Do No Harm

MAJOR DEI STUDIES, MAJOR FLAWS

Study #1: ASSOCIATION OF RACIAL/ETHNIC AND GENDER CONCORDANCE BETWEEN PATIENTS AND PHYSICIANS WITH PATIENT EXPERIENCE RATINGS[1]

What it's used to show: Patients who receive care from racially concordant doctors (i.e. doctors of the same racial background as the patient) will receive superior care. This is why we need more doctors from racial minorities.

Flaws:

- **Design:** The study did not actually measure healthcare quality or outcomes. It simply measured scores on a survey that asked patients about their likelihood of recommending the doctor to others.
- **Methodology:** Sometimes, "patient satisfaction" is at odds with quality care. For example, recommending weight loss could potentially anger a patient.
- **Methodology:** The authors treated survey results that ranged from 1 to 5 as binary: Either 5 or not 5. If the data were handled in its original, more nuanced form, the results fall apart. Black patients were actually 31% ***more*** likely to give the lowest score to a black physician compared to a white physician.

Study #2: PATIENT-CENTERED COMMUNICATION, RATINGS OF CARE, AND CONCORDANCE OF PATIENT AND PHYSICIAN RACE[2]

What it's used to show: Doctor visits are longer and more positive when doctors treat patients of the same racial background. This is why we need more doctors from racial minorities.

Flaws:

- **Design:** Visits between doctors and patients of the same race were observed to be longer because of slower speech, not because conversations between patient and provider were more substantive or higher quality.
- **Methodology:** The study features black and white doctors and patients. But the authors do not disaggregate their findings by race. In other words, the study does not even actually show that its limited results apply to black doctors treating black patients.

Study #3: EFFECTS OF PATIENT-PROVIDER RACE CONCORDANCE AND SMOKING STATUS ON LUNG CANCER RISK PERCEPTION ACCURACY AMONG AFRICAN AMERICANS[3]

What it's used to show: Black patients understand real medical risks more clearly from black doctors. This is why we need more doctors from racial minorities.

Flaws:

- **Methodology:** In this experiment, black patients learn about their lung cancer risk from a virtual reality-based doctor. Receiving instructions from a virtual reality-based physician avatar does not approximate a real-world interaction between a patient and doctor.

Study #4: PHYSICIAN-PATIENT RACIAL CONCORDANCE AND DISPARITIES IN BIRTHING MORTALITY FOR NEWBORNS[4]

What it's used to show: Black newborns are more likely to survive if they are treated by black physicians than white physicians. This is why we need more doctors from racial minorities.

Flaws:

- **Design:** The statistical finding established by the study is incredibly small – out of 1.8 million hospital births in Florida between 1992 and 2015, 99.7 percent of black newborns survived under the care of a black physician and 99.6 percent of black newborns survived under the care of a white physician.
- **Methodology:** On average, black newborns face more health challenges than other newborns and such newborns are more likely to be assigned to highly specialized doctors. These specialized doctors, in turn, are more likely to be white than other doctors. The very small distinction between a 99.7 and 99.6 percent survival rate is explained by differences in the non-random assignment of babies to doctors that the researchers do not adequately control for.

Study #5: BLACK REPRESENTATION IN THE PRIMARY CARE PHYSICIAN WORKFORCE AND ITS ASSOCIATION WITH POPULATION LIFE EXPECTANCY AND MORTALITY RATES IN THE U.S.[5]

What it's used to show: Black patients have longer life expectancy and mortality rates closer to those of white patients when they live in counties with an increased number of black primary care doctors. This is why we need more doctors from racial minorities.

Flaws:

- **Design:** The researchers failed one of the first basic tests of any researcher – demonstrating how their mathematical model did or did not skew the results based on the counties chosen, time periods observed, and other variables. This means that they almost certainly engaged in "p-hacking," manipulating the mathematical model until they got the results they wanted.
- **Methodology:** The researchers omitted the 50% of counties that don't have a black PCP. This is an arbitrary and strange decision that was likely required for them to get their preferred result.

- **Methodology:** Counties with an increase in black primary care doctors do not mean counties where black patients are or more likely to be treated by black doctors.

Study #6: DOES DIVERSITY MATTER FOR HEALTH? EXPERIMENTAL EVIDENCE FROM OAKLAND[6]

What it's used to show: Black patients are more likely to seek preventative treatment if they are treated by black doctors. This is why we need more doctors from racial minorities.

Flaws:

- **Design:** The researchers admit that, based on how the study was conducted, the participating doctors "could have inferred" the study's purpose. It is entirely plausible, then, that participating doctors were sympathetic to an outcome reflecting the racial concordance theory and validated the effort.
- **Methodology:** In the study's first stage, in which patients express their willingness to seek preventative care after seeing a picture of their doctor (and the doctor's race), black patients did not express any difference in their willingness to pursue treatment, regardless of their doctor's race. The only difference emerges in the second stage, which is susceptible to be corrupted by the doctors who could have inferred the nature of the experiment.

Study #7: PATIENT-PHYSICIAN RACE/ETHNICITY CONCORDANCE IMPROVES ADHERENCE TO CARDIOVASCULAR DISEASE GUIDELINES[7]

What it's used to show: Patients are more likely to follow treatment guidelines from doctors of the same race. This is why we need more doctors from racial minorities.

Flaws:

- **Design:** The researchers included two treatment measures separate and apart from the medically appropriate guidelines for the conditions studied. A racial concordance effect is only observed in two of the four original measures. But an effect is observed in both of the newly added ones. The new measures were clearly added to fortify an intended outcome as the traditional treatments did not yield an equivalent result.
- **Methodology:** It is unclear how the researchers evaluated the data or even whether they analyzed doctor-level data or clinic-level data. This kind of ambiguity is very unusual and an indicator of poor quality.
- **Methodology:** The sample's demographics are not spelled out and results are not disaggregated by racial group. The authors could be hiding that the findings are not statistically significant when the analysis is limited to groups "underrepresented in medicine."

Study #8: RACIAL BIAS IN PAIN ASSESSMENT AND TREATMENT RECOMMENDATIONS, AND FALSE BELIEFS ABOUT BIOLOGICAL DIFFERENCES BETWEEN BLACKS AND WHITES.[8]

What it's used to show: Many doctors have mistaken beliefs about biological differences between black and white patients, and those doctors are especially likely to rate the pain of black patients as less than that of white patients.

Flaws:

- **Design:** The issue of "false beliefs" is grossly overstated. The data breaks down results by year of medical school, revealing that these false beliefs dissipate as students receive medical training. For example, 29 of 63 first year medical students claim that it is "possibly true, probably true, or definitely true" that black people's blood coagulates more quickly than whites' compared to only 4 of 28 medical residents. All told, false beliefs are rare by the time doctors reach residency.
- **Methodology:** Some of the questions are ambiguous enough to call into question whether a "false belief" is truly "false." For example, the second most popular "false belief" was that "blacks age more slowly than whites." This could plausibly reflect a popular (and largely true) belief that blacks are slower to show physical signs of aging.

Study #9: MATERNAL AND INFANT HEALTH INEQUALITY: NEW EVIDENCE FROM LINKED ADMINISTRATIVE DATA[9]

What it's used to show: Infant mortality and pregnancy complications are more common among high-earning black families than low-earning white families. In other words, racial disparities are not fully explained by socioeconomic characteristics.

Flaws:

- **Methodology:** Black women are genetically predisposed to preeclampsia and postpartum cardiomyopathy, both of which can be fatal. These drive up racial disparities and are unrelated to income or any other social factor for that matter.
- **Methodology:** Pregnant black women are more likely to be obese, less likely to seek prenatal care, and far less likely to be married. These are all factors that are associated with worse health outcomes for mothers and babies. Yet, the study does not account for these differences.

Study #10: PATIENT-PHYSICIAN RACIAL CONCORDANCE ASSOCIATED WITH IMPROVED HEALTHCARE USE AND LOWER HEALTHCARE EXPENDITURES IN MINORITY POPULATIONS[10]

What it's used to show: Patients are more likely to utilize healthcare measures if they are treated by a doctor of the same race. This is why we need more doctors from racial minorities.

Flaws:

- **Design:** Differences across races are only observed after statistically accounting for patient characteristics. Without that adjustment there is no difference in utilization in any of the 15 outcomes measured.
- **Methodology:** Among the 15 outcomes measured, the four screening outcomes (Pap test, mammography, colorectal cancer screening, and cholesterol test) and two primary care utilization measures (primary care visits and routine checkups) are the only cases where a higher number should be considered more desirable. For the remaining measures (any ER visits, any hospitalizations, number of emergency department visits, number of hospitalizations, total expenditures, office-based expenditures, ER expenses, inpatient expenses, and prescription expenses) it isn't obvious that a higher or lower number is better.
- **Methodology:** When the researchers statistically adjust for patient characteristics they observe that black patients with black doctors have lower total healthcare and prescription expenditures. However, other studies have claimed that lower expenditures on black patients are evidence of medical racism. It is a "heads I win, tails you lose" proposition.

ENDNOTES

1 Takeshita J, Wang S, Loren AW, et al. Association of Racial/Ethnic and Gender Concordance Between Patients and Physicians With Patient Experience Ratings. JAMA Netw Open. 2020;3(11):e2024583. doi:10.1001/jamanetworkopen.2020.24583

2 Cooper LA, Roter DL, Johnson RL, Ford DE, Steinwachs DM, Powe NR. Patient-centered communication, ratings of care, and concordance of patient and physician race. Ann Intern Med. 2003 Dec 2;139(11):907-15. doi: 10.7326/0003-4819-139-11-200312020-00009. PMID: 14644893.

3 Persky S, Kaphingst KA, Allen VC Jr, Senay I. Effects of patient-provider race concordance and smoking status on lung cancer risk perception accuracy among African-Americans. Ann Behav Med. 2013 Jun;45(3):308-17. doi: 10.1007/s12160-013-9475-9. PMID: 23389688; PMCID: PMC3644014.

4 Nguyen AM, Siman N, Barry M, Cleland CM, Pham-Singer H, Ogedegbe O, Berry C, Shelley D. Patient-Physician Race/Ethnicity Concordance Improves Adherence to Cardiovascular Disease Guidelines. Health Serv Res. 2020 Aug;55(Suppl 1):51. doi: 10.1111/1475-6773.13398. Epub 2020 Aug 20. PMCID: PMC7440568.

5 Snyder JE, Upton RD, Hassett TC, Lee H, Nouri Z, Dill M. Black Representation in the Primary Care Physician Workforce and Its Association With Population Life Expectancy and Mortality Rates in the US. JAMA Netw Open. 2023;6(4):e236687. doi:10.1001/jamanetworkopen.2023.6687

6 https://www.nber.org/papers/w24787

7 Nguyen AM, Siman N, Barry M, Cleland CM, Pham-Singer H, Ogedegbe O, Berry C, Shelley D. Patient-Physician Race/Ethnicity Concordance Improves Adherence to Cardiovascular Disease Guidelines. Health Serv Res. 2020 Aug;55(Suppl 1):51. doi: 10.1111/1475-6773.13398. Epub 2020 Aug 20. PMCID: PMC7440568.

8 Hoffman KM, Trawalter S, Axt JR, Oliver MN. Racial bias in pain assessment and treatment recommendations, and false beliefs about biological differences between blacks and whites. Proc Natl Acad Sci U S A. 2016 Apr 19;113(16):4296-301. doi: 10.1073/pnas.1516047113. Epub 2016 Apr 4. PMID: 27044069; PMCID: PMC4843483.

9 Maternal and Infant Health Inequality: New Evidence from Linked Administrative Data Kate Kennedy-Moulton, Sarah Miller, Petra Persson, Maya Rossin-Slater, Laura Wherry, and Gloria Aldana NBER Working Paper No. 30693 November 2022, Revised September 2023 JEL No. I1,I14,I30

10 Jetty A, Jabbarpour Y, Pollack J, Huerto R, Woo S, Petterson S. Patient-Physician Racial Concordance Associated with Improved Healthcare Use and Lower Healthcare Expenditures in Minority Populations. J Racial Ethn Health Disparities. 2022 Feb;9(1):68-81. doi: 10.1007/s40615-020-00930-4. Epub 2021 Jan 5. Erratum in: J Racial Ethn Health Disparities. 2022 Feb;9(1):384. doi: 10.1007/s40615-021-01003-w. PMID: 33403653.