The New York Times

Why Progressives Should Embrace the Genetics of Education

By Kathryn Paige Harden
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July 24, 2018

College education is a fault line in American society. Men who didn't graduate from college have not had real gains in wages since the 1960s, and white Americans without a college degree are increasingly dying "deaths of despair" — liver disease from alcoholism, overdoses from opioids, suicides. Now new research has found that college graduation, with all its advantages, is partly the outcome of a genetic lottery.

On Monday, scientists published a study in Nature Genetics that analyzed the genes of 1.1 million people of European ancestry, including over 300,000 23andMe customers. Over 99 percent of our DNA is identical in all humans, but researchers focused on the remaining 1 percent and found thousands of DNA variants that are correlated with educational attainment. This information can be combined into a single number, called a polygenic score. In Americans with European ancestry, just over 10 percent of people with a low polygenic score completed college, compared with 55 percent of people with a high polygenic score. This genetic disparity in college completion is as big as the disparity between rich and poor students in America.

Because researchers focused on differences within an ancestrally homogeneous group of people, their results have no implications for understanding racial disparities in education. Also, when researchers looked at African-Americans, the genetic variants only minimally predicted educational outcomes. Many more studies will need to be done before we can come close to understanding fully the role of genetics in the American education system.

But research like this makes many people nervous. Linking social inequality to DNA — isn't this eugenics? After all, the term "eugenics" was coined by Francis Galton, whose 1869 book, "Hereditary Genius," argued that British class structure was based on a biological inheritance of "eminence." In the United States, the idea that inferior genes were to blame for poverty led to state-sponsored atrocities, including forced sterilization and institutionalization.

Eugenic thinking is not safely in the past. Today, members of the "human biodiversity movement" enthusiastically tweet and blog about discoveries in molecular genetics that they mistakenly believe support the ideas that inequality is genetically determined; that policies like a more

generous welfare state are thus impotent; and that genetics confirms a racialized hierarchy of human worth.

COMMENT OF THE MOMENT

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Genetic differences are surely dwarfed by the effects of sexual and physical abuse, lack of proper nutrition, lack of intellectual stimulation in the earliest years of life, etc. And that is all rampant in the U.S., but worse elsewhere.

Genetic differences surely exist, but that is the least of the problems.

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This has led people who value social justice to argue that, when it comes to issues like education, genetic research should simply not be conducted. For instance, in response to an earlier study on the genetics of education, Dorothy Roberts, a law professor at the University of Pennsylvania, asserted that this type of research "cannot possibly be socially neutral — and in fact will intensify social inequities." She joins a long tradition of left-wing thinkers who considered biological research inimical to the goal of social equality. Lenin himself wrote that "the transfer of biological concepts into the field of the social sciences is a meaningless phrase."

But this is a mistake. Those of us who value social justice should instead be asking: How can the power of the genomic revolution be harnessed to create a more equal society?

Discovering specific DNA variants that are correlated with education can help us in two ways.

First, these genetic results reveal the injustice of our so-called meritocracy. As a nation, we justify stark inequalities with the idea that people who stayed in school deserve more than people who didn't finish high school or college — more money, more security, more health, more life.

But success in our educational system is partially a result of genetic luck. No one earned his or her DNA sequence, yet some of us are benefiting enormously from it. By showing us the links between genes and educational success, this new study reminds us that everyone should share in our national prosperity, regardless of which genetic variants he or she happens to inherit.

Second, knowing which genes are associated with educational success will help scientists understand how different environments also affect that success. The eventual development of a polygenic score that statistically predicts educational outcomes will allow researchers to control

for genetic differences between people, so that the causal effects of the environment are thrown into sharper focus. Understanding which environments cause improvements in children's ability to think and learn is necessary if we want to invest wisely in interventions that can truly make a difference.

Talking about including genetics as a variable in statistical models doesn't have the same dark allure as eugenic proposals to screen embryos or assign children to schools based on their genotypes. But the widespread use of polygenic scoring in research aiming to understand how environments shape children's lives will yield big payoffs for knowing how to maximize a child's potential. We can't change someone's genes, but we can try to change how she grows up.

Our genes shape nearly every aspect of our lives — our weight, fertility, health, life span and, yes, our intelligence and success in school. Scientists have known this for years, based on results from twin and adoption studies, but it's only recently that we have been able to measure DNA directly and use it to predict outcomes with any degree of certainty.

Genetic differences in human life are a scientific fact, like climate change. Many progressives resist acknowledging this when it comes to education, fearing that it will compromise their egalitarian beliefs. But just like acknowledging the reality of climate change is necessary to ensure a sustainably habitable planet, acknowledging the reality of genetic differences between people is a necessary step for us to ensure a more just society.

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A version of this article appears in print on July 27, 2018, on Page A19 of the New York edition with the headline: The Progressive Case for Genetic Research