

# FRBSF Economic Letter

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## The Unequal Impact of COVID-19: Why Education Matters

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Since COVID-19 hit the United States, more than 20 million American workers have become unemployed and countless others have left the labor force altogether. While the labor market disruptions have affected workers in a wide set of industries and occupations, those without a college degree have experienced the most severe impact. Addressing gaps in educational attainment will be important to creating better economic resiliency for individuals against future shocks.

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The impact of the coronavirus disease 2019 (COVID-19) on the U.S. labor market is unprecedented in modern history. Over the course of three months—from March through May 2020—employment fell by more than 20 million jobs and the unemployment rate rose to its highest level since 1938 (Petrosky-Nadeau and Zhang 2020). Many more workers left the labor force altogether, pushing the percentage of working-age adults who are employed or looking for work back down to its 1973 level. As of May, only 53% of Americans were working, down from 61% at the start of the year.

Everyone has been affected by COVID-19 and the actions taken to mitigate its spread. However, the impact has not been even. In this *Economic Letter*, we specifically examine the economic impact of COVID-19 on individuals with different levels of education. On average, we find that individuals with less than a college degree were much more vulnerable to the initial COVID-19 shock to the economy. The risk was compounded by the types of jobs these individuals held and how those jobs were affected by social-distancing and shelter-in-place measures. Ultimately, COVID-19 has widened existing inequalities in the economy and is a stark reminder that addressing gaps in educational attainment will be essential to improving economic resiliency against future shocks.

### Uneven losses

Prior to COVID-19, the United States was in the midst of the longest economic expansion in the country's history. The length and strength of the expansion helped narrow long-standing gaps between more and less advantaged groups, including those with different educational attainment levels (Aaronson et al. 2019). The gap in the unemployment rates for those with a high school diploma or less and those with a bachelor's degree or more had narrowed considerably during the expansion and, at the start of 2020, was the smallest it had been since 1999. Prior to the COVID-19 shock, the gap was 2.2 percentage points. As of May, the gap had grown to 8.8 percentage points.

Higher levels of education have long been an insulator against labor market disruptions, reducing the incidence of job loss (Hoynes 2000). This was certainly the case in the months following the outbreak of

COVID-19. Figure 1 shows that, as the United States began widespread shelter-in-place policies in mid-March, the unemployment rate spiked for workers across all education levels. However, the change in unemployment was especially large for those with a high school diploma or less. Between February and May, the unemployment rate for these workers rose by more than 12 percentage points, compared to 5.5 percentage points for those with a bachelor’s degree or higher.

Of course, the increases in unemployment alone don’t fully capture the severity of the economic disruption caused by COVID-19. Countless other workers have left the labor force altogether and are not measured in the official unemployment rate.

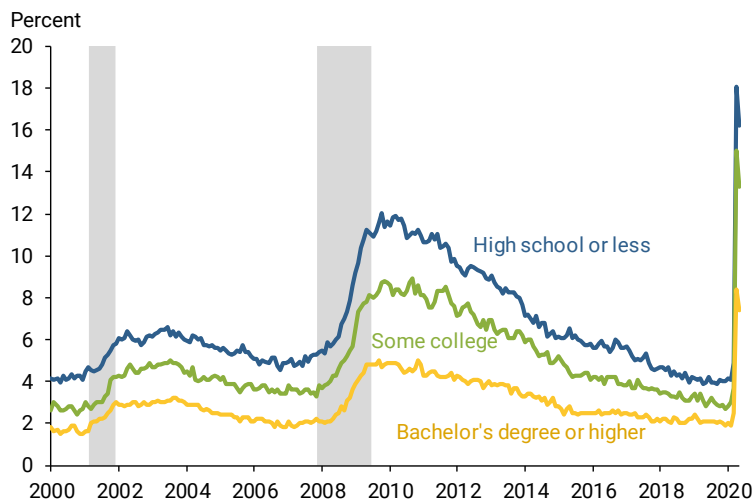
To get a sense of those losses, we can examine changes in the labor force participation rate, which measures the fraction of the working-age population employed, on temporary layoff and expecting recall, or looking for work. The data suggest similar trends for those with less education. The impact of COVID-19 resulted in larger declines in the participation rate for people with a high school education or less compared to those with a bachelor’s degree or more. Between February and May, labor force participation among people with a high school diploma or less fell nearly 4 percentage points to just 51.8%. In contrast, those with a bachelor’s degree or more experienced a far smaller decline of 1.2 percentage points, with 71.9% of them remaining in the labor force.

### Disproportionate impact

Up to this point, we have documented that the rise in the unemployment rate and fall in labor force participation have been larger for people with less education. Next, we examine how disproportionate the impact of total job losses has been for the same group. This allows us to consider the impact of COVID-19 on those who were employed before the crisis, regardless of their labor market outcome as of May.

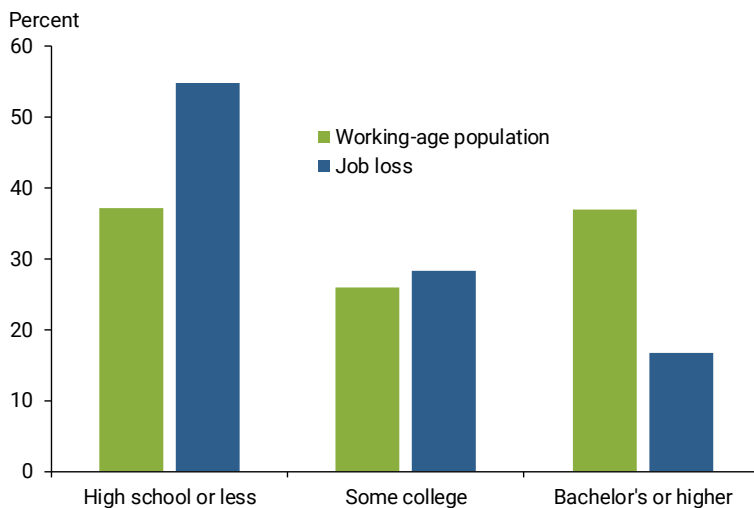
Figure 2 shows the share of aggregate job loss between February and May relative

**Figure 1**  
Unemployment by education level



Source: Bureau of Labor Statistics, Current Population Survey. Gray bars indicate NBER recession dates.

**Figure 2**  
Job loss relative to working-age population shares



Source: Bureau of Labor Statistics, Current Population Survey; aggregate job loss between February and May 2020.

to the share of the working-age population in February, by education level. As the figure reveals, the fraction of total job loss (blue bars) for workers with a high school diploma or less is substantially larger than their fraction of the working-age population. In contrast, the pattern is reversed for workers with a bachelor's degree or higher. Job losses have been far less for this group than their population share would predict if losses were distributed evenly across groups.

In sum, since the onset of COVID-19, a college degree has provided a form of insurance against job loss.

### Potential contributing factors

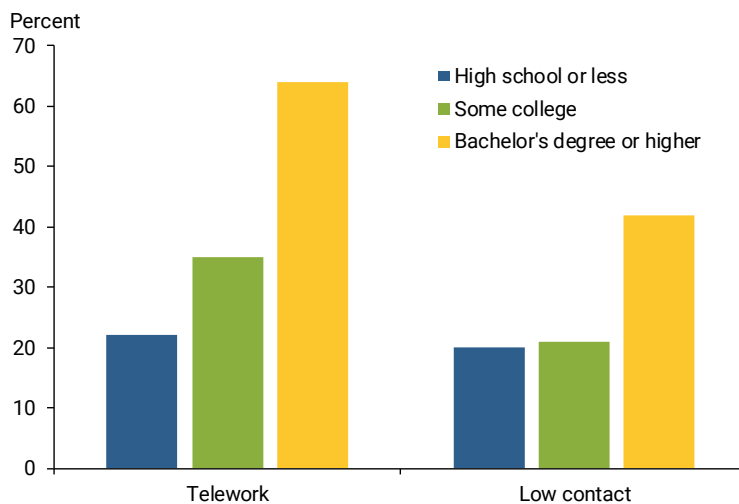
The disproportionate impact of COVID-19 on the labor market outcomes of people with a high school diploma or less reflects in part the characteristics of the jobs these individuals work and how they were affected by the shelter-in-place rules. As the country paused all but essential economic activity, workers who were able to transition to telework were more likely to stay employed. In Figure 3, we show how the ability to work from home varies across the educational attainment distribution. The data come from the Pew Research Center and reflect responses to a survey conducted in March 2020 about telework (Pew Research Center 2020).

The data show that almost 65% of workers with a bachelor's degree or higher reported teleworking in response to COVID-19. In contrast, only 22% of workers with a high school diploma or less had teleworked due to the pandemic. This difference highlights the structural job vulnerabilities of workers with a high school diploma or less to mandated changes in work environments.

Another determinant of labor market dislocation during the COVID-19 pandemic relates to the level of interpersonal contact that a given job requires. This became particularly important when social-distancing practices and other health precautions restricted which businesses could remain open. The limits on interpersonal contact affected many workers in nonessential businesses, particularly those who provided services that could be delayed without harm such as hospitality, personal care, and restaurants.

The right-hand set of bars in Figure 3 shows how interpersonal contact jobs vary across the educational attainment distribution. We consider contact levels from a paper by Leibovici, Santacreu, and Famiglietti (2020), who classify jobs as low, medium, or high contact based on a worker's need to have physical proximity to other people. Applying their methodology, we compute the fraction of workers in low-contact jobs by education level. These are the jobs that are least likely to be impacted by shelter-in-place or social-distancing restrictions. We

**Figure 3**  
Job characteristics and COVID-19, by education level



Source: Pew Research Center and Bureau of Labor Statistics, Current Population Survey.

exclude the health-care sector from our analysis to avoid confounding factors since that sector has been directly affected by the shock of COVID-19, but we see similar trends when that sector is included in our analysis (not shown).

The data show that individuals with a bachelor's degree or higher were almost twice as likely to be in a low-contact job as compared to those with less education, while those with less education were more likely to be in a medium- or high-contact job. This is consistent with results from Rho, Brown, and Fremstad (2020) that find only a small fraction of frontline workers, who are often in high-contact jobs, had a bachelor's degree or higher.

### What should we make of this?

The COVID-19 pandemic has had an abrupt and drastic impact on the labor market, and has not affected everyone in the same way. Throughout this *Letter*, we have demonstrated how education is a common thread contributing to large differences in the severity of the virus's impact across individuals. The differences in outcomes are not surprising. There were preexisting disparities in the labor market caused by these differences in educational attainment, and the inequalities have only deepened because of the crisis.

It's also important to acknowledge that access to education is not equal, and not everyone has the same opportunity to insulate themselves from job loss. The inequity in access to education is persistent across generations. Pfeffer (2018) found that, over the past two decades, around 50% of high school graduates from low-income households have consistently enrolled in college, compared to 80% from high-income households. Additionally, college costs and student loans have risen, which makes attending college a heavier burden for those who start out with less income, often those in minority groups.

The impact of the economic turmoil surrounding responses to COVID-19 presents an imperative to make access to learning more equitable. Increasing educational attainment can directly improve individuals' work outcomes, both in and out of crises. As such, this *Letter* highlights the need for a renewed sense of urgency to focus public efforts towards greater access to higher education, in order to ensure better economic resiliency for the future of the country and all of its people.

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