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Anatomy Does Not Determine Gender, Experts Say

By Denise Grady

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Defining gender as a condition determined strictly by a person's genitals is based on a notion that doctors and scientists abandoned long ago as oversimplified and often medically meaningless.

Researchers who have studied gender issues and provided health care to people who do not fit the typical M/F pigeonholes said that the Trump administration's latest plan to define gender goes beyond the limits of scientific knowledge.

"The idea that a person's sex is determined by their anatomy at birth is not true, and we've known that it's not true for decades," said Dr. Joshua D. Safer, an endocrinologist and executive director of the Center for Transgender Medicine and Surgery at Mount Sinai Health System in New York. He is also president of the United States Professional Association of Transgender Health.

But exactly what does determine gender identity — a person's powerful, core knowledge of who they are — is not so clear.

"We know that there is a significant, durable biological underpinning to gender identity," Dr. Safer said. "What we don't know are all of the biological factors at play that explain gender identity. As far as we in the mainstream biological-medical community understand it in 2018, it is hard-wired, it is biological, it is not entirely hormonal, and we do not have identified genes, so we cannot specifically say it is genetic."

Are genes a factor?

Genetics does play a role, though. In studies of twins, if one is transgender, the other is far more likely to also be transgender if they are identical, rather than fraternal twins. Identical twins are near matches, genetically; fraternal ones are not. The findings are similar for twins who have Type 1 diabetes, which is known to have a strong genetic component.

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The Trump administration's proposal, outlined in a memo by the Health and Human Services Department, would establish a legal definition of sex under Title IX, the federal civil rights law that bans gender discrimination in education programs that receive government financial assistance. The change would eliminate protections afforded transgender people under the Obama administration.

The agency's proposed definition would be determined by the genitals that a person is born with, according to a draft reviewed by The New York Times. Whatever is on the birth certificate defines gender, "unless rebutted by reliable genetic evidence," according to the memo.

But what would constitute reliable evidence?

It may be hard to find.

"We don't know genes for everything that we've identified medically," Dr. Safer said. "We just don't have such sophisticated understanding of many medical processes, not even about sex."

How to define identity

Researchers say gender identity comes from the brain, not the body. Some put it more bluntly: It originates between your ears, not between your legs. But the forces that acted on the brain to shape that identity are not understood, and physical or chemical differences in the brain that might relate to gender have not been well defined.

No one knows for sure why body and mind sometimes do not match. But being transgender is not a matter of choice, Dr. Safer said. It is not a fad or a whim. For transgender people, it is generally an overwhelming sense that their gender is not the one on their birth certificate. And gender is not about whom they're attracted to — it's about who they are.

Distress over the mind-body mismatch can become especially intense around puberty, and the risk of suicide shoots up for young people in this situation. Mainstream medicine has begun to recognize how serious an issue it is: Last month, the American Academy of Pediatrics issued its first-ever policy statement regarding care for transgender children and adolescents, and those who are "gender-diverse," or non-binary, meaning they are neither clearly male or female.

The pediatric statement urged a "gender-affirming approach," which translates as respecting and supporting children, even young ones, in "their self-expressed identity." The society also noted that transgender young people "have high rates of depression, anxiety, eating disorders, substance use, self-harm and suicide."

Last year, the Endocrine Society — the professional group for experts in the glands and organs that produce hormones — issued guidelines for treating transgender people. They said gender identity was biologically based, and urged federal and private insurers to cover medical needs related to it for transgender people.

It's not as simple as X and Y

Apart from transgender issues, other conditions make it clear that defining male and female is not so simple. For instance, there are people with XY chromosomes — which makes them genetically male — who look, act and feel like women because their bodies cannot react to male hormones.

In other cases, some women with a condition that exposed them to high levels of testosterone before birth identify as male — but many more with the same condition do not.

Some of the most compelling evidence for the idea of gender identity being hard-wired into the brain comes from medical reports on people who were born in the 1950s and 1960s with birth defects involving their genitals. Doctors thought the humane solution, to spare such children from being ostracized, was to perform surgery to make them one sex or the other.

Since it is easier for surgeons to make a vagina than a penis, most of these babies were made female. Their parents were advised to raise them as girls and never to tell them about their condition at birth. The general belief was that their upbringing — a triumph of nurture over nature — would make them truly female.

The idea was a failure. As they matured, many had a clear sense that they were male. According to a study of 16 of them, more than half wound up identifying as male.

“Considering the fact that you can brainwash some people about just about anything, failing with so many is catastrophic,” Dr. Safer said in an email.

Of all the information on gender identity, he said that to medical experts, the studies on those cases provide the strongest evidence that gender identity has deep biological roots.

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