



Budget Model

The Increasing Mortality Gap by Education: Differences by Race and Gender

Summary: Additional education is associated with similar reductions in mortality rates for men and women—in 2016, for example, men and women with high school degrees had mortality rates 16 percent and 14 percent lower, respectively, than those without degrees. That same year, however, the mortality advantage of completing a high school degree was 18 percentage points higher for White people than for Black people.

Introduction

We [recently showed](#) that the relationship between educational attainment and mortality has become clearer over time. For those born after 1950, each additional level of educational attainment is associated with at least an 18 percent reduction in mortality rate. For individuals born before 1950, earning a high school diploma was not clearly associated with lower age-specific mortality rates relative to those who did not complete high school.

The current post decomposes these trends in more detail and finds that these trends in education and mortality are similar between men and women, but vary for non-Hispanic White people and non-Hispanic Black people.

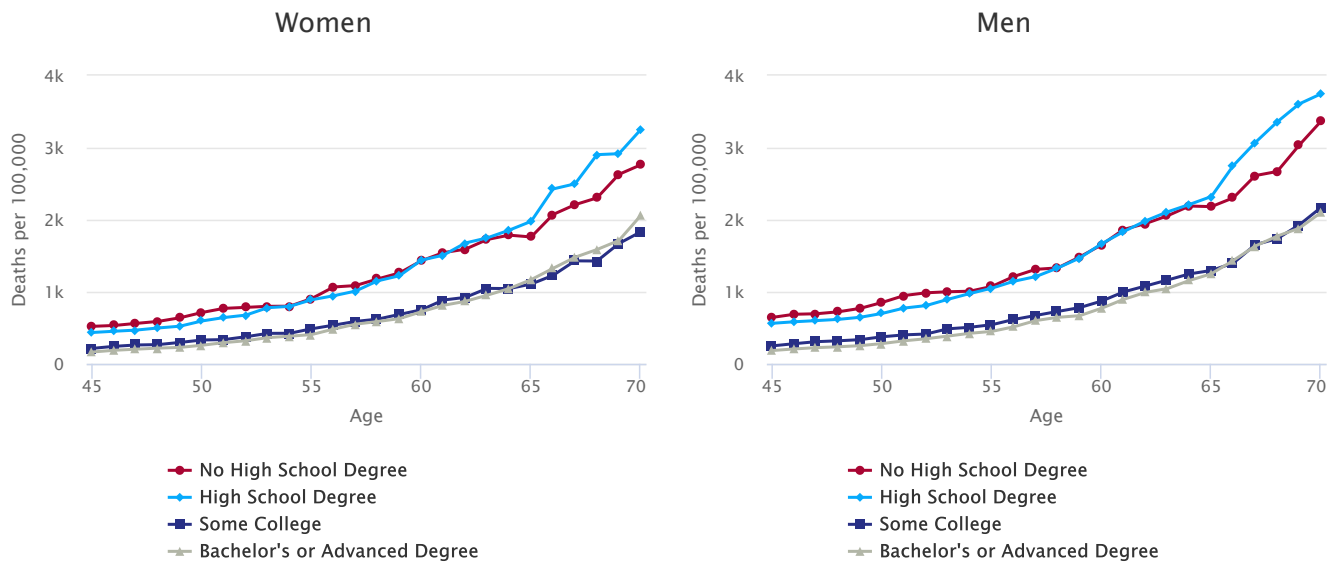
Mortality by Education Level and Gender

Figure 1 shows mortality rates for men and women aged 45-70, disaggregated into the following education levels: those with less than a high school degree, those who completed high school, those with some college (but less than a bachelor's degree), and those with a bachelor's degree or more.¹

Figure 1. Mortality rates by year and age, disaggregated by gender and education level

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At the start of the period, in 1996, there is no clear relationship between education and age-specific mortality rates. For example, while those with some college see lower mortality rates than those without, completing a college degree conveys no *additional* mortality advantage. Men and women ages 60-70 with high school degrees see mortality rates 6.9 percent and 6 percent, respectively, *higher* than those without degrees.

By the 2010s, at each age, a higher education level clearly corresponds to a lower mortality rate. In 2016, those aged 60-70 years with high school degrees saw mortality rates 12.7 percent and 13.6 percent *lower* than those without degrees for men and women, respectively.

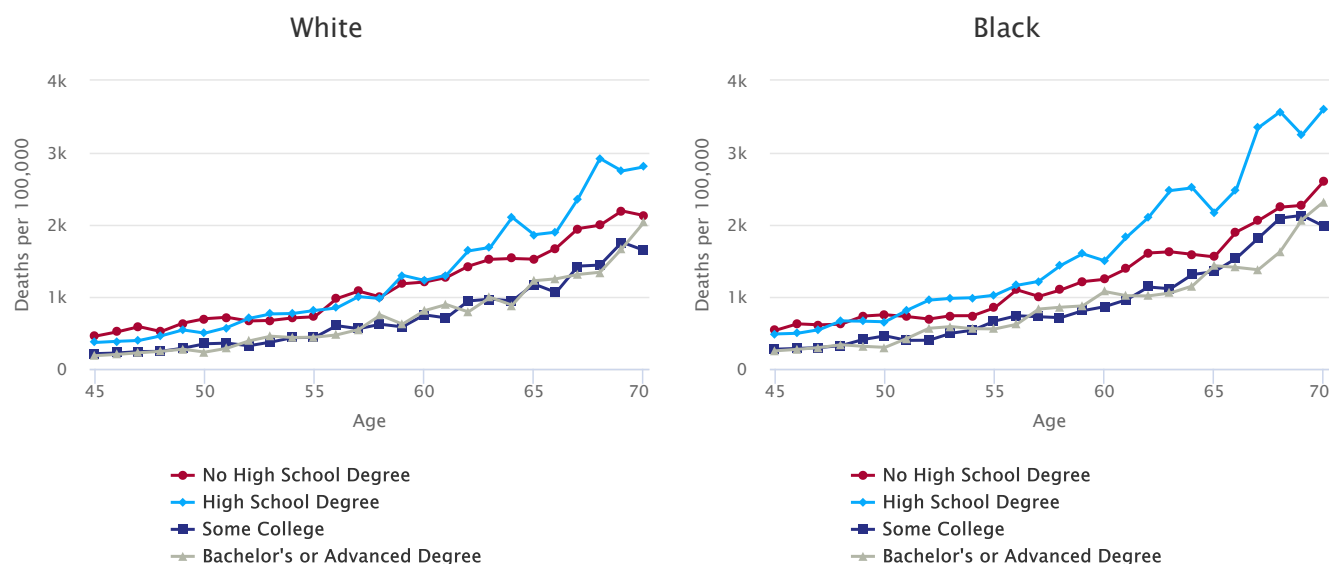
Female Mortality by Education Level and Race

Figure 2 compares age-specific mortality rates for White (left) and Black (right) women ages 45-70 over time (1996-2017), disaggregated into the same four education categories as in Figure 1. In 1996, Black women in this age group with a college degree died at a rate of 720 per 100,000 population. The mortality rate for this group declined to 475 deaths per 100,000 in 2016, but remains considerably higher than the 2016 mortality rate for White women of the same education level of 316 deaths per 100,000 population.

Figure 2. Female mortality rates by year and age, disaggregated by race and education level

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Over the years, however, overall trends in age- and education-specific mortality are similar for Black and White women aged 45-70. In 1996, for Black and White women alike, those with a high school degree faced an even *higher* mortality rate (at some ages) than those who did not complete high school. For both races, however, age-specific mortality for those without high school degrees rises over time relative to those who complete high school.

Black women, however, see less of a return to education (in mortality risk) to completing high school than White women. In 1996, Black women aged 45-70 with high school degrees died at rates 15.6 percent *higher*, in aggregate, than those without high school degrees. Meanwhile, White women of the same age group with high school degrees died at a rate 26 percent *lower* than those without high school degrees. By 2016, the longevity gains to a high school degree had increased for both races, so that those with high school degrees died at 18 percent and 45 percent *lower* rates for Black women and White women, respectively, compared to their non-high-school-completing counterparts.

For additional levels of education beyond high school, the relationship between educational attainment and increased life expectancy also strengthened over the period observed for women of both races. The average mortality rate for completion of “some college” compared to those with only a high school degree remained roughly around 35-50 percent lower over the entire period observed for both White and Black women.

In 1996, White women ages 45-70 and with at least a bachelor’s degree died at an aggregate rate 10 percent lower than those with only some college, while Black women with at least a bachelor’s degree saw an aggregate mortality rate about 1 percent *higher* than those with only some college. In 2016, the mortality rate

of those with college degrees had dropped to just 36 percent and 41 percent the rate of those with only “some college” for Black and White women, respectively.

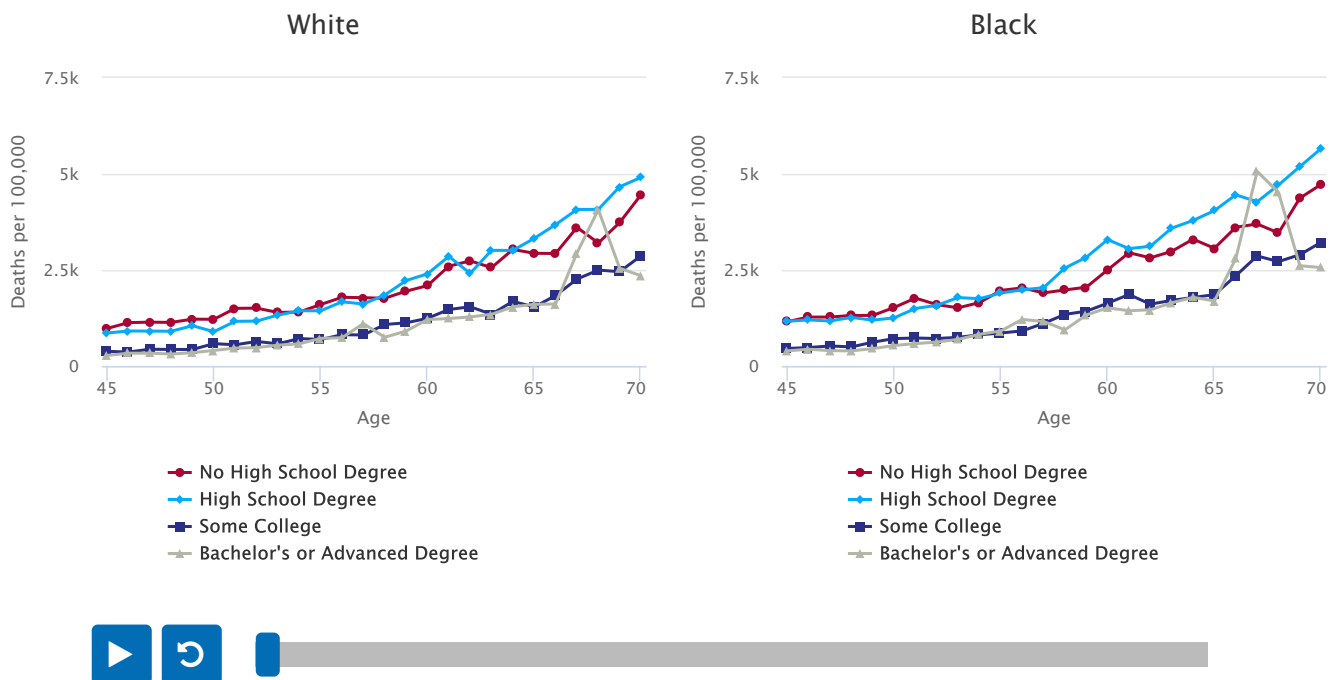
Male Mortality by Education Level and Race

Figure 3 shows age-specific mortality rates for men ages 45-70 over time (1996-2017) separately into non-Hispanic White people (left) and Black people (right), disaggregated into the same four education categories. Similar to the trends among women, Figure 3 shows that the overall relationship between educational attainment and mortality is moving in the same direction for both White and Black men alike.

Figure 3. Male mortality rates by year and age, disaggregated by race and education level

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As seen for women, the magnitude of the relationship between higher educational attainment and lower age-specific mortality is higher over the entire period observed for White men relative to Black men. In 1996, White men ages 45-70 with a high school degree faced an aggregate mortality rate 25 percent lower than their counterparts without high school degrees; meanwhile Black men with a high school degree actually saw an aggregate mortality rate 2 percent *higher* than those who had not completed high school.

While the “returns” to longevity for a high school degree increased over the 20-year period for both races, this increase was larger for Black men. From 1996 to 2016, White men ages 45-70 with high school degrees saw a 15 percentage point reduction in overall mortality compared to those without a high school degree. Over the same time period, Black men of this age group with high school degrees saw a 31 percentage-point reduction in their mortality rate relative to those without degrees.

From 1996 to 2016, among both Black and White men ages 60-70, the mortality rates of those with “some college” remained roughly 45-55 percent lower relative to just a high school degree. Compared to those with only “some college”, those with a bachelor's degree or more saw mortality rates 6.8 percent and 13.4 percent lower for Black and White men, respectively, in 1996. This mortality advantage among men with college degrees grew to 43.0 percent for Black men and 43.2 percent for White men in 2016.

This analysis was conducted by [Victoria Osorio](#), under the direction of [Richard Prisinzano](#). Prepared for the website by [Mariko Paulson](#).

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1. As in our [previous post](#), we combine CDC death records from 1996-2017 with CPS population data to construct the mortality rate of each demographic group in each year. All rates are reported as the number of deaths per 100,000 population. [↩](#)