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Transcript for “The Biosocial Links between Discrimination and African-American Health”

Featuring Bridget Goosby

Hosted by David Chancellor

In this podcast, University of Nebraska-Lincoln sociologist Bridget Goosby discusses her work on how the health of African American people may be linked to stress associated with discrimination.

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[Chancellor] Hello, you’re listening to a June 2015 podcast from the Institute for Research on Poverty at the University of Wisconsin-Madison. I’m Dave Chancellor.

For this podcast I was very fortunate to be able to talk with Bridget Goosby, who is an associate professor of sociology at the University of Nebraska-Lincoln. Goosby spent a week at IRP as a visiting scholar in March of this year and during her visit, she gave a seminar about the how the health of African American people is linked to stress associated with discrimination. Research on these links, called “biosocial links” is in some ways still very new, so I asked her to explain how she got into this kind of work.

[Goosby] I started as a researcher interested in poverty and mental health among mothers and their children and how the context of poverty impacts mental health. But, increasingly, I became more interested in the links between mental and physical health and how those things were tied together. But, then, I started really trying to understand why is it when we look at low-income populations, particularly African Americans, why can we not, after accounting for whether they lived in poor environments or not, if we were to take them out of that environment, would they still look as sick as they did when they were in that environment or would they have improvements. It was clear that income inequality doesn’t really explain all of these poor health outcomes. And, traditionally, when we talk about African American and minority health, the tendency is to focus on behaviors, health risk behaviors, access to care, poverty. But not as much on this idea of what goes on when people are experiencing discrimination and how that might get

under the skin because when people feel unfairly treated, they can then feel bad physically as well as psychologically. And so I began to become interested in understanding these links between mental and physical health and how it is that types of social exclusion like discrimination get under the skin and make people sick.

[Chancellor] If we're trying to understand how it is that a social factor like discrimination might make people physically sick, Goosby says we should think of discrimination as a type of stress.

[Goosby] Right, so we have lots of different kinds of stresses that we experience. Some from really minor things like sitting in traffic. To things like having a death in the family, which is a major stressor. But then there are these stressors that are kind of more chronic stressors that are low grade, they happen on a daily basis and they kind of keep your stress levels high. When thinking about stress, I talk about stress not just in terms of the perception of 'I feel stressed right now' but more along the lines of what is your body telling you? So, it's one thing for you to think that -- or maybe not even think -- that you're stressed. But your body may be saying something and responding in ways that are unconscious.

[Chancellor] Our bodies can respond to acute stress or danger really quickly -- this is often called the fight or flight response. And part of what happens here is that adrenaline is pumped into the bloodstream. This increases heart rate, oxygen intake, and also triggers the release of blood sugar and fats into the bloodstream. We can think of these changes as happening automatically, so that our bodies can respond to the stress or danger without us having to think about -- it's a big physiological shift that was never intended to be sustained.

[Goosby] Our bodies are not set up, evolutionarily, to deal with chronic stress where our body becomes out of whack for long periods of time. So, you end up with things like having elevated levels of blood pressure on a regular basis as opposed to just having that one increase for a few minutes when you're nervous about giving a talk or something and your blood pressure goes up. Well, this is something that if it goes on for an extended period becomes chronic and then you end up with something like hypertension, right? So, this is an example of how stress, when you're exposed to it, can lead to this kind of dysfunction in the body, thus making you more vulnerable to illness like diabetes and cardiovascular disease. That's just one example of a way in which this process can work for people who are discriminated against.

[Chancellor] But Goosby says part of the challenge of studying the biological effects of discrimination is that there's not a lot of good data out there that has good measures of discrimination, good measures of stress, and information about health and illness.

[Goosby] And so, when you don't have your own data -- I was trained as a demographer and sociologist, so I do a lot of quantitative secondary analysis, I was like 'well, I'll just go out into

the field and collect my own data'. So, my first study was in Omaha, Nebraska and that is a city that is very hypersegregated. African Americans tend to live in the northeast part of this particular urban area, so they share some similar characteristics to Chicago in terms of segregation. And so I wanted to look at early life course and how this early life course exposure to discrimination among kids and their parents -- looking at kids between the ages of 10 and 14, through health fairs. When collecting this data, one of the things that stuck out was that I found that the kids between the ages of 10 and 14 were experiencing high levels of discrimination and this was associated with levels of systemic inflammation in their bodies and higher levels of blood pressure. These are kids 10 to 14 -- that's a very early age to see cardiovascular disease risk and it's actually incredibly alarming. From that I began to wonder would we see similar patterns of this if we looked at kids who were not in racially segregated environments, in environments where they are going to have more interactions with people who don't look like them and the with the majority group.

[Chancellor] So, Goosby scaled the project up and she's now working with a team of colleagues at the University of Nebraska and at the University of Michigan, Princeton, and University of Washington. They scaled the study up to Lincoln, Nebraska. Lincoln's an hour away from Omaha, but it's a lot less diverse. Goosby says that about only 3 percent of the population is African American and there are more biracial kids with one African American parent than there are African American kids.

[Goosby] So we collected data on survey screeners on a bunch of African American, Caucasian, and biracial children between the ages of 11 and 15 and a parent and what we found is that patterns are very similar. So that African American kids and biracial kids, are reporting high rates of discrimination. And they are also reporting, when we talk about discrimination, that's related to their complaints about somatic complaints, which are headaches, nausea, things like that. It's also related to their feelings of social isolation, so we see these patterns that are emerging in that population and we're pulling in a subsample to come onto campus where we're going to be measuring, really interesting, we're going to be measuring things about their racial identity, we're asking them to do implicit racial bias tests so we can measure among the parents and the kids, all of these families in our subsample, about whether they internalize racist attitudes about African Americans. And then we're collecting biological specimens so we'll be able to look at things like accelerated aging and things like stress and precursors to diabetes. So it's really scaling up, but trying to get at how early are seeing these kinds of experiences happening and are they really affecting kids' biology that early, and what it means for them and their parents' interactions.

[Chancellor] While Goosby and her colleagues are studying the biological effects of discrimination on children, she is also interested in research that may point to this same type of discrimination affecting African American birth outcomes.

[Goosby] That's a relatively new area in terms of the challenges of being able to measure how people were discriminated against while they were pregnant. Is this related then to their risk of having low birth weight or high levels of infant mortality? The reason why this has become an increasing issue is because African American women are the most vulnerable to having low birth weight births and having a child die post birth within the first year of life. The argument is, particularly when you account again for education and income status, African American women are still disproportionately more likely to have a low birth weight birth or experience infant mortality. Research has been done by a bioanthropologist named Chris Kazowa. He argues that part of it is biological memory. So, African American women are exposed to discrimination chronically as a part of everyday life. And so with this chronic stress, this can actually get under the skin, not only altering her own ability to manage her stress physiologically, but can also alter the stress response of her offspring in utero. And so this is a really troubling, and it's one of those things that we still don't know much about, but it's a process that can potentially -- if physiologically the body is altered, it makes sense that it could actually alter the fetal environment as well. And so that's one of those things that I can't really measure. But what I can measure is family dynamics once the child is in the home and how that relates to the parents' responses to stress and discrimination and also the child's response to discrimination and how they cope together and what that can actually do. The feedback loop that might begin to happen for kids and parents who are experiencing discrimination.

[Chancellor] Part of this feedback loop may be occurring through epigenetics which, put really simply, is when signals from the outside world can change the way genes are expressed and how they code the cells in our bodies. This matters, because when we think about things like discrimination or poverty, it further emphasizes the importance of the "nurture" or environmental component. So, I asked Professor Goosby to tell us about how this works.

[Goosby] There's this growing understanding that this idea of gene expression becomes really important because we tend to think of genes as something that are stagnant, that don't change. But genes are expressing all the time, all over our bodies. And in terms of gene expression, a lot the gene expression that is happening is happening in the brain. We may all carry genes that are related to some sort of susceptibility or not. But certain kinds of interenvironmental interactions that can occur might lead to a gene expressing as opposed to not expressing. So, for example, African Americans, there's a difference in terms of stress related responses, but maybe African Americans are more likely to carry certain genes that are related to obesity. Those genes don't have to actually express, right? But the way that they may end up expressing is ending up in a chronically stressful home environment, having some sort of noxious conditions happening in the home environment, or happening at school, or any number of the constellation of risk factors that can lead to an expression of genes that are related to risk of something like heart disease, diabetes, or something like that. That's not to say that other groups don't have those same

genetic imprints, it's that for this particular group, it's more likely to express because of the environment that they're in. That's a more basic understanding, it's much more complicated than that, but I'll leave that to the experts to explain more of the detail of that.

[Chancellor] Some of what this suggests is that there needs to be a lot of nuance in disentangling genetic and environmental factors, or nature and nurture. Goosby made this point in a 2013 paper, in which she discussed a Huffington Post article with the title "Exercise not as beneficial for black girls as whites, study says". The study, from 2012 by James White and Russell Jago, that found that among white girls, higher levels of physical activity at age 12 were associated with lower levels of obesity at age 14, but for black girls, more exercise at age 12 didn't seem to be associated with much difference in terms of later obesity.

[Goosby] And their argument was 'well, African American girls just don't metabolize in the same way so we need to make adjustments.' The problem with that assumption is that it assumes inherent difference between these two race and ethnic groups. Which, ultimately, I would argue that it's not the inherent difference within African American girls, it's about the environments that shape their physiology that makes them more resistant to this kind of treatment. So, shaping the environment, being the kind of chronic stress that their mothers might have been under while they were in utero. The chronic stress that these girls might experience, even though they might be middle class -- middle class status doesn't afford the same health protections for African American girls that it does for Caucasian girls. African American girls are more likely to experience discriminatory patterns of behavior towards them in school and social interactions so there's a myriad of stressors, and I talk about how stress gets under the skin -- how that can get under the skin and exacerbate these kinds of differences. So the race differences in health that we see are shaped by the environment and the interaction between a person's human biology and the environment that they live in. And so, that's the biggest critique I have is that this particular article did not even acknowledge that there might even be qualitatively different experiences that African American girls are having that help to shape their physiology relative to Caucasian girls.

[Chancellor] I asked Prof. Goosby, if research actually finds that these racial differences in health are indeed being shaped by factors related to discrimination, what are we to do with that information?

[Goosby] That's a big question. Well, first acknowledging that stress and the experience of stress differs for different groups of people. One of the things, though, that becomes a challenge when we talk about discrimination specifically and the health of marginalized groups is, one, acknowledging that there are these different actors who are engaging in the discriminatory behavior and, two, figuring out how we can intervene to help people respond when these kind of experiences happen. And so, because it can be so subconscious, having the interaction and spending time going, 'well, why did this happen to me?' Was it because, this person was having

a bad day or was it because I'm black? These kinds of issues and these challenges are something that are part of the daily lives of many people, not just African Americans which is the group I study, but sexual minorities might have this issue, women in certain cases might have this issue across the board. And so figuring out how we can begin to intervene on a level of helping with healthy coping but also acknowledging the systemic kind of inundation of racism throughout all of these different aspects and walks of life because, and I'll talk more about this in my talk, Reskin, Barbara Reskin, wrote a great review piece in the *Annual Review of Sociology* in 2012 about racism as a system and so it's system-wide. And she calls this uber-discrimination or this epiphenomenon because it infiltrates all different parts of our lives, including, it informs neighborhood discrimination, it informs the way policies are implemented, how the police engage African Americans, how people -- whether they can get jobs, right? So there are these multiple layers, multiple factors that interact with one another to create halted life chances basically -- and challenges for African Americans on all of these different dimensions. So, until we start really recognizing and acknowledging and clearly the racial climate is such that we're seeing a lot more overt racism, thinking about what that actually does to an entire population when you see even up to the political level, directly targeting this population. And we could see this also being the case for immigrants, particularly from Central and South America, experiencing these kinds of things -- people from the Middle East, a Middle Eastern heritage, right? So we've got this system wide problem that we have to try to address, which seems pretty daunting, but the first step is really acknowledging that this is an issue and that this can be a source of not just health problems but, like I said, challenges for just overall life chances for people over the course of their lives.

[Chancellor] I want to thank Bridget Goosby for sharing her work with us. You've been listening to a podcast from the Institute for Research on Poverty.