

“Weathering”

Race/Class and the Science of Health

SECTION ONE

Making the Case that Discrimination is Bad for Your Health

January 14, 2018 By Gene Demby

SOURCE: <https://www.npr.org/sections/codeswitch/2018/01/14/577664626/making-the-case-that-discrimination-is-bad-for-your-health>

When Arline Geronimus was a student at Princeton University in the late 1970s, she worked a part-time job at a school for pregnant teenagers in Trenton, N.J. She quickly noticed that the teenagers at that part-time job were suffering from chronic health conditions that her whiter, better-off Princeton classmates rarely experienced. Geronimus began to wonder: how much of the health problems that the young mothers in Trenton experienced were caused by the stresses of their environment?

It was later, during her graduate studies, that Geronimus came up with the term *weathering* — a metaphor, she thought, for what she saw happening to their bodies. She meant for *weathering* to evoke a sense of erosion by constant stress. But also, importantly, the ways that marginalized people and their communities coped with the drumbeat of big and small stressors that marked their lives.

At first, lots of folks in academic circles rolled their eyes at her coinage, arguing on panels and in newspapers that poor, black communities had worse health outcomes than better-off white communities because of unhealthy life choices, and immutable genetic differences. But as the science around genetics and stress physiology became better understood, Geronimus' "weathering" hypothesis started picking up steam in wider circles.

We spoke to Geronimus, now a public health researcher and professor at the University of Michigan's Population Studies Center, on [the latest episode of the Code Switch podcast](#) about how weathering works, and why it took so long for people to come around to what Geronimus and other public health professionals had been saying for years. [This interview was edited for clarity and length.]

CS: Can we get into the science of weathering a little bit?

AG: There have been folk notions and laypeople have thought that health differences between populations — such as black versus white in the U.S. — were somehow related to differences in our DNA, that we were, in a sense, molecularly programmed to have this disease or that disease. But instead, social and environmental factors, can through what's called [DNA methylation](#), which occurs — I don't know how technical you want to get — but that occurs when a group of molecules attach methyl groups to specific areas of a gene's promoter region, and either prevent the reading of certain genes and sort of forms the gene's product, and you have genetic expression of that gene. That's a pretty powerful idea, and it sort of refutes the kind of more DNA-centric one, that you are destined by the literal DNA you have to have certain diseases or not.

But what I've seen over the years of my research and lifetime is that the stressors that impact people of color are chronic and repeated through their whole life course, and in fact may even be at their height in the young adult-through-middle-adult ages rather than in early life. And that increases a general health vulnerability — which is what weathering is.

I heard an interview with Emerald Snipes Garner, who was talking about [the death of her beloved sister Erica](#). She used a metaphor that I think would also be a great description of weathering. She talked about the stresses that she felt led to Erica's death at age twenty-seven as being like if you're playing the game Jenga. They pull out one piece at a time, at a time, and another piece and another piece, until you sort of collapse. I'm paraphrasing her, but I thought that Jenga metaphor was very apt because you start losing pieces of your health and well-being, but you still try to go on as long as you can. Even if you're disabled, even if it's hard, that you have a certain tenacity and hope, and sense of collective responsibility whether that's for your family or community. But there's a point where enough pieces have been pulled out of you, that you can no longer withstand, and you collapse.

CS: When you coined the term *weathering*, there was a lot of pushback. Where was the locus of that pushback?

AG: There were actually several loci. Many in the medical community really seemed to think that there was just something intrinsic or genetic: that black-white differences in health must be [caused] by some hypertension gene. Or if it wasn't a literal gene back in Africa, then maybe something about how hard the [Middle Passage](#) was, that [people who survived it had this gene for salt retention](#). It's been very well debunked both on anthropological grounds but also on if you compare hypertension rates, for example, between American blacks and blacks in the Caribbean. The American blacks have far higher rates of hypertension, yet both [populations] went through the Middle Passage.

Others didn't necessarily think in those terms, economists were thinking more behaviorally and sociologists sensed that there was an essential pathological culture that led to bad behaviors and weak families. And that was a very strong narrative in the '70s, '80s, and I think it's a narrative that still exists [today], though more contested.

So this idea of weathering, and its metaphysical aspects, didn't sound technical enough, and it didn't fit any of those narratives.

GD: What was that like for you when people were dismissing your work?

AG: It was not fun! [laughs] It was very hard especially because some of them dismissed it very publicly. Another reason people dismissed it is that I first observed that young black women were more likely to have poor pregnancy outcomes if they were in their mid-twenties than if they were in their late teens. And this flew in the face of a lot of advocacy organizations that were working very hard to prevent teen childbearing. I think there was [a Time magazine](#) cover at one point that said, something like, "all social problems stem from teen childbearing." [*The cover story's subhead read: "Teen pregnancies are corroding America's social fabric."* — ed.] There was certainly a whole narrative that teen motherhood somehow caused perpetual poverty, lack of education, and poor birth outcomes. [But] the data spoke for themselves — that the risks were higher in black young women the later they waited to have children, and that was not true for whites. Whites, by comparison, had the lowest risks around their mid-twenties and the highest risk in their teens.

GD: And the rates were higher because the black women who waited just a few years later were more weathered.

AG: Exactly. The impacts on their bodies had been happening for a longer period of time.

So when did this concept of weathering start to gain more traction?

AG: It's been two steps forward, one step back rather than there being a time when it gained traction. It was a hypothesis for me at first and then I started with colleagues doing studies to test it. As the years went by, we had more and more studies that seemed to be consistent with it.

In addition, I think the idea of stress — and not just, "I feel so stressed" but this broader sense of stress actually being this physiological process that impacts your health, or the strength of your various body systems — that became better understood sort of in the '90s. A variety of neuro- endocrinologists at Rockefeller University, and [Robert Sapolsky at Stanford](#) talked about these stress reactions, what they do to your body and how they happen.

And I don't want to sound cynical, but because it was about physiological reactions in human beings, discovered by, you know, two men — it was many more men, and it was women, too, but the two people who got, I think the most credit, and deservedly, were men who were lab scientists — it had more credibility in our society than talking about *weathering* and lived experience and racism.

GD: I want to go back to your Jenga metaphor. If weathering is this process by which the blocks are pulled away and your health becomes more and more tenuous, is there any way to put the blocks back?

AG: It's hard to say. I certainly don't believe that there isn't anything that can be done. One thing that can be done and is done — and this benefits in particular people who are weathered but in the middle class or more highly educated — is access to healthcare. So you may be hypertensive from weathering but if you have good access to healthcare, you get diagnosed early, you get it treated. You learn what you need to do with your diet to make it a little less likely to turn into its more pernicious and life-threatening form. We've seen evidence, in some of our studies where we've compared blacks in very high-poverty areas to blacks in more middle-class neighborhoods, and what we've seen is that those in the higher-class neighborhoods do have much longer life expectancy than those in the poor neighborhoods. But they spend most of that extra life with chronic conditions and possibly disabled. Or, with a variety of morbidities than whites with the same incomes and educations, living in the same neighborhoods. So certainly, having a longer life expectancy and averting death and averting hypertension, or diabetes, or their complications are good things. But without dealing with the kind of more structurally rooted factors that lead to weathering across class, we're not going to end weathering.

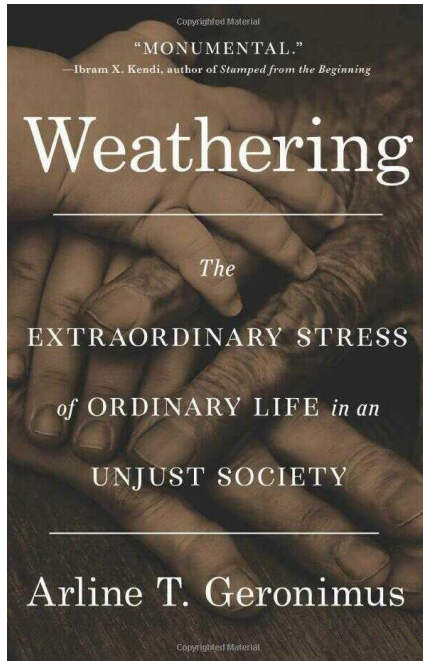
SECTION TWO

How poverty and racism 'weather' the body, accelerating aging and disease

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SOURCE: <https://www.npr.org/sections/health-shots/2023/03/28/1166404485/weathering-arline-geronimus-poverty-racism-stress-health>

In 2020, the overall life expectancy in the U.S. [dropped by 1.5 years](#), largely due to the COVID-19 pandemic. But the reduction wasn't shared equally among the general population; Native American people lost an average of [4.5 years of life expectancy](#); Black and Hispanic people lost, on average, 3 years, while white people lost only 1.2 years.



This figure tracks with other health trends: In general, Black and Hispanic people and those living in poverty in the U.S. have worse health outcomes — more [high blood pressure](#), higher rates of [diabetes](#) and increased [maternal and infant mortality](#) — than the overall population.

Public health researcher [Arline Geronimus](#) from the University of Michigan says the traditional belief that the disparities are due to genetics, diet and exercise don't explain data that's accumulated over the years. Instead, she makes the case that marginalized people suffer nearly constant stress from living with poverty and discrimination, which damages their bodies at the cellular level and leads to increasingly serious health problems over time.

Geronimus coined a term for this chronic stress — [she calls it "weathering."](#) which, she says, "literally wears down your heart, your arteries, your neuroendocrine systems, ... all your body systems so that in effect, you become chronologically old at a young age." She writes about the phenomenon in her new book, *Weathering: The Extraordinary Stress of Ordinary Life in an Unjust Society*.

Geronimus' theories drew criticism when she first promoted them in the 1990s. But in recent years, her work has generated a wealth of support. She says weathering helps explain why Black women who give birth in their 20s have more complications than those who become mothers in their teens. The older women had endured the stress of their difficult living conditions longer, she says, and thus had suffered more damage to their health.

"It's not that every Black person has more damage than every white person," she says. "It's really about how much stress versus social support you get in your everyday life. ... Because African Americans and low-income Americans are more likely to suffer more of these stressors, they are more likely to be weathered, weathered severely and weathered at younger ages."

Interview Highlights

On how the body's natural stress response can lead to weathering

Human bodies have evolved, and the reason we haven't gone extinct yet is because when we're faced with an acute, life-threatening challenge, our body automatically activates this release of hormones. And what those hormones do as they flood your body is they increase your heart rate. They increase your breathing rate. They propel oxygenated blood to your large muscles quickly. ... They galvanize fats and sugars from your storage areas of your body into the bloodstream to provide energy towards that ability to fight or flee. ...

That process, when you're fighting or running from the cheetah, is a wonderful adaptive process that is designed to last about three minutes. ...

The problem in the modern world is ... a lot of [stress] is simply everyday life: Coming home after night shift work and having to stay wide awake and vigilant so you don't forget to get off your bus for the next bus to go home. Trying to get your kids up for school at five in the morning so you can also get to work. ... This means that the stress hormones are chronically flooding your body. The fats and sugars that you catapulted into your bloodstream for energy are constantly flooding your body.

It means your heart rate is up, [and] like any other over-exercised muscle, you'll start to get an enlarged heart. You'll start to get hypertension from pushing so much blood through certain arteries and veins to get your heart rate going and your breathing going. If you were pregnant, you might lose your baby, because it's actually probably more adaptive if you're in fight or flight to not be carrying a baby. But even if you don't lose the baby, you'll shunt nutrients away from it because they can't be spent on the growing baby. And so your baby may be born low birth weight or growth retarded because it hasn't been well nourished in the womb.

On why middle- and upper-class "stress" isn't the same

[More affluent people] can take vacations. They can hire people to do their housework or even order their food to be delivered. It's not a relentless day in, day out. They still have many choices. They still have time to relax. They're not dealing with the stereotypical racism aspect that also can activate this process. So the problem is "stress" is this very diffuse term. And we think of it as something you can just meditate your way out of or take a vacation or a break. Many people in our country can't even take a break during working hours.

On improving maternal mortality rate

Maternal mortality still keeps going up. ... But I think more and more people are understanding that systematic racism in the medical care system is part of the problem. There are ways around it, whether those ways are having birth attendants who are doulas or midwives, rather than physicians; having your birth at home. Ways where you will be less stressed during and feel safer during the birth can make a difference. But at this point we don't have enough midwives or doulas or maternity-care providers at all. We have about one maternity-care provider per 15,000 births, and that's not spread evenly over the country. ... So we also have to do things that get more people trained, and trained not just as OB-GYNs but as midwives and doulas.

On studying why Latin American immigrants, such as those from Mexico, have worsening health the longer they're in the U.S.

You're a fish out of water. If you've been raised in an immigrant family from Mexico, and then you're moving into predominantly white, American, affluent and well-educated communities and institutions, ... where you don't share the same assumptions or background, where the people you're working with don't appreciate all you've been through, where you're having to always be on your guard and manage how you portray yourself or present yourself to try and not fulfill stereotypes that you think people you're working with or going to school with might have about you.

And that means you're at a certain level of vigilance and looking for cues everywhere of whether you belong, whether you're welcome, whether you're going to be subject to what many people call microaggressions. ... Those experiences themselves can cause weathering.

On how social mobility of minorities doesn't mean less stress

[Our health is] an indicator of ... the context that we live in, of a society that is racist, oppressive, class conscious. ... We won't solve health inequalities between Blacks and whites or Latinx and whites or other groups simply by getting people more education or higher incomes. This chronic stress arousal is more likely in those kinds of unsupportive environments than ... the more supportive environments, if you stick with your own group. Weathering is not against social mobility, it's not for segregation, it's for non-erasure. It's for seeing and recognizing what is really happening, and what it does to you biologically, and realizing if we want to eliminate health disparities or promote health equity, we have to attend to what's happening in these different settings.

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