

Racial Classification in Medical Science

Lesson prepared by Thomas Meagher

Introduction

This lesson is intended to introduce students to some of the problems that the use of racial classifications in medical science raises. Since everyday racial terms do not have a grounding in rigorous natural science, medical science that uses racial categories to drawing conclusions about biological differences between different study populations poses both epistemological and ethical concerns. The purpose of this lesson is to help students understand that though medical science studies natural scientific elements of human life, it does so in the context of social realities that complicate its abilities to draw natural scientific conclusions from data that is never purely natural scientific.

This lesson package includes a nine-minute video presentation that introduces students to a philosophical way of distinguishing natural sciences from social sciences. It then explores complications for medical science that arise from its data deriving from context that are neither purely natural nor purely social. It uses two examples—race-adjusted hemoglobin cutoffs for diagnosing anemia and race-normed cognitive testing—to illustrate the problem, with a particular focus on the way that conflating natural and social dimensions of race may prompt confusing correlation for causation. It concludes by suggesting the need for medical science to exercise caution in taking findings about race as bases for drawing conclusions about biological differences, especially since such findings might occlude significant biological diversity *within* racial categories.

In teaching this lesson, it is hoped that students will gain a deeper perspective on pitfalls and dangers of the use of social categories in science that is used to draw natural scientific conclusions. It is further hoped that giving students a sense of how supplementing their studies in natural sciences with studies in the social sciences and humanities, as well as with developing critical thinking skills. The in-class activities below are suggested in this spirit. Prompting students to discuss other possible examples of how failing to properly understand the different social contexts of patients and study will help them think critically about this topic.

For courses where students study principles of data interpretation, this lesson would work well paired with discussions of specific principles that may have been violated by medical researchers in arriving at conclusions about how to use race-adjusted values in medical practice. Likewise, in courses where students examine case studies of where scientific studies go wrong, this lesson can fruitfully be paired with other case studies that are more established in the curriculum. For courses in the social sciences, this lesson can help give students a sense of the importance and impact of social scientific rigor in improving medical science and practice, as well as to reinforce ideas about how social science relates to the study of race critically through the examination of what is meaningful to human communities.

Two accessible short readings are suggested below as possible assigned readings, which focus on the two primary examples covered in the video (race-based hemoglobin cutoff levels and race-normed cognitive testing). Students who have read these will have a better sense of the issues raised in the video, though the video should work whether or not students are already familiar with these cases. For more advanced courses and/or courses seeking to expand around this lesson, other of the suggested background readings listed below may be suitable as assigned readings for students.

Learning Outcomes:

At the end of the lesson, students should be able to:

- Distinguish between conceptualizing race as a socioeconomic factor from conceptualizing it as a biological factor in health tendencies, risks, and outcomes.
- Identify research findings that may be suspect because they blur lines between race's social and biological dimensions.

Suggested In-Class Activities

- Have students discuss ways race can produce disparate health outcomes and theorize ways researchers might mistakenly regard these as reflecting biological differences
- Have students brainstorm ways in which expanding social scientific knowledge would improve medical research
- Have students suggest and evaluate ethical issues raised by the use of racial categories in medical research
- Have students suggest and evaluate ethical issues raised by the use of racial classifications in medical practice

Suggestions for Assigned Readings:

Katherine L. Possin, Elena Tsoy, and Charles C. Windon. "Perils of Race-Based Norms in Cognitive Testing: The Case of Former NFL Players." *JAMA Neurology* (author manuscript), April 1, 2022. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8218717/>

Michele Cohen Marill. "Rethinking Race in Medicine: ACOG Removes a Race-Based Cutoff For Anemia in Pregnancy." *Health Affairs Forefront*, August 19, 2021. <https://www.healthaffairs.org/content/forefront/rethinking-race-medicine-acog-removes-race-based-cutoff-anemia-pregnancy> (doi: [10.1377/forefront.20210816.198602](https://doi.org/10.1377/forefront.20210816.198602)).

Suggestions for Background Readings:

Rebecca F. Hamm, et al. "Association Between Race and Hemoglobin at Delivery or Need for Transfusion When Using Race-Based Definitions for Treatment of Antepartum Anemia." *Obstetrics & Gynecology* 138(1), pp. 108–110, July 2021. doi: 10.1097/AOG.0000000000004439. Author manuscript version at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8288460/>

This is one of the studies discussed in the Marill article. A variety of longer studies on this topic are currently being conducted and may be available by the time this lesson is

taught. This study may also fruitfully be paired with the ample literature on the apparent rise in maternal morbidity and mortality in the U.S. and, in particular, its disproportionate impact on mothers of color in general and Black mothers in particular.

Lundy Braun and Barry Saunders. “[Avoiding Racial Essentialism in Medical Science Curricula](#),” *AMA Journal of Ethics*, June 2017.

This short article offers an excellent overview of the ethical issues raised by racial essentialism in medical science as well as concrete suggestions for how to address those issues through curriculum and, in particular, medical humanities. For some courses, this may be suitable as an assigned reading for students as well.

African-American Intellectual History Society, “[Syllabus: A History of Anti-Black Racism in Medicine](#).”

This is a broad-ranging resource for understanding many of the ways in which antiblack racism has shaped medical history and African-American history. Instructors looking for additional case studies to pair with this lesson will find ample examples here.

Dorothy E. Roberts, *Fatal Invention: How Science, Politics, and Big Business Re-Crete Race in the Twenty-First Century* (New York: [The New Press](#), 2011). [E-book available via SHSU library](#).

Anthony Ryan Hatch, *Blood Sugar: Racial Pharmacology and Food Justice in America* (Minneapolis: [University of Minnesota Press](#), 2016). [E-book available via SHSU library](#).

These books both offer extensive discussion of the issues briefly covered in the video for this lesson, with particular attention to how the commercial dimensions of medical science create the likelihood that erroneous conclusions from the use of racial categories in medical science will serve as foundations for both medical research and practice. Roberts offers a wide-ranging survey of a variety of areas, written accessibly for a broader audience. Hatch’s text focuses on research concerning metabolic syndrome and the ways that the racialization of data in this field has both been at odds with principles of scientific rigor and diverted focus from interventions more likely to improve the health of patients. The Hatch text is less accessible but its depth may make it rewarding for graduate students or some advanced undergraduates.

Peter Caws, “[A Case for the Human Sciences](#),” *Yorick’s World: Science and the Knowing Subject* (Berkeley: University of California Press), pp. 349–362.

Peter Caws, “[Natural and Intentional Structures of Gender](#),” *Journal of French and Francophone Philosophy* 13(1), 2003. (doi: [10.5195/jffp.2003.438](#))

These essays provide a sense of Caws’s way of distinguishing natural and social sciences, which is referenced in the video. “A Case for the Human Sciences” works

further to suggest some of the ways that human/social sciences can improve natural scientific work (as well as philosophy of natural science). “Natural and Intentional Structures of Gender” hits some of these points in a way more directly related to one of the examples used in the video included in this lesson, in the context of a discussion of Simone de Beauvoir’s feminist classic The Second Sex.