other mechanisms may be at work as well. People impacted by economic shocks may become more politically disaffected or distrustful of government efficacy, which likely would decrease political engagement. Access to protective factors may not only insulate against financial hardship but would also maintain faith in government efficacy. Additionally, from a practical perspective, economic insecurity can cause housing instability, and people with less permanent housing are more difficult to reach with political messaging or information that encourages engagement.

While I do not directly test specific mechanisms, they motivate my observational expectation: that economic shocks will correlate with lower civic engagement. However, as stressed by Hacker et al. (2014) in their work on resilience, the presence or absence of protective factors can drive divergent outcomes in the aftermath of an economic shock. Consequently, I also expect that personal, professional, and policy factors that boost resilience will mitigate the adverse effects of economic shock on participation. Resilience in the form of greater economic resources (government support, job sector protections, liquid

assets) will buffer against significant financial impacts from an economic shock, leaving one more likely to still have the time and mental resources needed for civic action.

My hypotheses, therefore, are twofold:

1. Civic action will be lower for people who experience large economic shocks, compared to similar people who do not experience a large shock.
2. In the presence of higher economic resilience, large economic shocks will not correlate with lower civic action.)

The 2020 census offers an ideal opportunity to test these hypotheses. Timing of the 2020 census coincided with COVID-19's initial spread in the U.S. and the commensurate economic shutdown. The official deadline for census completion was April 1, 2020, and physical census forms were sent to all unresponsive households during the second week of April.⁷ Thus, the U.S. government was requesting peak census engagement from residents just as millions of households experienced acute economic shocks.

At a time when the majority of households were working less or working from home, completing the census in theory should be even more accessible than usual. However, based on existing evidence on how stress, and particularly economic stress, affects behavior, it is likely that households experiencing high levels of economic hardship and stress during the pandemic would be more likely to overlook census participation. These same households also may feel less served by governmental institutions, and they may be harder to reach at reliable addresses. Together, these factors predict that economic shocks would correspond with lower census completion rates.

⁷In-person follow-up efforts were delayed until July, and the Census Bureau extended its deadline for completing enumeration from the end of July to October. See: <https://2020census.gov/en/important-dates.html>

PANDEMIC AS AN ECONOMIC SHOCK

Shelter-in-place policies were enacted by 45 states by April 8, 2020, affecting over 96 percent of the U.S. population.⁸ Seasonally adjusted unemployment peaked in spring 2020 at 25 million residents (DOL 2020), with millions more experiencing reductions in hours or wages. While state and local jurisdictions began relaxing stay-at-home orders and business closures by late April, unemployment rates remained elevated; in August 2020, seasonally-adjusted unemployment was still more than twice as high as pre-pandemic rates (8.4 versus 3.5 percent).⁹

Reduced hours, furloughs, and layoffs resulted in a sudden loss of income for millions of U.S. households. In June 2020 I conducted a nationally representative survey¹⁰ and found that 14.7% of adults were currently unemployed. 20.5% had lost at least half their household income in April 2020, after accounting for unemployment and stimulus checks (Table 1).¹¹ However, not everyone experiencing unemployment saw large reductions in income, while others who remained nominally employed saw large wage reductions. In fact, only 6% of adults remained unemployed in June and experienced a large income shock. By comparison, 14% of adults lost over half their household income but remained employed, and another 8% of adults became unemployed without experiencing a large net loss of income. Differences in unemployment and lost income are due in part to variations in government policy, job sector, demographics, and random chance that affected how large a net economic shock households experienced in spring 2020. Delays in federal stimulus funds, delayed or non-existent unemployment benefits, and variations in state and local aid all impacted the speed and size of economic relief. Job sectors such as the service industry experienced widespread layoffs, while sectors like food processing and grocery sales, which require similar skills and education, were considered essential. Overall, these

⁸43 states implemented state-wide stay at home orders; local orders also affected about 36 percent of Oklahomans and 49 percent of Utahns. I calculated the affected population using reporting from the *New York Times*, supplemented by additional research of local shelter-in-place policies. See:

<https://www.nytimes.com/interactive/2020/us/coronavirus-stay-at-home-order.html>

⁹<https://www.bls.gov/charts/employment-situation/civilian-unemployment-rate.htm>

¹⁰YouGov survey weighted on gender, race, education, age, and region; n=2000.

¹¹These findings are similar to other national surveys run at approximately the same time. See:

<https://apnorc.org/projects/economic-consequences-of-the-coronavirus-outbreak>

TABLE 1. Extent of U.S. COVID-19 Household Economic Shocks

	Unemployed (June 2020)	Lost 50% of income (April 2020)	Income shock and behind on rent, bills
% Population Affected	14.7 (+/-2)	20.5 (+/-2)	6.0 (+/-1)

Note: Survey of 2000 U.S. adults conducted between June 1 and 10, 2020. Weighted to be nationally representative by gender, age, race, education, and geographic region.

variations in economic shock and resilience underscore the the importance of exploring their relationship with civic action.

This paper considers the bundle of programs and policies designed to blunt the impact of pandemic shocks, but which were not uniformly accessible. These policies include unemployment benefits, stimulus payments, moratoria on evictions and utility shutoffs, and deferment of rent/mortgage payments. At the federal level, the Coronavirus Aid, Relief, and Economic Security (CARES) Act, passed in March 2020, offered two types of economic assistance. Economic Impact Payments (EIP) provided a one-time stimulus of \$1,200 for every adult and \$500 for every child in the U.S. who met the eligibility criteria¹², while people receiving unemployment benefits were eligible for an additional \$600 per week for 39 weeks (through the end of July 2020). EIP relief arrived unevenly due to logistics of delivering the payments, such as whether the IRS had recipients' direct deposit information. By May 2020, 42.5% of households reported that they were still waiting for their stimulus checks, with low-income and non-white households disproportionately affected (Roll and Grinstein-Weiss 2020).

Receipt of timely unemployment benefits within the first months of the pandemic involved elements of randomness, and delays affected 54% of households who applied. Outdated computer systems designed to detect fraud flagged for further action minor discrepancies such as a full middle name versus middle initial.¹³ Additionally, after the Great Recession, many states made it more difficult to apply for unemployment benefits as an alternative to raising taxes on businesses, and in April 2020 there were many reports from states such as Florida of long wait times and difficulty navigating online application portals. Nationally, only 14% of claims had been paid at the end of March, while 47% of

¹²<https://www.irs.gov/newsroom/economic-impact-payments-what-you-need-to-know>

¹³See Arnold (2020).

claims had been paid in late April. Some states processed unemployment payments more slowly than others, with 32 states paying fewer than 50% of claims by late April (and some states paying less than just 10% of claims) (Stettner and Novello 2020). These delays also affected receipt of CARES Act supplemental unemployment payments. Delays in processing claims left millions of households without needed income during the early months of the pandemic (Stettner and Novello 2020).

To assess who experienced delayed unemployment benefits, I turn to the Understanding America Study (UAS), a tracking survey conducted by the University of Southern California that follows U.S. attitudes and behaviors related to the coronavirus pandemic and is weighted to be nationally representative.¹⁴ I use UAS data from Wave 7, collected June 10-July 8, 2020, which surveyed 6,346 individuals and was the first wave to measure delays in unemployment benefits. For respondents who applied for benefits or their spouse applied, I code whether the household has started receiving benefits or are still waiting.¹⁵ Education and second generation immigrant status predict delays in receiving unemployment benefits; timely receipt of benefits does not correlate with other demographic characteristics (Table 2, Column 1). Here, college education may correlate with workforce sector or one's facility in navigating the benefits application; country of family origin may correlate with job sector or names more likely to be flagged for minor spelling differences. These mixed results suggest that a combination of randomness and non-random factors resulted in timely receipt of unemployment benefits.

Importantly, delays in unemployment payments correlate with increased financial stress (Table 2, Columns 2-3). On a 100-point scale, households already receiving benefits report being 9 points less likely to run out of money in the next 3 months, compared to those still waiting for benefits. Those waiting for benefits also are twice as likely to not have \$400 on hand for an emergency expense.

State policy differences further contributed to variations in how much economic support households

¹⁴The project described in this paper relies on data from survey(s) administered by the Understanding America Study, which is maintained by the Center for Economic and Social Research (CESR) at the University of Southern California. The content of this paper is solely the responsibility of the authors and does not necessarily represent the official views of USC or UAS.

¹⁵I exclude from the analysis applicants who were rejected because they were determined to be ineligible.

TABLE 2. Delayed Unemployment Benefits and Economic Hardship

	Receiving UI (Odds ratios)	\$400 Hardship (Odds ratios)	\$ Will Run Out
Received benefits		0.519** (-2.86)	-9.211* (-2.39)
Household income	1.033 (1.55)	0.850*** (-4.66)	-9.210*** (-6.96)
Male	1.002 (0.01)	0.589* (-2.26)	0.281 (0.11)
Age	1.006 (0.64)	0.980* (-2.21)	-0.150+ (-1.94)
Non-white	0.664+ (-1.71)	1.739* (2.05)	4.000 (1.02)
Hispanic/Latino	1.499 (1.54)	1.537 (1.33)	-0.621 (-0.20)
College	1.580* (2.07)	1.007 (0.02)	1.490 (0.62)
First Gen Imm	1.604 (1.10)	0.622 (-1.11)	8.611* (2.17)
Second Gen Imm	0.439+ (-1.96)	0.850 (-0.47)	3.975 (0.84)
Constant	1.167 (0.37)	10.115*** (3.67)	57.521*** (9.30)
Observations	1016	1016	1015
R^2 / Pseudo R^2	0.042	0.164	0.179

Logit models: Columns 1-2 (exponentiated coefficients); OLS: Column 3

t statistics in parentheses

Robust standard errors clustered by state; population weights

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

received during the pandemic shutdown. Variations in the size of state unemployment payouts meant that with the additional CARES Act payments, unemployment benefits replaced most of – or sometimes even more than – a household’s lost wages; other households felt larger reductions in income. Furthermore, some states provided additional benefits for residents not covered by existing policies; California, for example, provided undocumented residents up to \$1000 per household in pandemic assistance.¹⁶ Finally, variations in local policies led to further heterogeneity in the degree of economic crisis households experienced during pandemic. Local policies sometimes included stronger protections for deferring rent or mortgage payments, as well as moratoria on evictions and utility shutoffs due to lack of payment.¹⁷

Overall, while nearly a quarter of the U.S. workforce experienced layoffs in March and April 2020, financial impacts varied, as did households’ resilience in the face of economic shocks. Sources of resilience included both the household’s existing resources and availability of policy protections. As the analysis above shows, lower income households and households with delayed financial support suffered higher levels of economic stress and an urgency to find additional resources in the shutdown’s aftermath. Households with more financial resources and those which received timely unemployment support were less likely to experience acute economic impacts.

These empirical data also are supported by qualitative descriptions of U.S. residents’ pandemic experiences, which I collected from 1259 individuals across the country in April and May 2020.¹⁸ While respondents were recruited via Amazon Mechanical Turk, participants – who skew younger and lower income than the general population – in some ways are more typical of those impacted most by the pandemic. Respondents are also more likely to be white and with higher education than a population-representative sample, meaning experiences of non-white and lower education individuals are likely underrepresented (Levay, Freese, and Druckman 2016).

Even if the sample is a unique subset of the U.S. population, the variation in the pandemic experiences described by respondents with different levels of net lost income brings further understanding to the trends observed above in the UAS data. Respondents with no lost income describe minimal economic

¹⁶See: <https://cdss.ca.gov/inforesources/immigration/covid-19-drai>

¹⁷See: <https://evictionlab.org/covid-eviction-policies/>

¹⁸“How is the new coronavirus impacting your life these days? You can talk about economic effects, health effects, or both.”

problems and responses do not indicate high levels of stress from the pandemic. Respondents who experienced reduced work hours but only small income shocks report some stress and economic impacts; at the same time, they also mention factors that contribute to economic resilience, such receiving unemployment benefits, having a second income, or being able to live with family while unemployed. Finally, for those reporting large income shocks, the impacts they describe – as well as their level of anxiety – are most pronounced. In this group, people frequently mention unemployment benefits that are insufficient or have not yet arrived, elevated stress levels, as well as income losses caused by work in the service sector. A random subset of responses from each subgroup is presented in the appendix.

HOUSEHOLD ECONOMIC SHOCKS AND RELIEF POLICIES

Data & Methods

First, I explore the relationship between economic shocks, resilience, and census completion using an original YouGov survey of 2000 U.S. adults. The survey was run during the first week of June 2020 and is weighted by region, gender, age, race, and education to be representative of the U.S. adult population. The key outcome in this study is household census completion.¹⁹

Respondents were asked a set of questions about pandemic-related economic shocks (see appendix), including whether their household had lost over half their income in April, whether the household was behind on rent/mortgage, and whether the household was behind on bills for basic expenses (all compared to the same time in 2019). As shown in Table 1, these data indicate that 20.5% of U.S. households earned less than 50% of their normal income in April 2020. 6% of households report significant financial hardship, saying they are behind on their rent/mortgage payments *and* bills for basic expenses. I use these metrics as measures of who in the population is experiencing a large economic shock as a result of the pandemic.

Additionally, YouGov provided data on employment status, which enabled identification of which respondents were unemployed; as stated above, 15% of respondents were listed as unemployed or temporarily laid off at the time of data collection. While I expect that unemployment would show similar

¹⁹Has your household completed the 2020 Census?

results regardless of whether caused by the pandemic or not, low pre-pandemic unemployment rates suggest that most participants listed as unemployed likely lost their jobs as a result of the pandemic.²⁰

In this study, I also move beyond unemployment to investigate whether availability of government policies, intended to mitigate economic impacts of a crisis, correlate with higher rates of civic engagement. To test this, I ask respondents if their household was allowed to pause or reduce rent/mortgage payments during the pandemic.²¹ This question was asked in the context of a federal moratorium on evictions, which initially was to last until September and was later extended. Some states and local jurisdictions offered stronger protections.²² The federal protection does not automatically apply to tenants; instead, tenants must meet eight eligibility criteria and proactively provide their landlord with a signed declaration that they meet these criteria. While this order applies to an estimated 86% of renter households earning under \$100,000, the burden is on the renter to declare eligibility to protection. In the absence of such declaration, evictions have continued, with 43,526 filings by October 2020 in 17 cities being monitored.²³

Variation in state and local policies – and even whether the renter or homeowner’s dwelling has a federally backed mortgage – affect availability of household protections. The patchwork of policies introduces significant variation in access to housing relief. Importantly, in many cases households must have knowledge of these policies to proactively take advantage of their protections. My measure of housing relief captures the combined result of available local relief and its awareness, which I term "access".

In my survey, 24% of renters and 11% of homeowners said their household had access to payment

²⁰All respondents provided their current employment status after pandemic onset in March. Only 16% of unemployed respondents had pre-pandemic employment data on record, making it difficult to distinguish the recently unemployed from the pre-pandemic unemployed in this dataset. However, of those unemployed with pre-pandemic data, only 8 individuals were nominally under-unemployed (as students or part time workers) prior to the pandemic; none were listed as unemployed.

²¹Within the last three months, was your household allowed to reduce or pause rent/mortgage payments without penalty?

²²See: <https://evictionlab.org/covid-eviction-policies/>

²³See: <https://evictionlab.org/federal-eviction-moratorium-update/>

relief. For households that lost more than half their income, reported rates of relief access rise to 26% for homeowners and 39% for renters. Because I do not have respondents' location data, I can only measure self-reported knowledge of local relief policies. There is a concern that ignorance of available housing relief may correlate both with economic shocks and civic engagement. I attempt to address this concern in two ways. First, if the subgroup that does not report access to relief includes people who had need and available relief but were unaware, this should dilute observed differences in census completion between the relief and non-relief groups in my model.

In addition, variables which would raise concerns that reporting access to relief was driven by education, financial status, or political interest are not significantly correlated with the relief measure (Table 3, Column 1). Conversely, characteristics likely to correspond with greater need of aid (person of color, renter) predict substantially higher rates of relief knowledge. Importantly, these variables alone do not appear to predict census completion (see appendix, Table 8), helping reduce concerns of omitted variable bias in the subsequent analysis of census completion.

I draw on Household Pulse Survey (HPS) data to further validate my measure of economic relief. The HPS is a Census Bureau product launched in response to the pandemic; I use Week 13 data, collected August 19-31, 2020, as it is the first wave to measure respondents' use of stimulus funds to cover recent spending needs.²⁴ Federal, state, and local stimulus payments represent another policy that potentially insulates people from the pandemic's economic shock. Using data from over 62,000 respondents, I model how economic and demographic variables predict the likelihood of having used stimulus funds to cover expenses within the last week (appendix, Table 5). I then use the coefficients and the same variables in the YouGov dataset to predict²⁵ YouGov respondents' likelihood of using stimulus funds. Table 3, Columns 2-3, show that increased likelihood of using stimulus funds correlates strongly (in significance and magnitude) with reporting access to relief.²⁶ This suggests that people aware of relief programs were more in need of economic support.

YouGov respondents receive redeemable points for participation. Participation is often motivated by

²⁴"Thinking about your experience in the last 7 days, which of the following did you or your household members use to meet your spending needs? Stimulus (economic impact) payment"

²⁵Inverse-logit function using coefficients from Table 5 Column 1

²⁶Column 3 omits income because of high negative correlation between income and stimulus use.

TABLE 3. Correlates of Reported Access to Housing Relief

	(1)	(2)	(3)
Pr(Stimulus) (log)		1.394*** (5.13)	1.339*** (3.44)
Income	1.037 (0.93)		
POC	1.605** (2.65)		1.297 (1.57)
Female	0.985 (-0.12)		0.752* (-2.01)
Age	0.981*** (-5.76)		0.981*** (-5.66)
College	0.845 (-1.15)		1.210 (1.16)
Ideology	1.018 (0.65)		1.023 (0.84)
Political Interest	1.058 (1.10)		1.099+ (1.77)
Renter	1.955*** (6.41)		1.577*** (4.29)
Constant	0.201*** (-4.83)	0.493** (-3.06)	0.547+ (-1.66)
Observations	1844	1844	1844
Pseudo R^2	0.052	0.026	0.062

Exponentiated coefficients; t statistics in parentheses

Robust standard errors clustered by state

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

interest in the survey questions, and respondents often have higher political interest than the national average. Therefore, despite being nationally representative on key demographics, this sample in some ways represents a hard test for my hypotheses: given above average political interest, we would expect census completion to be higher in this sample than the national average, and for completion rates to be less impacted by economic shocks. Indeed, the reported census response rate of the sample is 87% in June 2020, compared to a contemporaneous national average under 60%. Even so, I still find significant interactions between economic shocks and insecurity, as described below.

Results

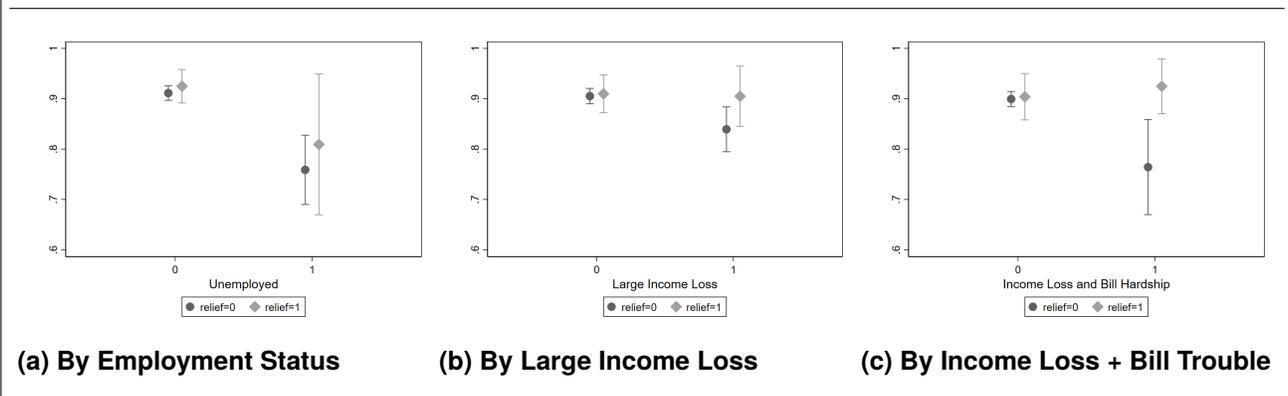
For this analysis, I run a series of logit models on the YouGov data assessing the relationship between economic shocks, access to economic relief (resilience), and census completion. Figure 1 presents main findings and Table 6 in the appendix shows full models. Models control for observable characteristics that might correlate with access to or knowledge of housing relief policies.²⁷ I operationalize economic shocks in three ways: respondent unemployment, a household income loss of 50% or more, and difficulty paying rent/mortgage plus a large income loss (considered indicative of a severe economic shock). Unemployment is the only key independent variable measured at the individual (not household) level. I expect this to underestimate observed differences by employment status, as households where other members are unemployed are still coded as employed if the respondent has a job. Otherwise, analysis is focused at the household level.²⁸

In a model without interaction terms, people experiencing unemployment are half as likely to complete the census as the employed, holding all else constant (significant at 99%). However, while current employment and higher income both predict higher likelihood of higher completion, the interaction effect is not significant. The relationship between access to housing relief and census completion becomes increasingly significant as economic shocks are more tightly operationalized. For people who lost over half their income, there is a significant difference in predicted probabilities of

²⁷Gender, age, education, income, race, ideology, political interest, renter status, and state

²⁸I assume that systematic differences between individual-level demographic controls are an adequate proxy for similar systematic differences that would be observed at the household level.

FIGURE 1. Predicted Probabilities of Census Completion, By COVID Impacts and Relief Policy



Note: The appendix provides model coefficients (Table 6) and number of respondents in each cell (Table 7).

census completion for those who do and do not have access to housing relief (Figure 1b).²⁹

The difference in census completion between those with and without access to housing relief is even more pronounced when we look at those who experienced a significant economic shock: those who lost over half their income *and* are behind on bills, including mortgage/rent (Figure 1c). This group is 14 points less likely to complete the census compared to respondents who did not experience a large shock. However, when this group has access to reduced or deferred payments, census completion is no different than the comparison group – a 16-point difference compared to those experiencing economic shock without access to housing relief.³⁰ In all three analyses, there is no statistically significant difference in census completion rates for the economically secure group between those with and without access to housing relief.

While access to housing relief is correlated with observable characteristics such as race, age, and renter status, the nearly identical results for respondents with and without access to housing relief in the comparison group temper concerns that awareness of relief itself is driving results. If, for example,

²⁹Holding all other variables at their means. The interaction effect falls just shy of significance, but the difference in predicted probabilities is significant.

³⁰Sensitivity analysis conducted per Cinelli, Ferwerda, and Hazlett (2020) indicates that for the large loss and severe shock conditions (interacted with relief access), unobserved cofounders that respectively explain more than 13% and 21% of residual variance of both the treatment and outcome would bring the point estimate to 0; in both cases, unobserved cofounders explaining more than 4% of the residual variance would bring the estimate into a range not significantly different from 0

higher knowledge about relief policies and census completion both correlate with higher political interest, or if states with relief policies also have more effective census completion campaigns, we would expect those reporting access to housing relief to show elevated census response rates even when they did not have an economic crisis. Omitted variable bias may still come from factors correlated with housing relief, economic shock, *and* census completion, but such variables are less common. Bandwidth for processing new information in times of crisis is a possible example, as people under economic stress who do not or cannot access information about pandemic aid are also less likely to seek information about census completion. However, such an omitted variable would underscore an overarching theme of this paper: that protective policies buffer against negative effects of shocks, but only if people have access to them – and access requires both program availability and awareness. Under high stress, even small barriers can make access and engagement more difficult. Overall, results in Figure 1 indicate that access to policies which protect households from the full brunt of economic shocks correlate with normal levels of civic engagement, but that economic shocks absent these protections correlate with lower civic action.

VULNERABILITY TO COUNTY-LEVEL ECONOMIC SHOCKS

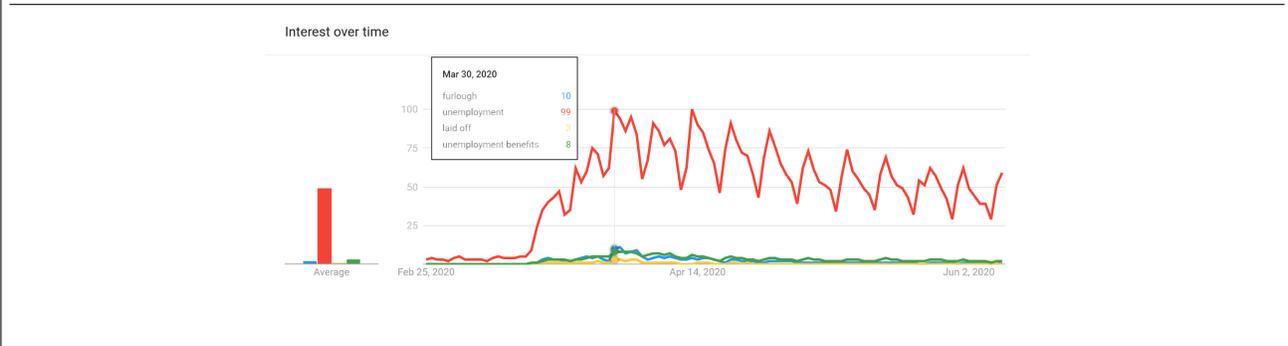
Data & Methods

I now turn to county-level data to assess whether these household patterns in civic action are replicated at a national level. Do economic shocks correlate with lower census completion, and does greater resilience temper this relationship? For a nationwide analysis, unemployment offers a useful (albeit rough) proxy for measuring economic shocks; in the absence of financial resilience, it represents an unexpected and potentially large change in household well-being. However, it is difficult to obtain public data on unemployment with sufficient geographic granularity to be useful³¹

Therefore, to enable a more comprehensive analysis of unemployment shocks, I turn to Google Trends search data. Google Trends provides data on the relative popularity of search terms across time

³¹For example, quarterly estimates of county-level unemployment rates are only available from the Bureau of Labor and Statistics (CPS) for about 200 US counties, the majority of which are in a handful of populous states.

FIGURE 2. Trends in Google Search Terms, Feb 25 - June 6, 2020



Note: Google Trends daily data compiled recalibrated to show search volume relative to overall highest daily rate (100).

and geographic area.³² Likely not everyone (or even a majority) who searched for "unemployment" was laid off. The search term more precisely measures topical interest, rather than the unemployment experience itself. However, national searches for "unemployment" increased 25-fold between early and late March 2020 as stay-at-home orders and widespread layoffs occurred; related terms such as "furlough" and "laid off" simultaneously showed similar but much smaller increases (see Figure 2; state-level trends shown in the appendix). While this suggests that millions of people who did experience job cuts turned to Google for information, the measure has a high degree of noise that makes it more challenging to find significant results.

Google does not make trend data publicly available at the county level, but DMA (Nielson media market)-level data is available. For this study, I acquired DMA-level relative Google search rates for the term "unemployment" (rates averaged over March 25-April 25). There are approximately 200 DMAs in the United States, many of which cross state boundaries. I analyze my data at the county level, so all models include two-way clustering by DMA and state.

As in the household-level analysis, I operationalize both economic shock ("unemployment" searches) and two main county-level measures of resilience. First, I use the estimated percentage of households that are liquid asset poor (without sufficient liquid assets to subsist at the poverty level for three months without income). This metric is part of the Prosperity Now Scorecard and is calculated using data from

³²Search term popularity (how often the term is searched for relative to all searches) is calculated by Google for each geographic area. Then, the area with the highest relative search volume is given a score of 100, and all other areas' scores are calibrated relative to this benchmark.

the 2017 FDIC National Survey of Unbanked and Underbanked Households and the Census Bureau's Survey of Income and Program Participation (SIPP) 2014 Panel, Wave 2.³³ I expect counties to be more affected by economic shocks when fewer people have sufficient liquid assets to cover an emergency.

I also use prevalence of service sector jobs, as reported in 2018 American Community Survey (ACS), as a measure of one's vulnerability to pandemic shocks. The service sector was disproportionately impacted by layoffs during the shutdown, and service sector workers are often less financially resilient to shocks than the average worker due to fewer protections or benefits. For example, low-wage service jobs that depend on tips may have smaller unemployment benefits, and not all service workers are eligible for full unemployment benefits (workers in the gig economy, some non-citizens, etc.).

I also consider median household income as a rough measure of resilience. Here, I assume that higher earnings can provide greater resilience in the face of economic shocks: better access to credit, potentially higher savings, more financially stable social networks, etc. (Hacker 2019). However, with economic insecurity shown to extend into the middle class, income is limited in the ability to tightly identify resilience and thus is only used as a robustness check.

The dependent variable is the 2020 county census completion rate as of June 6, 2020.³⁴ The June 6 date corresponds with timing of household reminders sent in May, as well as the timeframe of my YouGov survey. To account for systematic differences in counties across time that may drive different completion rates, all models also include counties' final 2010 completion rates. The difference between the 2020 completion data and 2010 final completion rates for every county is illustrated in the appendix (Figure 4).

My theory predicts that as attention captured by unemployment increases, counties with less economic resilience (fewer liquid assets, higher percentage service sector jobs, lower median income) will show lower census completion rates, as compared to less vulnerable counties and counties with fewer unemployment searches. To control for other county-level factors, I use 2018 ACS 5-year estimates of variables including: gender, race, age, education, logged population, percent residents who are citizens

³³See: <https://scorecard.prosperitynow.org/methodology>

³⁴I also test earlier dates (April 4 and April 25) immediately after the census deadline (April 1) and after paper versions of the census were distributed in mid-April.

(given concerns about citizenship questions biasing response rates), broadband access (since census completion was first available online), and greater housing tenure (since higher housing instability may increase difficulty in being reached by census officials).³⁵ I also include a 6-point 2013 urban/rural scale developed by the CDC. All models include state fixed effects.

Results

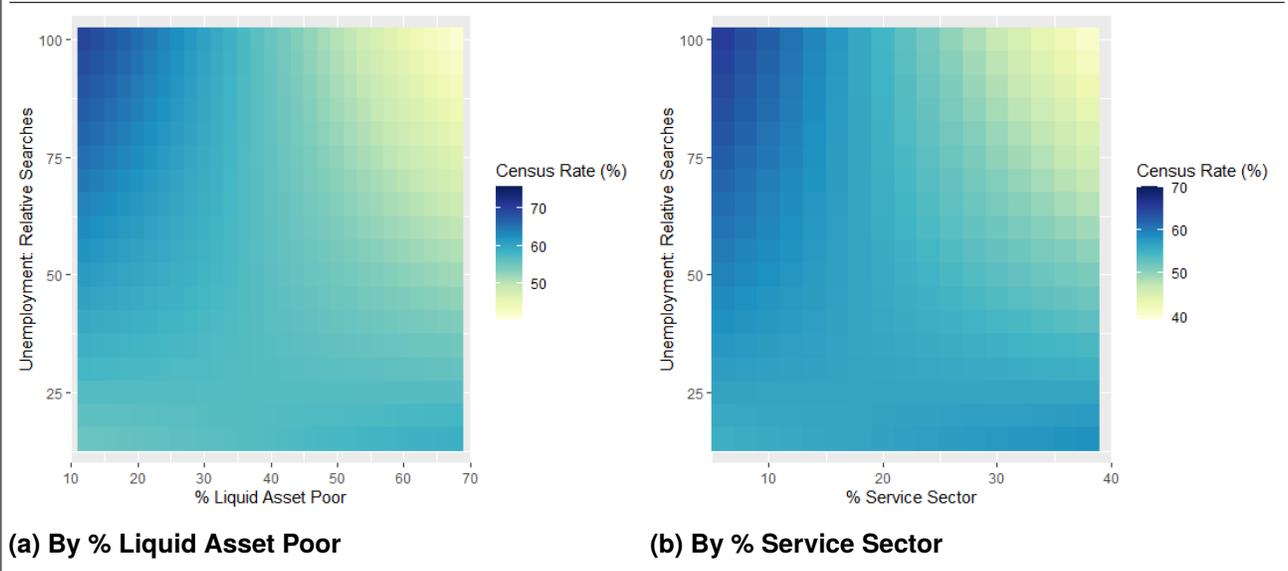
First, it is illustrative to assess what factors predict census completion a decade ago in the absence of a national pandemic and economic shutdown. Similar to other forms of civic engagement (Rosenstone 1982; Brady, Verba, and Schlozman 1995), we see that race and income correlate with 2010 census completion rates (Table 8). Completion rates are higher when counties are wealthier, whiter, more populous, and have better internet connectivity. Counties that are older and more female also have higher completion rates. Perhaps less expected is that controlling for other factors, including prevalence of long-term residents, higher percentage college graduates correlates with lower completion rates. Percentage of residents who are citizens is also marginally significant.

Recognizing these underlying differences in propensity to participate, how does economic insecurity predict census completion during the pandemic? Figure 3 illustrates predicted census completion rates in early June 2020 based on the interaction of unemployment searches and a) low liquid assets and b) prevalence of service sector jobs. The underlying models are presented in Table 4, which also provides the interaction of unemployment and median household income as a robustness check.

These results show support for my hypotheses. The interaction between high unemployment searches and measures of resilience correlates with lower census completion in June 2020. Similar trends exist when using alternative search terms ("furlough" and "laid off") or April census completion dates (See Tables 9, 10, and 11 in the appendix for robustness checks). The models estimate that economically insecure counties with high unemployment searches have census response rates that are at least 15 points

³⁵Although census responses are collected per household and other variables reflect population prevalence, I expect average county trends across households and across all residents to be sufficiently correlated as to enable meaningful models.

FIGURE 3. Predicted Census Completion, by Frequency of Unemployment Searches



Note: See Table 4 for model coefficients.

lower than other counties, controlling for 2010 response rates. While not causally identified, the results support my hypotheses.

Importantly, where unemployment searches are low, neither variations in assets nor percentage service sector jobs predicts variation in the census completion gap. This suggests that insecurity alone is not predictive of reduced participation. Rather, it is in combination with economic shocks – or at minimum, attention paid to economic shocks – when economic insecurity predicts decreased engagement.

IMPLICATIONS

When economic shocks occur, protective factors – be they personal, like higher income, or policies like unemployment benefits and housing relief – play a role in boosting the resilience of economically insecure households (Hacker et al. 2014). This paper suggests that factors which buffer against economic shocks may also buffer against decreases in civic engagement. At the household and county levels, economic shocks interact with resilience factors to predict census completion. In the absence of financial safety nets, economic shocks correlate with lower census completion rates; however, census completion

TABLE 4. Census Completion (June 2020) by Unemployment Searches and Insecurity

	% Liquid Asset Poor	% Service Sector	Med. HH Income
Unemployment searches	0.249** (3.00)	0.179** (3.18)	-0.175** (-2.98)
Liquid asset poor %	0.163 (1.38)		
Unemployment X Asset poor	-0.00670** (-3.41)		
Service sector %		0.246+ (1.92)	
Unemployment X Service sector		-0.0101** (-3.21)	
Median income (\$1000)	0.125*** (4.87)	0.134*** (3.56)	0.0337 (0.57)
Unemployment X Income			0.00340** (2.83)
Census 2010 response rate	0.731*** (14.23)	0.736*** (15.57)	0.743*** (15.72)
White %	0.0251 (0.88)	0.0257 (0.95)	0.0313 (1.17)
Rural	-0.475** (-3.06)	-0.429** (-2.71)	-0.390* (-2.35)
Citizen %	0.0149 (1.21)	0.0131 (1.16)	0.0148 (1.28)
Broadband %	0.0921* (2.21)	0.0898* (2.18)	0.0859* (2.17)
Stable residence %	-0.0164 (-0.25)	-0.0681 (-1.00)	-0.0454 (-0.68)
Latino %	-0.0774** (-2.77)	-0.0792** (-3.27)	-0.0835** (-3.32)
Median age	-0.180* (-2.02)	-0.126 (-1.53)	-0.140+ (-1.74)
Female %	0.203* (2.29)	0.157* (2.21)	0.177* (2.46)
College %	-0.173** (-2.72)	-0.152* (-2.61)	-0.170** (-2.89)
Population (log)	2.002*** (5.20)	2.358*** (5.35)	2.356*** (5.29)
Constant	-49.65*** (-4.77)	-48.64*** (-6.35)	-41.74*** (-6.55)
Observations	2954	3067	3067
Adjusted R^2	0.794	0.808	0.808

Two-way clustered standard errors by state and DMA; state fixed effects.

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

is higher with access to sources of resilience such as pandemic relief, liquid assets, and job protections.

Although the data presented here do not enable testing of the causal mechanism, past research suggests that by helping smooth or reduce the economic shocks, resilience factors enable individuals to have more resources (time, money, mental bandwidth) for civic engagement. When resilience translates into housing stability, information and mobilizing messages can reach people more easily. When receiving protective policies, individuals also may maintain a stronger trust in government institutions. In total, when resilience is higher, participation levels remain stable under shocks that otherwise correlate with disengagement.

It is worth noting that this paper may underestimate prevalence of longer-term consequences from the pandemic's economic impacts. In my national survey, conducted in early June 2020, I find 6% of adults experienced a large income loss and are also behind on bills and rent. As unemployment benefits end and eviction moratoria expire, more households are being exposed to the full force of under- or unemployment as bills deferred come due. Recent survey data support this assessment, showing that 43% of U.S. residents continue to be impacted economically by the pandemic. Among those still impacted, 75% expect to need at least 6-12 months to recover financially (AP-NORC 2021).

Beyond the pandemic's immediate impacts, this paper's insights into civic engagement during times of crisis are relevant for at least four important streams of political science and policy knowledge. First, my finding that economic shocks and low financial resilience correlate with lower household- and county-level census completion means that short-term disparities in the pandemic's economic toll may be codified into longer-term disparities. Even absent a national economic crisis, low income and economically insecure populations are less likely to complete the census (based on 2010 data). If the pandemic's uneven economic impact drove further differences in census participation, the individuals and communities most impacted by the pandemic in 2020 may be systematically undercounted in the census. Because the census count is used to determine political representation and allocation of federal resources for the next ten years, short-term decreases in civic engagement during an acute economic shock may result in a decade of lower financial support and government responsiveness. These disadvantages may make the same individuals more vulnerable to further crises in the future, perpetuating cycles of unequal resources and representation.

Secondly, census completion is only one example of civic engagement, and pandemic layoffs are only one example of economic shock. Even absent a national crisis, millions of U.S. households are one adverse event away from economic crisis. Prior to the pandemic, an estimated 30-40% of households in the U.S. reported not having \$1000 in savings for an emergency. An emergency medical expense, an unexpectedly large utility bill, property damage, a major car repair, one-time government fines or fees – although not capturing the news headlines as the pandemic did, these economic shocks commonly occurred in the privacy of homes across the country prior to the pandemic, and they will continue to occur after the pandemic has subsided. This paper sheds light on how these less visible household-level crises may affect civic engagement broadly, both beyond census completion and beyond the pandemic context. With high numbers of households living on the financial edge – including significant portions of the middle class – and high variability in household resilience given the limits of U.S. social policy, there is great value in continuing to study how economic shocks affect civic action, and the role of resilience in mitigating disengagement.

Furthermore, economic insecurity is not a U.S.-specific phenomenon. Compared to the U.S., many countries in the global north have an even greater share of wealthy households living with little savings for emergencies. In countries like Canada, Australia, the UK, Germany, France, Italy, and Spain, this wealthy "hand-to-mouth" sector of the population is larger than the countries' poor populations similarly living on the financial edge (Kaplan, Violante, and Weidner 2014). Future research may explore how economic shocks interact with resilience in comparative contexts to affect the economically insecure, particularly given variations in countries' social safety nets.

Thirdly, this paper demonstrates that economic shocks and limited resilience still correlate with lower participation rates even when civic engagement requires few resources of political knowledge, time, and money. The pandemic illustrates how civic action is arguably *more* important for the economically insecure during times of crisis, given the potential benefits of additional government visibility and support. Beyond census completion, pandemic-era engagement with city and county officials had the potential to shape community priorities in distributing millions of dollars in CARES Act assistance to local governments. Primary and general elections determined representation from local to national levels. Debates among school boards, unions, and local political leaders shaped choices about remote or

in-person learning, with heightened consequences for more vulnerable populations. Yet, at a time when civic engagement had the potential to shape resource distribution and health with direct impacts on the economically insecure, this paper suggests that economic shocks from the pandemic may have made participation harder for those with the most at stake.

If time is relatively more costly for people experiencing crisis, and mental bandwidth for civic action is limited due to financial stressors, this presents the question of how to make civic engagement – from participation in local government to voting and advocacy – accessible even for people with limited resources and in times of crisis. For example, many states expanded access to voting by mail (VBM) in the 2020 general election in light of pandemic health concerns. More than 3 in 4 voters were eligible to vote by mail in the 2020 general election, with record-setting turnout. Future research likely will show whether greater access to the ballot box helped close persistent socio-economic disparities in turnout rates (Bonica et al. 2020), exacerbated turnout differences by further mobilizing high-propensity voters (Berinsky 2005; Enos and Fowler 2014), or left relative turnout levels mostly unchanged (Barber and Holbein 2020). However, as many states now move to scale back voting accessibility, a large question for researchers and policy makers is what initiatives will make political participation more inclusive for individuals facing acute crises, rather than more difficult, and why. Insights here from census completion rates and elsewhere from the voting literature can be applied to a broader range of civic activities, where the economically insecure have traditionally been underrepresented but where their interests are arguably even more salient (local governance, school boards, unions, tenant and homeowner groups, etc.).

Finally, this paper considers the role of resilience in mitigating negative effects of economic shocks. Broad, ongoing research questions include: How do income savings programs, access to low-interest credit, and financially-stable social networks affect downstream civic engagement at the household level? Are there wider political and representational impacts of stimulus plans, unemployment insurance, and job protections that have been overlooked thus far? My findings that greater resilience correlates with higher participation underscore the value of further research into sources of resilience and their consequences for civic engagement.

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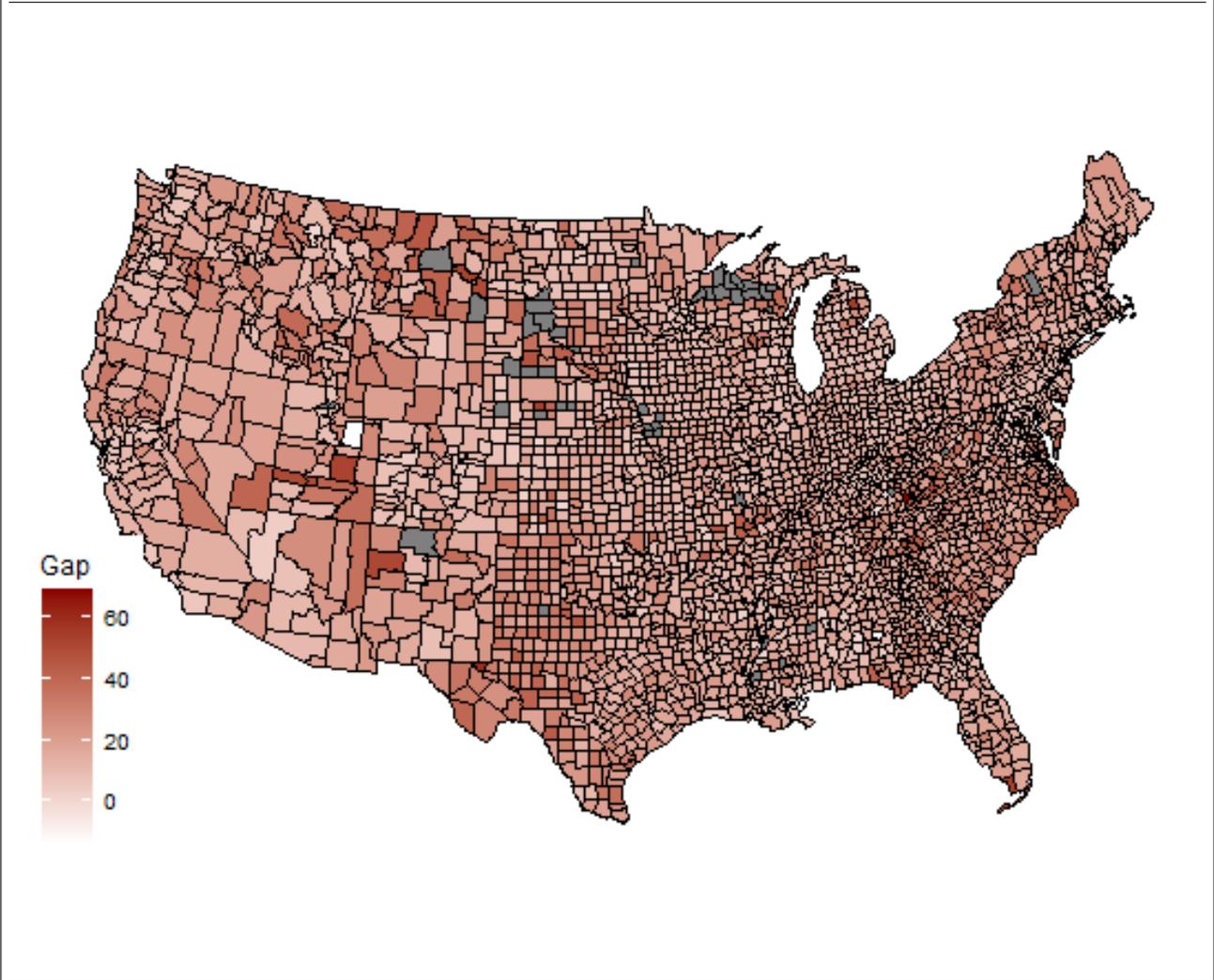
APPENDICES

A: Relevant Survey Questions

YouGov Survey Instrument

- Has your household completed the 2020 Census?
- Does your household rent the place you live?
- Within the last three months, was your household allowed to reduce or pause rent/mortgage payments without penalty?
- Compared to this time last year, does your household now have more overdue bills for basic expenses?
- Compared to this time last year, does your household now have more overdue rent/mortgage payments?
- In April 2020, was your household's total income at least 50% lower than usual?

FIGURE 4. Gap in 2010 and 2020 Census Response Rates, By County (June 6, 2020)



B: Census Response Map

C: Supplemental Quantitative Data

TABLE 5. Likelihood of Using Stimulus Funds (Odds Ratios)

	(1)	(2)
Unemployed	0.894 (-0.77)	0.892 (-0.81)
Shocks (0-3)	1.665*** (8.41)	1.674*** (8.59)
Income	0.555*** (-16.73)	0.555*** (-16.37)
Female	2.123*** (10.21)	2.144*** (10.11)
Age	0.997 (-1.11)	0.997 (-1.31)
Non-white	1.528*** (5.29)	1.569*** (5.32)
College	0.691*** (-5.47)	0.679*** (-5.60)
Constant	0.184*** (-8.12)	0.166*** (-9.98)
Observations	62688	62688
Pseudo R^2	0.226	0.237

Exponentiated coefficients; t statistics in parentheses

Robust standard errors clustered by state; state fixed effects in Model 2

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 6. Likelihood of Census Completion, By Shock and Relief Policy (Odds Ratios)

	Unemployed	Income Loss	Severe Crisis
Housing relief	1.487 (1.36)	1.254 (0.78)	1.392 (0.99)
Unemployed	0.463*** (-3.39)		
Unemployed X Relief	1.179 (0.29)		
Large income loss		0.791 (-1.13)	
Large loss X Relief		1.723 (1.56)	
Financial distress			0.539+ (-1.90)
Financial distress X Relief			2.538* (2.15)
Constant	1.766 (1.21)	1.249 (0.45)	1.186 (0.34)
Observations	1774	1774	1774
Pseudo R^2	0.101	0.092	0.093

Odds ratios; t statistics in parentheses

Control variables: female, gender, age, person of color, college education, ideology, political interest, renter

Robust standard errors clustered by state; state fixed effects

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 7. Respondents in each condition for Figure 1

	No hardship, no relief	No hardship, relief	Hardship, no relief	Hardship, relief
Unemployment	1459	251	233	57
Large loss	1423	175	269	133
Large loss, bill trouble	1637	242	55	66

TABLE 8. Predictors of 2010 County-Level Census Completion Rates

Median income (\$1000s)	0.154*** (4.00)
White %	0.165*** (6.27)
Rural	0.0433 (0.26)
Citizen %	0.0170+ (1.70)
Broadband %	0.152** (3.07)
Latino %	-0.137*** (-6.47)
Median age	-0.413*** (-5.09)
Female %	0.481** (3.37)
College %	-0.462*** (-4.16)
Renter %	-0.00538 (-0.11)
Stable housing %	0.0275 (0.47)
Population (log)	2.858*** (9.43)
Constant	-9.060 (-0.89)
Observations	3096
Adjusted R^2	0.579

t statistics in parentheses

Robust standard errors clustered by state

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 9. County-Level Census Completion: Alternate Search Terms

	Laid off X Asset Poor	Furlough X Asset Poor	Laid off X Service Sector	Furlough X Service Sector
% Liquid asset poor	0.188 ⁺ (1.94)	0.0606 (0.45)		
% Service sector			0.136 (1.13)	0.233 (1.29)
"Laid off"	0.347*** (4.82)		0.146 (1.64)	
"Laid off" X Asset poor	-0.00914*** (-4.68)			
"Furlough"		0.239 ⁺ (1.68)		0.247* (2.22)
"Furlough" X Asset poor		-0.00644 ⁺ (-1.84)		
"Laid off" X Service sector			-0.00892* (-2.04)	
"Furlough" X Service sector				-0.0141* (-2.38)
Median income	0.106*** (3.73)	0.0999*** (3.61)	0.122** (3.29)	0.123** (3.33)
2010 Census rate	0.723*** (14.12)	0.736*** (14.17)	0.727*** (15.67)	0.740*** (15.95)
Constant	-55.26*** (-6.03)	-44.57*** (-4.33)	-50.94*** (-7.73)	-47.89*** (-6.11)
Observations	2842	2931	2950	3038
Adjusted R^2	0.797	0.793	0.811	0.809

t statistics in parentheses

Two-way clustered standard errors by state and DMA; state fixed effects.

Same control variables as shown in Table 4; where search volume is too low, counties have no search data.

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 10. County-Level Census Completion: April Dates

	April 4 Asset Poor	April 25 Asset Poor	April 4 Service Sector	April 25 Service Sector
"Unemployment" search	0.202* (2.55)	0.210* (2.50)	0.118* (2.43)	0.168** (2.72)
% Asset poor	0.211* (2.29)	0.0797 (0.63)		
Unemployment X Asset poor	-0.00566** (-2.95)	-0.00584** (-2.91)		
% Service sector			0.111 (0.96)	0.233 (1.63)
Unemployment X Service sector			-0.00726* (-2.64)	-0.00970** (-2.84)
Median income	0.125*** (4.54)	0.128*** (5.04)	0.108** (3.00)	0.155*** (4.11)
2010 Census rate	0.591*** (13.90)	0.709*** (12.72)	0.589*** (15.30)	0.715*** (13.89)
Constant	-38.98*** (-4.85)	-33.73** (-2.80)	-31.98*** (-5.00)	-35.81*** (-3.96)
Observations	2954	2620	3067	2708
Adjusted R^2	0.750	0.801	0.768	0.815

t statistics in parentheses

Two-way clustered standard errors by state and DMA; state fixed effects.

Same control variables as shown in Table 4

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 11. County-Level Census Completion: Controlling for Change Over Time

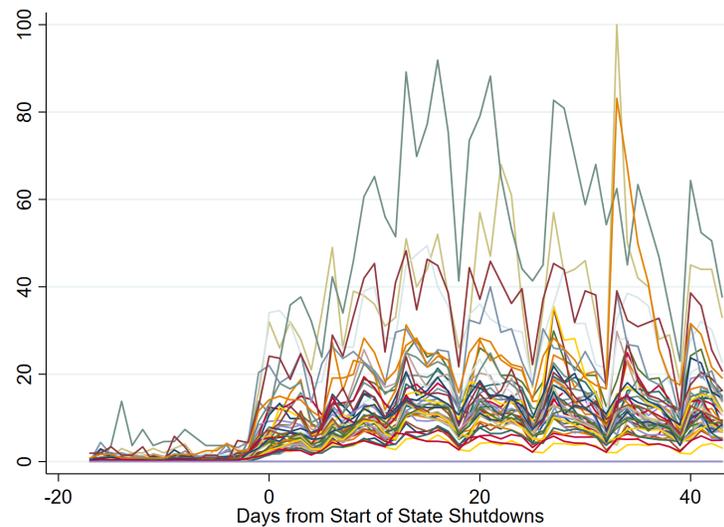
	Asset Poor	Service Sector	Med. HH Income
"Unemployment" search	0.238** (2.99)	0.168** (3.02)	-0.173** (-3.29)
% Asset poor	0.139 (1.21)		
Unemployment X Asset poor	-0.00635** (-3.36)		
% Service sector		0.203 (1.27)	
Unemployment X Service sector		-0.00934** (-2.99)	
Median income	0.176*** (5.85)	0.191*** (5.10)	0.0901+ (1.78)
Unemployment X Income			0.00344** (3.18)
2010 Census rate	0.718*** (14.26)	0.724*** (15.36)	0.730*** (15.58)
Δ Median income	-0.0624 (-1.03)	-0.0494 (-0.80)	-0.0442 (-0.76)
Δ % White	-0.000240 (-0.00)	-0.0353 (-0.48)	-0.0434 (-0.58)
Δ % Citizen	-0.00231 (-0.27)	0.00315 (0.37)	0.00314 (0.38)
Δ % Stable residence	0.173** (2.71)	0.191** (2.72)	0.182* (2.68)
Δ % Latino	-0.378* (-2.14)	-0.110 (-0.91)	-0.102 (-0.88)
Δ Median age	-0.359+ (-1.88)	-0.323* (-2.38)	-0.329* (-2.41)
Δ % Female	-0.321+ (-1.75)	-0.228 (-1.14)	-0.250 (-1.21)
Δ % College	0.229* (2.42)	0.286** (2.98)	0.310** (3.25)
Δ Pop. (log)	-10.81 (-0.90)	-9.217 (-1.21)	-9.868 (-1.31)
Δ % Service sector		0.00112 (0.01)	
Constant	-49.72*** (-4.53)	-47.48*** (-5.16)	-41.98*** (-6.52)
Observations	2953	3059	3059
Adjusted R ²	0.797	0.812	0.812

Two-way clustered standard errors by state and DMA; state fixed effects.

Additional controls same as variables shown in Table 4

t statistics in parentheses; + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

FIGURE 5. Relative Unemployment Searches by State, March 1 - April 30



Note: Google Trends daily data compiled per state and recalibrated to show search volume relative to overall highest daily rate (100).

D: Supplemental Qualitative Data

The table below presents a random subset of qualitative responses I collected in an online survey of U.S. adults between April 17 and May 17, 2020. Run on Amazon Mechanical Turk, I asked 1259 respondents to describe how the coronavirus was impacting their lives³⁶. I also asked whether one's household income had decreased as a result of the COVID-19 outbreak, and if so, by what percent. I present a sample of responses for three groups of participants, randomly selected to be representative of overall responses within each group: (A) those with no income loss, (B) those who lost less than half their household income, and (C) those who lost more than half their household income during the pandemic.³⁷ Respondents were asked to consider any unemployment benefits when answering, so variations capture net differences in income after including any support payments.

While this Mechanical Turk survey is not designed to be nationally representative, a similar percentage

³⁶“How is the new coronavirus impacting your life these days? You can talk about economic effects, health effects, or both.”

³⁷All responses were assigned a random value between 0 and 1, and the responses closest to 1 for each category are presented here.

of respondents reported experiencing a large income loss as compared to my nationally representative survey (26% versus 21%). Overall, responses are useful for hypothesis building and process tracing (Table 12).

TABLE 12. Coronavirus Experiences, by Economic Shock

(A) No income loss

corona virius is not affecting my work. i go to work every day. The wife is effected by this due to her job and is actively involed with caring for patients

The virus has slowed down my interaction with people, no face to face communication. Because of the virus, I've had to work from home. Another impact is helping my son with school work an helping the family to remain sane during this time.

I have not really been impacted by this coronavirus epidemic. For the most part, my overall health is pretty much normal and my economic situation has not changed.

The coronavirus has effected be more socially and emotionally in comparison too financial hardship. I work as a waste water operator, so my job is essential, but I do not leave me house, and I become slightly lonely as depressed. I see my friends less often, but I still see my family, which is very good.

The coronavirus has NOT had any positive or negative health effects as of now. It has had a negative effect on my retirement account. I have lost money from a retirement account.

(B) Small net income loss

My husband is currently receiving unemployment, which is helping tremendously. He is self-employed, and no one is using his service, so without the unemployment we wouldn't be able to last on our savings for long.

My son is our of his job and not able to get the unemployment website work. Very frustrating. We are totally self isolating, only leave to pick up grocery order and we always wear masks.

Well I just graduated from university right around when the coronavirus just started to hit the U.S. [...] I have been self-isolating at home with family since. I haven't been able to find a job, and my days have been all over the place. I have been sleeping a lot, sometimes multiple times throughout the day. [...] I have struggled to eat during this time and have slowly dropped weight.

I am way more anxious than usual and am worried about losing my job. Two of the three of us have lost jobs in my house and they don't qualify for unemployment. I am paying more for groceries and can't get some items.

It is affecting us mostly economically. I was furloughed from my full-time job and I'm on unemployment until we are recalled on May 1st. [...] My husband makes quite a bit more than I do, and due to the virus, he has had to agree to take a pay cut of 20% of his salary at work. [...] I have taken this job on Mechanical Turk to try to earn a little extra cash each week to cover expenses [...]. I think overall we are doing just fine, but it is the unknown of the future that can worry me sometimes.

I only leave the house to go to work or the grocery store. I'm in constant worry for the health of my family and I.

(C) Large net income loss

It is affecting me financially as I have temporarily lost my job and traditional unemployment just doesn't cut it for paying the bills.

Our business is down at least half because most of our customers come from out of state. We also have a large event that people had already payed 500 dollars for, but now we will probably have to postpone it because of the bans on large crowds and out of state traffic, which is again costing us more money and a huge headache

Economically is the worst effect. All of my work hours have been cut since March 29. I just got approved for unemployment insurance, but I haven't received money yet, and the amount isn't even close to covering my absolute monthly expenses. I've cut out all optional expenses since the layoff. I've been using my retirement savings to get by since I've lost my job.

It's delaying my career move and in turn my ability to move out into my own place. Initially, it put me in a very anxious state but the past month I have starting making changes such as planning and scheduling tasks, exercising, studying, and meditating.

The coronavirus means that my children are at home now, and I have the sole responsibility to educate them. My husband doesn't have as many work options, so our normal struggle is slightly more.