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# Systemic Racism in the United States

### Abstract

This bibliography contains an annotated selection of articles and studies related to systemic racism in the United States of America, covering 21st-century racial inequities in criminal justice, housing, employment, voting, education, and healthcare. Given the contentious nature of this topic - whether and to what extent systemic racism exists in the United States - sources were selected for relative neutrality, authority, and quality of methodologies used. This piece is intended to assist leaders, educators, activists, and any who wish to become better informed about this topic, develop empathy toward impacted groups, and prepare to address institutional concerns related to diversity, equity, and inclusion.

**systemic racism.** *noun.* "a policy, system of government, etc., that is associated with or originated in such a doctrine, and that favors members of the dominant racial or ethnic group, or has a neutral effect on their life experiences, while discriminating against or harming members of other groups, ultimately serving to preserve the social status, economic advantage, or political power of the dominant group" (dictionary.com).

### Introduction

Systemic racism is a contentious topic in the United States. Despite its relatively straightforward definition, this topic can be challenging to discuss and difficult to write about with neutrality, largely due to conflicting opinions about whether and to what extent systemic racism exists in the 21st-century United States.

As individuals, it is our natural tendency to view systems through the lens of our own experiences. As such, each individual feels the effects of a systemic issue differently. An individual perspective provides a clear, but incomplete understanding of any complex systemic issue. To broaden our understanding beyond our individual perspective, we must be willing to acknowledge the experiences and perspectives of others, and grapple with the complexities introduced by those experiences and perspectives that conflict with our own. Through the process of considering and reconciling conflicting perspectives, a more complete understanding of a systemic issue can be built.

This <u>Wikipedia article</u> from 10/12/2020 on the subject describes systemic racism as "a form of racism that is embedded as normal practice within society or an organization." Consider for a moment the inclusion of the words 'racism' and 'normal' in this brief description. For many Americans, the word 'racism' carries considerable political and emotional weight; we generally prefer not to see racism as normal, or to see ourselves as actively racist. One could argue that these preferences contribute to the resilience of institutions and policies initially founded on systematically racist principles. Once such a system has become embedded as normal practice in society, individuals are not required to be actively racist to participate in, perpetuate, and benefit from them.

The articles and studies included in this annotated bibliography examine measurable impacts of systemic racism in 21st-century America, particularly those which disproportionately affect Black people as compared to white people. Some of the studies also compare impacts on Latinx, American Indian, Alaska Native, or Native Hawaiian/Pacific Islander people.

After compiling this bibliography, the author had taken away two sets of key observations:

#### Criminal Justice System

- Black people are subjected to discrimination at every level of the criminal justice system
- Black people are consistently overpoliced, racially profiled, subjected to more violence, and more frequently killed by police than white people
- Compared to white people with similar criminal records and accused of similar offenses, Black people are more likely to face a charge carrying a mandatory minimum sentence, be charged as a habitual offender, receive higher bail, be found guilty, receive a longer sentence, and receive the death penalty
- Crimes committed against white people typically result in more severe sentences than crimes committed against Black people

#### Socioeconomics

- Black people have fewer and worse housing opportunities than white people, and are more likely to be exposed to lead and other types of housing poisoning
- Black people were systematically targeted by redlining policies enacted between 1930 and 1970, preventing them from building wealth
- The median net worth of Black households is roughly 10% that of white households
- Black people are less likely to be interviewed or hired, and are paid less on average than white people
- Republican groups and individuals have frequently and actively worked to prevent Black people from voting, often targeting them with almost surgical precision
- Black students at all levels of education, types of schools, and levels of poverty receive punishment, suspension, and expulsion at a higher rate than white students
- Black students in schools are more likely than white students to be referred to and interact with law enforcement
- Schools attended primarily by Black students are, on average, worse by all meaningful metrics than schools attended primarily by white students
- Prominent implicit bias against Black people by healthcare professionals results in reduced access to and quality of healthcare

Note: In this document, "Black" is used as a descriptor for dark-skinned peoples of African descent who share a similar set of experiences, history, and racial identity affected predominantly by skin color; "white" is used as a descriptor for light-skinned peoples who have a wide range of experiences, histories, and ethnic identities affected predominantly by ancestral regions and cultures of origin.

# **Criminal Justice System**

### Sentencing

#### U.S. Sentencing Commission (2018)

 For crimes involving firearms, Black people are more likely to be arrested, more likely to get longer sentences for similar crimes, and more likely to get sentencing enhancements

#### U.S. Sentencing Commission (2017)

- Black men who commit the same crimes as white men receive federal prison sentences that are, on average, nearly 20% longer
- The Black/white sentencing disparities are being driven in large part by "non-government sponsored departures and variances" choices made by judges at their own discretion

#### Gross et al. (2017)

- This study of wrongful convictions spanning 28 years found that Black people were more likely to be wrongly convicted of murder when the victim was white. Only 15% of people killed by Black people were white, but 31% of Black exonerees had been wrongly convicted of killing white people. Black people convicted of murder were 50% more likely to be innocent than white people convicted of murder
- Black people were 3.5 times more likely than white people to be wrongly convicted of sexual assault and 12 times more likely to be wrongly convicted of drug crimes

#### Berdejó (2017)

 This study of about 48,000 criminal cases in Wisconsin found that white defendants were 25% more likely than Black defendants to have their most serious charge dismissed in a plea bargain. Among defendants facing misdemeanor charges that could carry a sentence of incarceration, white defendants were 75% more likely to have those charges dropped, dismissed or reduced to a charge that did not include incarceration

#### Owens et al. (2017)

• This study of more than 10,000 cases handled by a public defender's office in San Francisco found that Black and Latinx defendants were more likely to be incarcerated while awaiting trial, had to wait longer for their trials to begin, were less likely to see their charges reduced, and were more likely to see new misdemeanor charges added

#### Sen (2015)

- Black federal judges are about 10 percent more likely to be reversed on appeal than white federal judges
- The study adjusted for variables like who appointed the judges, judicial circuits and demographic data

#### The Sentencing Project (2015)

- 61-80% of Black overrepresentation in prisons can be attributed to higher crime rates in predominantly Black neighborhoods
- The remaining 39-20% of Black overrepresentation in prisons can be attributed to racial biases in the criminal justice system

#### Burch (2015)

• This study of first-time felons found that Black men overall received sentences of 270 days longer than white men for similar crimes; the discrepancy between white men and dark-skinned Black men was 400 days

#### University of Michigan Law School: Starr and Rehavi (2014)

 Other factors being equal, Black offenders were 75% more likely to face a charge carrying a mandatory minimum sentence than a white offender who committed the same type of crime

Beckett et al. (2014)

• This study of data spanning 33 years found that after adjusting for variables such as the number of victims and brutality of the crimes, jurors in Washington state were 4.5 times more likely to impose the death penalty on Black defendants accused of aggravated murder than on white ones

#### Urban Institute (2014)

• The Urban Institute looked at probation offices in four locations across the country: New York City; Multnomah County, Ore.; Dallas County, Tex.; and Iowa's Sixth Judicial District. After adjusting for criminal history, seriousness of the crime and other factors, the study found that Black people were 18-39% more likely than white people to have their probation revoked

#### Starr et al. (2013)

• After adjusting for numerous other variables, federal prosecutors were almost twice as likely to bring charges carrying mandatory minimum sentences against Black defendants as against white defendants accused of similar crimes

#### Johnson et al. (2012)

• "Black defendants who kill white victims are seven times as likely to receive the death penalty as are Black defendants who kill Black victims. ... Moreover, Black defendants who kill white victims are more than three times as likely to be sentenced to death as are white defendants who kill white victims."

#### Gelbach et al. (2012)

- This study of bail in five large U.S. counties found that Black people received \$7,000 higher bail than white people for violent crimes, \$13,000 higher for drug crimes and \$10,000 higher for crimes related to public order
- These disparities were calculated after adjusting for the seriousness of the crime, criminal history and other variables

#### Michigan State University (2011)

- Between 1990 and 2010, state prosecutors struck about 53% of Black people eligible for juries in criminal cases, vs. about 26% of white people. The study's authors concluded that the chance of this occurring in a race-neutral process was less than 1 in 10 trillion
- Even after adjusting for excuses given by prosecutors that tend to correlate with race, the 2-to-1 discrepancy remained
- The state legislature had <u>previously passed a law</u> stating that death penalty defendants who could demonstrate racial bias in jury selection could have their sentences changed to life without parole. The legislature later <u>repealed that law</u>

#### UNC (2011)

 Murderers who kill white people are three times more likely to receive the death penalty than murderers who kill Black people

#### U.S. Department of Justice (2011)

- "The majority of research on race and sentencing outcomes shows that Blacks are less likely than whites to receive reduced pleas."
- "Studies that assess the effects of race find that Blacks are less likely to receive a reduced charge compared with whites."

#### Levinson et al. (2010)

- Mock jurors were given the same evidence from a fictional robbery case but then shown alternate security camera footage depicting either a light-skinned or dark-skinned suspect
- Jurors were more likely to evaluate ambiguous, race-neutral evidence against the darkskinned suspect as incriminating and more likely to find the dark-skinned suspect guilty

#### Crow et al. (2008)

• Black defendants with multiple prior convictions are 28% more likely to be charged by prosecutors as habitual offenders than white defendants with similar criminal records

• The authors conclude that "assessments of dangerousness and culpability are linked to race and ethnicity, even after offense seriousness and prior record are controlled."

#### Justice Policy Institute (2007)

- White people and Black people report using and selling drugs at similar rates, but Black people go to prison for drug offenses at higher rates than white people
- In 2002, Black people were sentenced to prison for drug offenses at 10 times the rate of white people in the largest population counties in the country

#### Hochschild et al. (2007)

- This study of 67,000 first-time felons in Georgia from 1995 to 2002 found that Black men were, on average, given longer sentences than white men. The discrepancy was smaller for light-skinned Black men and greater for dark-skinned Black men
- The average sentence for white men was 2,689 days; the average sentence for Black men was 378 days longer
- Light-skinned Black men received an average of 100 days longer than white men, while dark-skinned Black men received sentences of a year and a half longer

#### Eberhardt et al. (2006)

• This study found that when a Black person was accused of killing a white person, defendants with darker skin and more stereotypically Black features were twice as likely to receive a death sentence. When the victim was Black, there was almost no difference

### Policing and Racial Profiling

#### Edwards et al. (2019)

- Black, Indian, and native people are significantly more likely to get killed by the police than white people
- "For young men of color, police use of force is among the leading causes of death." Pierson et al. (2019)
  - Researchers compiled and analyzed data from more than 100 million traffic stops in the United States. They found that police were more likely to pull over Black drivers. The researchers were able to confirm racial bias by measuring daytime stops against nighttime stops, when darkness would make it more difficult to ascertain a driver's race.
  - As with previous studies, they also found that Black and Latinx drivers are more likely to be searched for contraband – even though white drivers are consistently more likely to be found with contraband
  - They also found that legalization of marijuana in Colorado and Washington has caused fewer drivers to be searched during a stop, but that it did not alter the increased frequency with which Black and Latinx drivers are searched

#### ACLU (2018)

- Despite roughly equal usage rates for Black and white people, police officers are 3.64 times more likely to arrest a Black person for marijuana possession
- Marijuana arrests account for over half of drug arrests in the United States
- Out of 8.2 million arrests between 2001 and 2010, 88% were for possession
- States spend over \$3.6 billion enforcing marijuana laws every year

#### Menifield et al. (2018)

- Bias in policing isn't just a few bad apples, nor is it a problem among white police officers specifically; policing practices inherently operate in a discriminatory manner
- The disproportionate killing of Black people by police officers "is likely driven by a combination of macro-level public policies that target minority populations and meso-level policies and practices of police forces."

• "Much research in organizational theory suggests that the problem of disproportionate killing may be fundamentally institutional."

#### Feldman et al. (2018)

- Police disproportionately target low-income and POC neighborhoods
- "Overall, police-related death rates were highest in neighborhoods with the greatest concentrations of low-income residents and residents of color"

#### Lancet Journal: Bor (2018)

- Instances of police brutality harm mental health
- "Police killings of unarmed Black Americans have adverse effects on mental health among Black American adults in the general population."

#### <u>Mummolo (2018)</u>

- This study used a census of SWAT team deployments in Maryland to determine whether increased police militarization enhanced officer safety or reduced crime, and conducted an experiment to estimate of the causal effect of seeing militarized police on attitudes toward law enforcement relative to seeing more traditionally equipped police forces
- "Militarized special weapons and tactics (SWAT) teams are more often deployed in communities of color, and – contrary to claims by police administrators – provide no detectable benefits in terms of officer safety or violent crime reduction, on average"
- Militarized police in the news increases negative attitudes towards law enforcement, suggesting that police militarization is ultimately counterproductive

#### ACLU (2018)

- In nearly half of the more than 700,000 stop and frisk searches in Milwaukee, the police failed to demonstrate reasonable suspicion as required by the Constitution
- The study found that between pedestrian stops and traffic stops, Black people were six times more likely to be stopped and searched than white people, and that less than 1% of those searches turned up any contraband
- Here again, while Black and Latinx drivers were more likely to be searched, they were 20% less likely to be in possession of any contraband

#### Hinton et al. (2018)

- "The risk of incarceration in the federal system for someone who uses drugs monthly and is Black is more than seven times that of his or her white counterpart"
- Lecount (2017)
  - Highlights the philosophical (social power and group power) and racial reasons why
    white police officers have a discriminatory bias against Black people
  - Data collected via nationally representative survey which focuses on a number of specific racial attitudes of police officers to gain a broader understanding of their racial views and biases
  - Finds that officers believe Black people are more violent, lazy, and should not be given special treatment compared to white people

#### BMJ Journals Injury Prevention: Miller et al. (2017)

- Analyzed 12.3 million police interventions
- 1 in 291 stops or arrests resulted in hospital-treated injury or death of a suspect or bystander

#### Birdsong (2017)

- Photos of capital inmates were shown to entry-level criminal justice students for them to evaluate the trustworthiness of the faces
- Students rated pictures of light-skinned people as more trustworthy when they preceded pictures of dark-skinned people
- Though 79.9% of study participants were white, the study suggests this wasn't a major factor "When controlling for race, no statistically significant result was found."

<u>APA (2017)</u>

- People have a tendency to perceive Black men as larger and more threatening than similarly sized white men
- We found that these estimates were consistently biased. Participants judged the Black men to be larger, stronger and more muscular than the white men, even though they were actually the same size
- Participants also believed that the Black men were more capable of causing harm in a hypothetical altercation and that police would be more justified in using force to subdue them, even if the men were unarmed

#### Simoiu (2017)

 This study of 4.5 million traffic stops by the 100 largest police departments in North Carolina found that Black and Latinx people were more likely to be searched than white people (5.4%, 4.1% and 3.1%, respectively), even though searches of white motorists were more likely than the others to turn up contraband (white: 32%, Black: 29%, Latinx: 19%)

#### Voigt et al. (2017)

 Interactions between officers and citizens taken from footage captured by police officer body cameras found that "officers speak with consistently less respect toward Black versus white community members, even after controlling for the race of the officer, the severity of the infraction, the location of the stop, and the outcome of the stop."

#### NAACP (2017)

 This study finds that citizen complaints against police officers in North Charleston, S.C., between 2006 and 2016 found that complaints by white citizens were about two-thirds more likely to be sustained than complaints filed by Black citizens. When the complainant alleged excessive force, white complaints were sustained seven times more often than Black complaints

#### Gideon's Army (2016)

 This study found that between 2011 and 2015, Black drivers in Nashville's Davidson County were pulled over at a rate of 1,122 stops per 1,000 drivers — so on average, more than once per Black driver. Black drivers were also searched at twice the rate of white drivers, though – as in other jurisdictions – searches of white drivers were more likely to turn up contraband

#### ACLU (2016)

- Black drivers in Florida are nearly twice as likely to be pulled over for seatbelt violations
- Statewide and National seat belt wearing behavior by race does not explain this

#### U.S. Department of Justice (2015)

- Between 2012 and 2014, Black people in Ferguson, Mo., accounted for 85% of vehicle stops, 90% of citations and 93% of arrests, despite comprising 67% of the population
- Black people were more than twice as likely as white people to be searched after traffic stops, even though they proved to be 26% less likely to be in possession of illegal drugs or weapons
- Between 2011 and 2013, Black people received 95% of jaywalking tickets and 94% of tickets for failure to comply. The Justice Department also found that the racial discrepancy for speeding tickets increased dramatically when researchers looked at tickets based on only an officer's word vs. tickets based on objective evidence, such as vs. radar
- Black people facing similar low-level charges as white people were 68% less likely to see those charges dismissed in court. More than 90% of the arrest warrants stemming from failure to pay or failure to appear were issued for Black people

#### Ross (2015)

 This study of police shootings from 2011 to 2014 found "a significant bias in the killing of unarmed Black Americans relative to unarmed white Americans, in that the probability of being Black, unarmed, and shot by police is about 3.49 times the probability of being white, unarmed, and shot by police on average."

• The study also found "no relationship between county-level racial bias in police shootings and crime rates (even race-specific crime rates), meaning that the racial bias observed in police shootings in this data set is not explainable as a response to local-level crime rates."

#### <u>APA (2014)</u>

- Students and police officers participated in tests to determine levels of bias
- Black boys as young as 10 may not be viewed in the same light of childhood innocence as their white peers, but are instead more likely to be mistaken as older, be perceived as guilty and face police violence if accused of a crime
- Researchers reviewed police officers' personnel records to determine use of force while on duty and found that those who dehumanized Black people were more likely to have used force against a Black child in custody than officers who did not dehumanize Black people. The study described use of force as takedown or wrist lock, kicking or punching, striking with a blunt object, using a police dog, restraints or hobbling, using tear gas, using electric shock, or killing

#### ACLU (2014)

 This study of stop and frisk incidents in Boston between 2007 and 2010 that did not result in a citation or arrest found that 63% of such stops were of Black people, who made up 24% of the city's population. 97.5% of stop and frisk encounters resulted in no arrest or seizure of contraband

Gelman et al. (2007)

• This analysis of 125,000 police stops by the NYC police department over a period of 15 months finds that even after controlling for precinct variability and race-specific estimates of crime participation, Black people were still disproportionately stopped relative to white people

#### Benner (2002)

- Black and Hispanic residents were "significantly over-represented as targets of narcotics search warrants," even after adjusting for usage rates
- The study also found that "searches of white suspects were more successful in recovering the targeted drug than were searches of either Black or Hispanic suspects."

## Socioeconomics

### Housing

#### Honoré et al. (2020)

- This study analyzes trends in racial and ethnic discrimination in U.S. housing and mortgage lending markets since the 1970s
- There has been a decline in housing discrimination since the 1970s, but is still present in varying degrees of severity, depending on the factor being analyzed
- Racial gaps in mortgage cost have not declined, suggesting racism or other racial barriers have not diminished significantly for that particular factor

#### Michigan Civil Rights Commission (2017)

 "The people of Flint have been subjected to unprecedented harm and hardship, much of it caused by structural and systemic discrimination and racism that have corroded your city, your institutions, and your water pipes, for generations" • "Rather, the disparate response is the result of systemic racism that was built into the foundation and growth of Flint, its industry and the suburban area surrounding it. This is revealed through the story of housing, employment, tax base and regionalization"

#### Harvard University: Sampson et al. (2016)

- Study of racial inequity related to blood lead levels (BLL) in housing
- "Black disadvantage in particular is pronounced not only relative to whites but even relative to Hispanics, in every year from 1995-2013."
- "The profound heterogeneity in the racial ecology of what we call toxic inequality is
  partially attributable to socioeconomic factors, such as poverty and education, and to
  housing-related factors, such as unit age, vacancy, and dilapidation. But controlling
  these factors, neighborhood prevalence rates of elevated BLL remain closely linked to
  racial and ethnic segregation."

#### Housing and Urban Development (2012)

- Analyzes trends in racial and ethnic discrimination in both rental and sales market since the 1970s
- "When well-qualified minority homeseekers contact housing providers to inquire about recently advertised housing units, they generally are just as likely as equally qualified white homeseekers to get an appointment and learn about at least one available housing unit. However, when differences in treatment occur, white homeseekers are more likely to be favored than minorities. Most important, minority homeseekers are told about and shown fewer homes and apartments than whites"

### Employment

#### Georgetown University: Carnevale et al. (2019)

- Compared to Black and Latinx people, white people have a disproportionate level of access to good jobs and get higher earnings, regardless of education attainment
- "We define good jobs as those that pay at least \$35,000 per year, at least \$45,000 for workers aged 45 and older, and \$65,000 in median earnings in 2016. Wages for good jobs between 1991 and 2016 are inflation-adjusted."

#### Quillian et al. (2017)

- This study investigates change over time in the level of hiring discrimination in US labor markets, performing meta-analysis of 55,842 applications submitted for 26,326 positions
- Since 1989, there has been no change in hiring discrimination against Black people; hiring discrimination against Latinx people has decreased over that time

#### Pager et al. (2009)

- "Applicants were given equivalent résumés and sent to apply in tandem for hundreds of entry-level jobs"
- "Our results show that Black applicants were half as likely as equally qualified whites to receive a callback or job offer"
- "In fact, Black and Latino applicants with clean backgrounds fared no better than white applicants just released from prison"

#### Bertrand (2004)

- "To manipulate perceived race, resumes are randomly assigned African-American- or white-sounding names. White names receive 50% more callbacks for interviews; callbacks are also more responsive to resume quality for white names than for African-American ones"
- "The racial gap is uniform across occupation, industry, and employer size"
- "We also find little evidence that employers are inferring social class from the names"

### Voting

Cantoni (2020)

- This study examined the impact of distance to polling location in low- and high-minority areas to voter turnout during the 2018 midterm elections
- High-minority areas were found to be more impacted by distance to polling location
- "The disproportionate impact of distance to the polling place in high-minority areas contributes to between 11 and 13 percent of the participation gap between low- and high-minority areas during non-presidential elections."
- "A hypothetical benchmark policy that eliminated distance to the polling place would increase average turnout by 1.6-4 percentage points and narrow the turnout gap between low- and high-minority areas in non-presidential elections by as much as 11-13 percent."

Kuk et al. (2019)

- This article contains a literature review of past studies which demonstrate how strict voter ID laws disproportionately impact minorities
- Strict voter ID laws implemented across multiple states in recent years were shown to reduce minority turnout more than white turnout
- "Our primary analysis uses aggregate county turnout data from 2012 to 2016 and finds that the racial gap in turnout between more diverse and less diverse counties grew more in states enacting new strict photo ID laws than it did elsewhere – even after controlling for other factors that could impact turnout. Strict voter ID laws appear to discriminate."

Barreto et al. (2018)

- This study used six datasets collected between 2008 and 2014 to measure access to valid identification during the time period in which strict voter ID laws had been enacted in Wisconsin, Indiana, Pennsylvania, and Texas
- Minorities were found to be less likely to possess valid identification than white people
- "In the combined dataset, about 81% of Blacks possessed a valid ID, compared with 91% of Whites, 82% of Latinos, 85% of Asians, and 86% of those who identify some other way."

#### Biggers et al. (2017)

- This study examines how changes in political power influence the adoption of voter identification laws
- The study found that the tendency to pass strict voter identification laws was greatest when Republicans gained control of the governor's office and legislature, and that the likelihood of such laws being enacted increased as Black and Latinx populations grew
- "Demographic factors condition many of these relationships, with Republicans more likely to enact a number of these laws in states with large Black and Latino populations, particularly when they first come to power." "at best this link indicates a lack of effective representation for minorities in this area and at worst an attempt to diminish the influence minority members have on elections."

#### U.S. Court of Appeals, 4th Circuit No. 14-1648 (2016)

- In 2016, North Carolina Republicans attempted to pass voting restrictions after requesting a voter breakdown by race. These consolidated cases challenged provisions of this law, which had passed uncontested through the district court
- The Supreme court reviewed the restrictions and ruled that they constituted intentional racial discrimination, ultimately preventing the restrictions from going into effect
- "In response to claims that intentional racial discrimination animated its action, the State offered only meager justifications. Although the new provisions target African Americans with almost surgical precision, they constitute inapt remedies for the problems assertedly justifying them and, in fact, impose cures for problems that did not exist."

### Education

#### American Institute of Physics (2020)

- During 2018 and 2019, TEAM-UP, the National Task Force to Elevate African American representation in Undergraduate Physics & Astronomy, examined the reasons for the persistent underrepresentation of African Americans in physics and astronomy in the U.S.
- The task force finds that African American students have the same drive, motivation, intellect, and capability to obtain physics and astronomy degrees as students of other races and ethnicities. Many African Americans who might otherwise pursue these fields are choosing majors that are perceived as being more supportive and/or rewarding
- The briefest summary of the TEAM-UP report is this: the persistent underrepresentation of African Americans in physics and astronomy is due to (1) the lack of a supportive environment for these students in many departments, and (2) to the enormous financial challenges facing them and the programs that have consistently demonstrated the best practices in supporting their success. Solving these problems requires addressing systemic and cultural issues, and creating a large-scale change management framework.

#### Eaton et al. (2019)

- Biology and physics professors from eight large, public, U.S. research universities were asked to read one of eight identical curriculum vitae (CVs) depicting a hypothetical doctoral graduate applying for a post-doctoral position in their field, and rate them for competence, hireability, and likeability
- The candidate's name on the CV was used to manipulate race (Asian, Black, Latinx, and White) and gender (female or male), with all other aspects of the CV held constant across conditions
- Physics faculty rated Asian and White candidates as more competent and hirable than Black and Latinx candidates, while those in biology rated Asian candidates as more competent and hirable than Black candidates, and as more hireable than Latinx candidates
- An interaction between candidate gender and race emerged for those in physics, whereby Black women and Latinx women and men candidates were rated the lowest in hireability compared to all others

#### Jarvis et al. (2019)

- "Black students are disciplined more frequently and more severely for the same misbehaviors as white students"
- "Principals endorsed more severe discipline for Black students compared with white students"
- "Further, this discipline severity was explained through Black students being more likely to be labeled a troublemaker than white students"

#### Brinkworth et al. (2016)

- A multitude of studies show how groups of diverse individuals with differing viewpoints outperform homogenous groups to find solutions that are more innovative, creative, and responsive to complex problems, and promote higher-order thinking amongst the group
- Research specifically into publications also shows that diverse author groups publish in higher quality journals and receive higher citation rates
- Despite this enormous growing potential, and the proven power of diversity, the demographics of our field are not keeping pace with the changing demographics of the nation, and astronomers of color, women, LGBT individuals, people with disabilities, and those with more than one of these identities still face "chilly" or "hostile" work environments in the sciences

• To that end, diversity and inclusion training for AAS council and leadership, heads of astronomy departments, and faculty search committees should be a basic requirement throughout our field

#### Ramey (2015)

 "The results generally support hypotheses that schools and districts with relatively larger minority and poor populations are more likely to implement criminalized disciplinary policies, including suspensions and expulsion or police referrals or arrests, and less likely to medicalize students through behavioral plans put in place through laws such as Section 504 of the Rehabilitation Act and the Individuals with Disabilities Education Act"

The Condition Of College & Career Readiness 2015: African American Students (2015)

- Research demonstrates that academic gaps begin before high school. Without solid academic foundations established in primary and secondary school, Black students will continue to be academically underprepared for college in large numbers
- When students are not adequately prepared on the K-12 level, they are more likely to need remedial or developmental courses in college, which offer no course credit, yet students often have to pay for these classes. This leads to longer completion times and the need for additional financial aid, both factors that contribute to higher rates of attrition. Unfortunately, research demonstrates that Black students are more likely to need remedial courses than other students and also have significant financial need for higher education compared to other students
- Black students are more likely to be in schools that offer less rigorous courses, which can impact the college admissions process

#### U.S. Department of Education Office for Civil Rights (2014)

- Black children are consistently being suspended and expelled disproportionately to white kids, even as early as in preschool
- "More than one out of four boys of color with disabilities and nearly one in five girls of color with disabilities receives an out-of-school suspension"
- "Black students represent 16% of student enrollment, they represent 27% of students referred to law enforcement and 31% of students subjected to a school-related arrest"
- "Black students represent 19% of students with disabilities served by IDEA, but 36% of these students who are restrained at school through the use of a mechanical device or equipment designed to restrict their freedom of movement"

#### U.S. Department of Education Office for Civil Rights (2014)

- Access to experienced teachers: Black, Latinx, American Indian, and Native Alaskan students attend schools with higher concentrations of first-year teachers at a higher rate (3-4%) than white students (1%). English learners also attend these schools at slightly higher rates (3%) than non-English learners (2%)
- Teacher salary disparities: Nearly one in four districts with two or more high schools reports a teacher salary gap of more than \$5,000 between high schools with the highest and the lowest Black and Latinx student enrollments.
- Access to certified teachers: While most teachers are certified, nearly half a million students nationwide attend schools where 60% or fewer of teachers meet all state certification and licensure requirements. Racial disparities are particularly acute in schools where uncertified and unlicensed teachers are concentrated; nearly 7% of the nation's Black students, totaling over half a million students, attend schools where 80% or fewer of teachers meet these requirements; Compared to white students, Black students are more than four times as likely, and Latinx students are twice as likely to attend these schools

#### U.S. Department of Education Office for Civil Rights (2014)

• A quarter of high schools with the highest percentage of Black and Latinx students do not offer Algebra II; a third of these schools do not offer chemistry. Fewer than half of

American Indian and Native Alaskan high school students have access to the full range of math and science courses in their high school

- Growing opportunity gap in gifted and talented education: Black and Latinx students represent 26% of the students enrolled in gifted and talented education programs, compared to Black and Latinx students' 40% enrollment in schools offering gifted and talented programs
- Advanced Placement (AP) course enrollment and testing: Black and Latinx students make up 37% of students in high schools, 27% of students enrolled in at least one Advanced Placement (AP) course, and 18% of students receiving a qualifying score of 3 or above on an AP exam
- Higher rates of retention for students of color, English learners, and students with disabilities: Students with disabilities served by IDEA and English learners make up 12% and 5% of high school enrollment, respectively, but 19% and 11% of students held back or retained a year, respectively. 12% of Black students are retained in grade 9, double the 6% retention rate of all students

### Healthcare

#### Ben-Egan et al. (2020)

- Data from minority groups are routinely discarded by researchers
- "Geneticists have known for more than a decade that their focus on people with European ancestry exacerbates health disparities."

#### Agency for Healthcare Research and Quality (2018)

- AHRQ reports on healthcare quality, disparities, and access (using 250 measures)
- Black, American Indian (AI), Alaska Native (AN), and Native Hawaiian/Pacific Islander (NHPI) people received worse care than white people for 40% of quality measures; Hispanic people received worse care for 35% of quality measures
- Improvements from 2000-2017: 5 measures for Hispanic people, 4 measures for Black people, 2 measures for AI/AN people, and 1 measure for NHPI people

#### Romano (2018)

• A white physician's perspective on white privilege in the medical field

#### Maina et al. (2017)

- Meta-analysis of 37 qualifying studies of implicit bias (2015-2016)
- 31 of these studies found evidence of positive bias toward white people, as well as negative bias toward Black, Hispanic, American Indian, and other dark-skinned people; biases were present among a variety of health care providers across multiple levels of training and disciplines
- "Six studies found that higher implicit bias was associated with disparities in treatment recommendations, expectations of therapeutic bonds, pain management, and empathy"
- "All seven studies that examined the impact of implicit provider bias on real-world patient-provider interaction found that providers with stronger implicit bias demonstrated poorer patient-provider communication"

#### FitzGerald et al. (2017)

- Evidence indicates that healthcare professionals exhibit the same levels of implicit bias as the wider population
- Correlational evidence indicates that biases are likely to influence diagnosis and treatment decisions and levels of care in some circumstances and need to be further investigated

Hall et al. (2015)

- "Most health care providers appear to have an implicit bias in terms of positive attitudes toward white people and negative attitudes toward people of color"
- "Interventions targeting implicit attitudes among health care professionals are needed because implicit bias may contribute to health disparities for people of color"

#### LaVeist et al. (2011)

- The primary hypothesis of this study is that racial/ethnic disparities in health and health care impose costs on numerous aspects of society, both direct health care costs and indirect costs such as loss of productivity
- They estimate that eliminating health disparities for minorities would have reduced direct medical care expenditures by about \$230 billion and indirect costs associated with illness and premature death by more than \$1 trillion for the years 2003-2006 (in 2008 inflation-adjusted dollars)
- We should address healthcare disparities, both because such inequities are inconsistent with the values of our society and because it is cost-effective