INSTITUTE for RESEARCH on POVERTY
UNIVERSITY OF WISCONSIN–MADISON

Transcript for: "Genetics and the Reproduction of Poverty"
December 2014 IRP Podcast

Featuring Dalton Conley
Hosted by David Chancellor

[Chancellor] Hello, you're listening to a December 2014 podcast from the Institute for Research on Poverty at the University of Wisconsin-Madison. I'm Dave Chancellor.

For this podcast, we're going to look at how the study of genetics can potentially help us to understand intergenerational poverty and inequality. I was fortunate to catch New York University professor Dalton Conley for a few minutes during his visit to IRP this fall. Conley holds appointments in sociology, medicine, and public policy at NYU and has been among a growing group of scientists who are applying genetic or genomic findings to work that has traditionally been the domain of the social sciences. Of course, there is a lot of resistance to using genetic information to explain social behavior and, as we turn to Professor Conley, he says that this isn't at all a new debate.

[Conley] I think that heritability has always been a very controversial subject going back, really, more than 100 years to Francis Galton who was Darwin's cousin who studied IQ and also criminality, and other social phenotypes that social scientists still study today. And, Galton argued that there was a huge genetic component because he could show that it ran in families. Of course, we also know today that culture and social disadvantage and neighborhood effects run in families, too, so he was a bit premature in claiming that this was genetic inheritance that showed why kids of criminals tended to be more likely to be criminals themselves. But it certainly sparked a huge controversial debate about nature and nurture. It's been one of the oldest debates in modern sciences of humans.

But basically by the late 20th century, folks were starting to measure using twin comparisons what they thought were the genetic components of things like income and education and IQ and that reignited a vitriolic debate about how much money we earn is quote unquote due to our natural abilities.

[Chancellor] And while these twin comparison studies were perhaps the best option available to researchers looking to understand the heritability behind certain outcomes, there was still the complication that identical twins probably had environments that were more similar than those of fraternal twins. And this was a problem because it meant these studies may have been overestimating the genetic component.

But in the last few years, genetic testing has become much cheaper and researchers now have access to loads of data on actual genetic markers. But despite having all of the new data this testing provides, Conley says that researchers have become much more measured in terms of reaching conclusions about the story the data tell.

[Conley] The more responsible scientists that are engaged in this kind of work -- I would like to consider myself in that group -- today are much more cautious and much more see that the mechanisms by which genetic differences have their effects could be through social phenomena that could be easily changed and that we're not going to explain the lion's share of variance in the population in income or education by genetic effects but we're going to be able to explain some of it, probably. But again, we don't even know what those mechanisms are, so those mechanisms could be totally ameliorated by some very simple, cheap very simple policy intervention, just the way myopia is fixed by a pair of eyeglasses.

[Chancellor] One way in which Conley is trying to study the relationship between economic standing and genetics is by comparing the education levels of parents and children.

[Conley] I focus on education and not on income because it's easier to measure across countries and generally we think education is kind of the precursor to earnings today, especially in the knowledge economy. And you can measure it in parents and you can measure it in offspring pretty easily. How much education did you complete? What's your highest degree? And so, we think about the reproduction of poverty, we think about families that for generations are mired in poverty; or about who escapes and who doesn't escape poverty. One way to think about that is what is the intergenerational relationship of education of parents to education of offspring?

[Chancellor] Conley says that that relationship is a main driver in the social reproduction of inequality. So, figuring out how that relationship works, including the role of genetics and ability, might in some ways be informative in terms of what actually constitutes inequality.

[Conley] One extreme view would say that the fact that there is any correlation between parents' education and offspring's education is a sign of inequality. It really should not matter what level of education your parents got. Your own education should be of no predictive value in a fair society as to what your offspring's education is. But, another view of meritocracy and fairness is that there should be some correlation between parental and offspring education and the socially legitimate level of that is whatever the genetic component is, whatever the inheritance of innate ability is.

[Chancellor] So, as an example, let's say that the genetic lottery covers 20 percent your educational attainment. With that in mind, you could make the argument that if the correlation between parents' education and kids' education is also 20 percent, then that's fair and there's not a need for policy to intervene. But Conley says that just knowing that something is genetic doesn't tell us the full story.

[Conley] We don't know what the mechanisms are so it could be that that is discrimination based on eye color, or skin tone, or hair type, or something that's genetically based, but the

social processes by which it manifests we don't think of as legitimate, we don't think of as fair. We don't think of them as good for maximizing the general welfare of society, but they're genetic so we see this intergenerational correlation.

[Chancellor] Conley says that even if we measured this genetic component and found that all of the genetic aspects of a person's educational attainment are things we think of as legitimate in determining a person's success -- like book smarts and traits conducive to hard work, cooperation, being law abiding, and so on, Conley says this still wouldn't close the inequality debate.

[Conley] What I was interested in was what is the residual social inheritance that, controlling for the legitimate genetic inheritance, we would consider illegitimate? If the genetic component, and we considered that all legitimate, explained half of the intergenerational association in education. Well, we would say that that other 20% of variance that's explained by your parents' education, we've already factored out the biological inheritance, so it's just social inheritance, just pure advantage being given by luck or hook or crook or however your parents got to be more or less advantaged. So it's almost, by definition illegitimate in a meritocratic or efficient sense of an economy. I mean, I'm open to possibilities, to stories where it's efficient for there to be social advantage that's passed from generation to generation that's not based on any innate abilities, but I think it's a pretty hard story to spin.

[Chancellor] Conley says we can really think of the advantages or disadvantages we get from our parents in terms of genetic inputs and social inputs. And the ability to break those down has the potential to help create better-targeted policy interventions and may inform the way that social science models are built. But at the same time, there are real concerns about privacy, particularly as we think about the way genetic data informs policy directed at vulnerable populations.

Thanks to Dalton Conley for talking about this work with us. You've been listening to a podcast from the Institute for Research on Poverty.