

Editorial

Testing our Assumptions for Women's Health

The election of Donald Trump to the Presidency of the United States resulted in serious consequences for science, including the cancellation of more than 1700 active research grants by the National Institutes of Health (NIH). Each of the NIH's institutes and centers were ordered to create guidelines to determine which projects should be funded or not funded. For example, the National Institute of Diabetes and Digestive and Kidney Diseases banned the study of specific groups of people defined by race, religion, or sex (Reardon, 2025). Lists of keywords used to target problematic grants across the NIH include “female,” “women,” and “sex” (PEN America, 2025). The new guidelines are being challenged in federal courts, but the final outcome is not yet certain. In the meantime, it feels like we are turning back the clock with regard to women's health.

My thoughts are specific to this moment in the history of one country, but the situation provides an opportunity to think more broadly about what we assume to be true. Humans frequently make decisions with limited information, and we have evolved cognitive mechanisms to help fill the gaps in our knowledge (Boyer, 2001). It is quick and cheap to assume, for example, that sex does not matter in studies of human health. However, the simple statement “sex does not matter” is not just ideological. “Sex does not matter” is a testable null hypothesis. In fact, many of our assumptions are hypotheses that can be tested and supported or rejected.

Science is not a perfect process and, as Marcia McNutt, current president of the National Academy of Sciences, points out, “science cannot dictate what people should value.” However, “science is the best – arguably the only – approach humankind has developed ... to project the outcomes of various possible decisions using the known laws of the natural world” (McNutt, 2024:707). The foundation of science is systematic observation. Observations and the questions that arise from those observations are the basis for identifying and solving problems. Sometimes we need to challenge our facile assumptions, and to do that we need to use our collected data to reject or support hypotheses. Rejecting a hypothesis is not a “loss” and supporting a hypothesis is not a “win.” But this imperfect process is the scientific method which results in “an ever-expanding knowledge base” built from measurable and repeatable observations (Larsen, 2025).

Sex is an observation, a unit of analysis, and a consequential variable in relation to human health. There are sex differences in the prevalence, severity, and outcomes of various

diseases, and in the signs and symptoms associated with chronic conditions (Pinn, 2003). Recognizing sex differences eventually led to the NIH Revitalization Act of 1993 which established guidelines for the inclusion of women in clinical research (Liu and DiPietro Mager, 2016). Prior to this, women of child-bearing potential were banned from participating in early phase clinical research.

In the testing of pharmaceuticals, the scientific method is used, as McNutt (2024) states, to “project the outcomes of various possible decisions” with regard to appropriate medication and dose. Observation, data collection, and analyses are needed to identify sex differences in drug pharmacokinetics and/or pharmacodynamics. One might think that, with the NIH Revitalization Act of 1993, sex would always be included as a variable in clinical research. But that is not necessarily true, particularly during times of crisis. Brady *et al.* (2021) reviewed 4420 COVID-19 studies from ClinicalTrials.gov and found that only 21% mentioned sex/gender in the recruiting statements and only 4% gave a plan to include sex/gender as an analytical variable. In published randomized control trials, only 9% adjusted analyses for sex/gender and only 18% reported sex-disaggregated analyses.

Perhaps it was assumed by the many investigators that sex did not matter. However, as Brady *et al.* (2021) review, there was an impact of sex on the clinical presentation of COVID-19 as well as on the severity of the disease, and the side effects from treatments and vaccines were higher among women. Not addressing sex resulted in a missed opportunity “to reduce inequality in healthcare, promote preventative action and modulate the course of the infection” (Brady *et al.*, 2021:2). Many investigators assumed that sex did not matter, but they could have easily tested that assumption by framing it as a hypothesis.

There is an assumption implicit in every question we ask. As anthropologists we need to recognize the presence of hypotheses that can be tested with careful observation. For example, we can hypothesize an association between positive menstrual hygiene management practices and lower school absenteeism among adolescent girls in West Bengal (Banerjee *et al.*, 2024); we can hypothesize the direction of the relationship between socioeconomic factors and nutritional status among women of the Kamrup (rural) district, Assam (Ahmed and Sarmah, 2024); or we can hypothesize that working mothers are able to negotiate control over their children's after-school activities in Odisha (Bhattacharya, 2024). These hypotheses can be supported or refuted, in the same way that we need to hypothesize and test how sex matters in studies of human health. As anthropologists, we need to test hypotheses because the scientific method gives us power and credibility.

Right now, in the U.S., anthropologists are negatively affected by the vagaries of funding agencies. In part, this is because of our embrace of human variation, whether in relation to climate, culture, socioeconomic status, sex, or gender. We are also in a unique position to ask

why a strong federal government would fear the testing of hypotheses related to “female,” “women,” and “sex.” It is imperative that we continue to carry out the necessary research related to women's health. We do not want to turn back the clock to a time when women were not included in studies of health, medication, and well-being, as if sex does not matter.

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