

Cite this: *Digital Discovery*, 2023, 2,
260

Academic free speech or right-wing grievance?

John M. Herbert *

A vociferous group of scientists is presently articulating the idea that academic freedom is under attack from within academia. Examples of supposed suppression of free expression often involve diversity, equity, and inclusivity efforts by universities, especially diversity considerations in faculty hiring, but also include examples where academics have been censured or disciplined for racist, sexist, or transphobic speech. Free-speech libertarians advocate for a definition of academic freedom in which no remark is inflammatory enough to warrant consequences, even when such remarks are unsupported by (or unconnected to) academic scholarship. The present work offers an evidence-driven analysis to support the contention that this misconstrues the role of academic freedom, which is not imperiled by the notion that there should be social or professional consequences for some antisocial or abusive speech. Troublingly, the rhetoric employed by self-proclaimed defenders of free speech often bears striking similarities to the language of resentment that is used in contemporary political discourse to express right-wing grievance that is centered around White heterosexual male identity. Phrases such as “cancel culture” and “woke ideology”, used as pejoratives, are favored not only by free-speech hardliners but also by politicians who are working to dismantle the academic tenure system in the U.S. Misappropriated terms such as “critical race theory” are used to defend new laws that restrict classroom and workplace discussion of race and gender identity. The present work argues that those who wish to have an honest debate about the limits around freedom of speech need to engage that conversation in a manner that avoids resonance with the language of White (heterosexual, cisgender male) supremacy, lest their arguments provide intellectual cover to those who would attack historically marginalized communities. Suggestions for countering regressive academic culture are provided, along with a data-driven discussion of diversity considerations in faculty hiring. An emergent theme is that the academic status quo supports White male supremacy, therefore complacency by tenured academics will perpetuate that situation.

Received 19th October 2022
Accepted 2nd February 2023

DOI: 10.1039/d2dd00111j

rsc.li/digitaldiscovery

[T]he Negro's great stumbling block in his stride toward freedom is not the White Citizen's Councilor or the Ku Klux Klanner, but the white moderate, who is more devoted to “order” than to justice; who prefers a negative peace which is the absence of tension to a positive peace which is the presence of justice.

Martin Luther King Jr,
Letter from Birmingham Jail,¹ 1963.

1 Preface: equity versus free speech

In 1964, a decade after the U.S. Supreme Court declared that racially segregated schools are inherently unequal, Derrick Bell was a young attorney litigating desegregation cases in Mississippi. In ten years, the needle had barely moved on racial integration in the American South, with only 2% of Black children attending majority-White schools.² Racial integration of public schools in America would reach its high-water mark by

1990,^{2,3} and shortly thereafter Bell (who had since become the first tenured African-American Professor of Law at Harvard⁴) would put forward the following thesis.⁵

Black people will never gain full equality in this country. Even those herculean efforts we hail as successful will produce no more than temporary “peaks of progress,” short-lived victories that slide into irrelevance as racial patterns adapt in ways that maintain white dominance. This is a hard-to-accept fact that all history verifies. We must acknowledge it and move on to adopt policies based on what I call: “Racial Realism”. This mind-set or philosophy requires us to acknowledge the permanence of our subordinate status.

Such was the abject frustration out of which *critical race theory* (CRT) was born, with Bell as one of its founders.^{4,6} The framework of CRT was constructed in an effort to understand the implications of structural racism that is hard-wired into institutions, and a fundamental premise is that racism is ordinary, not exceptional.⁷ Some might prefer to call it “implicit bias”, if only because they are uncomfortable with the idea that racism can manifest as anything short of a racial slur or a racially-driven denial of employment, *i.e.*, that it can be institutionalized.⁸ Others prefer to call normative racism by a simpler name:

Department of Chemistry & Biochemistry, The Ohio State University, Columbus, Ohio 43210, USA. E-mail: herbert@chemistry.ohio-state.edu



White supremacy.^{9–11} A central tenet of CRT is that individuals can perpetuate the power structures of White supremacy even while expressing a genuine desire to eradicate racism.¹²

We live in a moment when the term CRT is being grossly manipulated for political ends.^{13–15} Likewise, Martin Luther King Jr's admonition to "remain awake through a great revolution",¹⁶ which has origins in the Black vernacular of "staying woke",^{17–20} has also been twisted beyond recognition, emerging as the pejorative term "woke ideology". This phrase is used in contemporary discourse as a blanket attack on progressive policies.^{19–23} It is disappointing, although not entirely surprising, that some in the academic and scientific communities are willing to engage in this type of rhetoric,^{24–49} with seemingly little regard for the attacks on marginalized communities that this language empowers. I find it unsurprising, because my experience suggests that despite academia's liberal reputation, many tenured academic scientists exemplify a form of centrism in which privilege manifests as freedom from concern over the consequences of one's language. Tenured academics (myself included) are individuals for whom the status quo has worked out very well, with unparalleled job security and limited scrutiny of our activities. Those freedoms are beginning to erode, not because of "woke ideology" but as a result of a mobilized right-wing political movement that has set sights on what it perceives as bias against conservative ideologies within academia.^{50–55} Nevertheless, some in the academic science community would echo the language that is used by "anti-woke" populists, in order to criticize what they perceive as eroding freedom of speech.^{24–49} In doing so, these defenders of free speech risk giving aid and comfort to the genuine enemies of academic freedom, in a misguided effort to defend an interpretation of free speech in which words have no consequences.

The genesis of my thoughts on these matters lies in several recent essays published in scientific journals,^{24–27} whose authors implore the scientific community to "resist cancel culture"²⁷ in favor of a freedom of speech that is never precisely defined but in whose defense the authors invoke a politicized catchphrase. (Just like "woke ideology", the phrase "cancel culture" has been co-opted from its origins in progressive activism.⁵⁶) In numerous other examples,^{28–49} members of the scientific community have attacked what they perceive as "woke ideology", "political activism", or "critical race theory" within the scientific enterprise. They have adopted the talking points of right-wing grievance politics with uncanny precision, in order to mount a defense of "free speech" that is simultaneously an assault on diversity, equity, and inclusivity (DEI) efforts by universities. In what follows, I will examine the nature of the speech that these authors wish to defend, the biases that they choose to ignore, and the bedfellows that they make by framing their arguments in the language of White resentment. I will argue that the semantics of these arguments matter, in terms of who they empower and who is disenfranchised, and that today's free-speech movement within academia is an implicit defense of an academic culture dominated by White, heterosexual, gender-conforming men. This movement deserves to be taken seriously, if only to prevent backsliding that may erase what modest gains have been made towards diversifying the scientific community.

2 Free speech should not mean freedom from consequences

What does "free speech" mean? To certain people, it connotes the freedom to say whatever one wants, in any forum that one wants, and without consequences, as if this is somehow their birthright. I will call this the "birthright" definition of free speech,⁵⁷ and it seems to be the one favored by those academics who frame their arguments in the language of conservative grievance politics.^{24–49} These essays define the concept of free speech largely by means of examples where the authors believe it has been curtailed. These include efforts to rename buildings, lectures, and awards whose namesakes have expressed views that are now widely regarded as racist, ableist, or misogynist.^{25,27–29} Language guidelines adopted by scholarly journals, in an effort to avoid bigotry in scientific literature, are also offered as examples of suppression.^{26,28} Lists are assembled of academics who have supposedly been "cancelled",^{24,34} and the climate of contemporary academia is compared to the atmosphere that existed under totalitarian governments in the Soviet Union, Nazi Germany, and North Korea,^{25,27–29,35} to China's Cultural Revolution;⁴⁶ to the anti-Communist "Red Scare" of 1950s America;^{29,39,49} and to the self-censure practiced by Copernicus and Galileo, under threat of death.²⁴ Rebuttals to some of these arguments can be found elsewhere,^{58–61} but a brief recapitulation will keep my arguments self-contained.

- It is one thing to name a phenomenon after an individual of dubious morality, *e.g.*, the Haber–Bosch process in chemistry bears the name of Fritz Haber, who was awarded a Nobel Prize in 1918 for its discovery but who is also considered to be the father of chemical warfare.^{61–64} (Haber developed chemical weapons in defiance of the Hague conventions of 1899 and 1907.⁶²) It is something else entirely to bestow an eponymous honorific upon such an individual, such as the Fritz Haber Institute in Berlin. Naming the phenomena is a matter of historical accuracy but the honorific implicitly and undeservedly celebrates its namesake's humanity.⁶⁰
- Individuals are entitled to their opinions but they are not entitled to a platform for those opinions in a scholarly scientific journal. The retraction of a now-infamous opinion essay written by Prof. Thomáš Hudlický,⁶⁵ originally published in the journal *Angewandte Chemie*,^{66–69} generated considerable gnashing of teeth by defenders of birthright speech.^{27–29,36,69,70} The journal was accused of engaging in viewpoint discrimination,³⁶ for withdrawing a polemic that encouraged a culture of blind obedience by graduate students, singled out Chinese scientists as perpetrators of fraud, and decried efforts to diversify academia. However, every journal editor acts as a gatekeeper and it is no more outrageous for a publisher to decline content that fails to meet community standards than it is for *Science* or *Nature* to decide that a particular submission lacks sufficient impact to grace its pages.



Is the Hudlický incident, or the wave of renamed buildings across college campuses,^{71–75} a sign of some climate shift amongst academics, away from free speech? Hardly. Renaming buildings is an exercise in re-evaluating institutional values, and Prof. Hudlický continued to enjoy free speech as a tenured academic until his death in 2022.

To substantiate the idea that a polar shift in intellectual freedom is underway, however, some have cited surveys suggesting that Americans' self-censorship presently exceeds levels reported during the McCarthy era of anti-Communist inquisitions.^{29,39} This claim warrants some clarification. Data from the U.S. suggest that conservatives self-censor more than liberals,⁷⁶ but also indicate that self-censorship is driven by “micro-environments” consisting of friends, family, and neighbors.⁷⁶ Data from Germany indicate that identification with the far-right *Alternativ für Deutschland* party is the best predictor of self-censorship.⁷⁷ In the U.S., tolerance for offensive speech regarding race, gender, and religion is on the decline,⁷⁸ perhaps suggesting that support for the birthright definition of free speech is also waning. In view of this, increasing self-censorship might be a signal that mainstream society has increasingly little tolerance for bigoted views, and that the bigots understand this.

In my own experience, a few friends and colleagues have articulated a feeling that they are no longer able to say certain things in the workplace, lest they be persecuted by some imagined “diversity police”. My response is to ask for real examples. What is it that you wanted to say but did not, for fear of retaliation or condemnation? Perhaps it is something that might previously have gone unchallenged but that we *should* have been policing long ago. Maybe strong reactions to “cancellation” represent nothing more than persons who have traditionally wielded authority being told for the first time that a younger and more inclusive generation doesn't like their ideas.⁷⁹ Perhaps some of the same people who have long created unwelcoming environments are now triggered by the slightest pressure to consider how their words are received.

Absolutists who favor the birthright definition of free speech cite various examples where academics have been sanctioned, suspended, reassigned, or terminated, allegedly for espousing unpopular views.^{24,34–36,44} As with the Hudlický case, however, the circumstances surrounding these examples are rarely as banal as those who reflexively defend their fellow academics would contend.^{80–91} Typically, there is some offensive or inflammatory remark that is euphemized by free-speech hardliners, in order to minimize the culpability of the provocateur in question. Thus, for example, Prof. Amy Wax at the University of Pennsylvania is described as a “rhetorical grenade thrower”⁹² for suggesting that the U.S. “will be better off with more whites and fewer non-whites”.⁹³ Her defenders question whether those remarks are sufficient evidence of a White supremacist attitude,⁹⁴ and they attempt to mollify her racism *via* paraphrase, suggesting that she is merely advocating for “immigration preferences that would advantage those already most culturally similar to the U.S.”.³⁴ In a separate example, a decision by the European Organization for Nuclear Research (CERN) to sever its relationship with physicist Alessandro Strumia^{95–97} was suggested to be retaliation for a bibliometrics analysis in which he

questioned whether women truly face discrimination in physics.^{24,34,49} That description substantially sanitizes the tone of a presentation in which Strumia questioned the value of having women in the discipline at all,^{84–86,95} and also overlooks issues with his analysis itself.^{98,99} As a final example, when the University of Victoria declined to renew an adjunct affiliation with Dr Susan Crockford,¹⁰⁰ a narrative emerged that she had run afoul of the climate-change orthodoxy.^{24,100,101} In reality, Crockford has a long history of climate-change denial that is unsupported by scholarly publications.^{80,81}

Surveying this landscape, I am left to wonder precisely what lost freedom is being mourned. Tenured academics who have become embroiled in controversy have generally retained that status, with a few exceptions.⁹⁰ For the most part, consequences have been limited to social humiliation, forfeiture of some academic kudos or titles (as with Prof. Strumia),^{102–104} temporary suspension or reassignment of teaching duties (Prof. Wax),^{88,105} or retractions along the lines of the Hudlický incident.¹⁰⁶ These consequences do not strike me as overly severe, and in my view the concept of academic freedom should not protect one's right to espouse bigotry, especially if it creates a hostile workplace or learning environment. In a few instances, positions have been rescinded when it came to light that individuals had expressed extremist views unsupported by scholarship, as with Dr Crawford.^{80,81} In another example, postdoctoral scholar (and self-described Islamophobe¹⁰⁷) Noah Carl saw his fellowship at Cambridge revoked when it came to light that he had authored pseudoscience papers on topics such as “race science” and “genetic intelligence”.^{82,107–110} These were presented at a notorious eugenics conference held in secret,^{111–113} and a subsequent investigation by Cambridge concluded that the scholarship in question was of such poor quality that it “fell outside any protection that might otherwise be claimed for academic freedom of speech”.¹¹⁴

The case of Dr Carl illustrates the crucial distinction between *academic freedom*,^{115,116} which is based on scholarship and enjoys strong protections within the tenure system,^{90,91} and a perceived right (by some) to make inflammatory remarks at will, about any topic whatsoever. Free-speech libertarians seek to defend the latter, often by conflating it with the former,^{90,91} but academic freedom is not the same as absolution or immunity from the consequences of extramural speech.^{89,90,117} To suggest that White supremacist language should be sheltered from consequences simply because the speaker holds the title of tenured professor is an absurdity on par with suggesting that academic freedom should protect a research program constructed around a flat-Earth hypothesis, young-Earth creationism, or phrenology. Although the U.S. Constitution protects free expression from government intervention, even where phrenologists are concerned, those protections generally do not extend to employer–employee relationships. The particulars of which extramural speech should threaten a faculty member's employment is not a debate that I am willing to have in the abstract, as it requires careful consideration of individual circumstances and (ideally) structures within universities whereby such cases can be adjudicated by other faculty, who are more insulated from political influence as compared to



administrators.^{90,117,118} In any case, the distinction between speech and academic freedom is one that is too seldom recognized by academics.

My own assessment of these incidents is that a modern climate of *consequences culture*^{60,119} is beginning to manifest in the form of long-overdue pushback against noxious viewpoints. There *should* be consequences for antisocial speech, and no one's academic freedom is legitimately imperiled by a social-media version of Newton's third law. It is worth noting that there exists a generational divide regarding the limits of permissible speech, with older Americans often defending an expansive view that disregards who might be harmed, while younger generations are less tolerant of speech that denigrates or demonizes others.^{120–125} (Younger liberals also tend to avoid interpersonal relationships with conservatives.^{126–128}) These data are sometimes construed as evidence that Gen Z is less open-minded and more intolerant than previous generations,^{129–131} but perhaps what the data mean is that Gen Z (as a cohort) is simply unwilling to tolerate a racist system any longer.¹³² It is perhaps not a coincidence that younger Americans are less likely to be White and more likely to be LGBT+ as compared to older generations,^{133–136} although support for offensive speech is even lower outside of the U.S.^{137,138} In America, the definition of free speech as it applies to racist, defamatory, or non-inclusive language has become a “contested norm”.¹²³

To an older generation that thinks we can all be friends despite our political differences, I would say that this sentiment sounds like an expression of privilege by a dominant elite that seldom finds itself at the pointed end of an attack. High-minded opinion essays bemoan the “illiberal left”,^{139–142} which is accused of “wokeness”¹⁴¹ (as if that were inherently bad), but this attitude fundamentally misconstrues what liberalism is: a school of thought that vigorously defends the right of every person to live a safe and healthy life that is free of fear and intimidation. Given how White (cisgender male heterosexual) elites hold so many of the levers of power, there is an inherent asymmetry in public discourse whenever that group's views clash with those of marginalized communities,¹⁴³ who risk being railroaded out of the conversation. Some universities have begun to adopt free-speech policies that recognize how a dominant group can take advantage of unrestricted speech to overpower and suppress minoritized voices,^{144,145} especially in a political environment where permissive campus speech policies are increasingly weaponized by the right.^{146–148} Unfortunately, “weaponized” is hardly a metaphor in the U.S., where tactics of fear and intimidation are increasingly inseparable from right-wing political activism, with protestors exploiting open-carry laws to bring guns to political demonstrations.^{149–151}

As others have noted,¹⁵² free-speech debates are often not about speech at all but rather about a perceived right to air that speech in specific venues without social backlash, *i.e.*, birthright speech. Those who argue that a repressive climate exists within academia have a tendency to apply the birthright principle specifically to tenured academics, whose speech they defend vigorously without regard to its content, yet the same proponents will deride lesser mortals (who have access to social

media but not to academic journals) as “vigilantes” or “mobs”.^{24,26–34,36–38} This kind of *tone policing*,^{153,154} in which a critique of the emotionality of an argument is used to deflect discussion of its substance, has long been used to silence marginalized voices.

Many of the flash points in the academic free-speech debate center on issues of race or gender that arise in the context of DEI efforts by universities. Defenders of speech-without-consequences focus on perceived “rights” that they believe are being stripped away, but it is important to contextualize who is making that argument. The freedom to engage in detached, emotionless, and supposedly scholarly debate on these topics, while ignoring unequivocal evidence of systemic racism and sexism within the scientific enterprise,^{155–159} is a form of privilege and therefore an assertion of dominance.¹⁶⁰ I call it *ambient White supremacy*,¹⁶¹ by which I mean behavior that serves to maintain the social hierarchy yet requires little more than inaction.¹⁶² Too often, ostensibly race- and gender-neutral activities that perpetuate the status quo are hardly given a second thought by those with privilege, even while (or perhaps because) the effect is to bolster hegemonic power structures. Much of the current free-speech debate falls into this category because it fails to recognize the stakes for minoritized individuals and ignores the impact of the associated rhetoric on people of color. Public discourse is not a level playing field for all speakers, and especially with regard to issues of race and equality it does not make “symmetric asks” of all parties.¹⁴³ Those in positions of power can afford the luxury of polite discussion because they do not endure bias on a daily basis, but those who are targeted by systemic discrimination should not be required to explain why they feel disenfranchised. To minoritized communities, these “debates” are not academic and they are not debates. Instead they are attacks, and they are a tacit rejection of the lived experience (and trauma) of individuals from marginalized groups.^{157,163} Voices of minoritized parties are too often drowned out when a principle of faux objectivity demands a White response to any viewpoint from a person of color. Others have argued that this is the most pernicious form of White supremacy: “the taken-for-granted routine privileging of white interests that goes unremarked in the political mainstream”.¹⁶⁴ Within academia, debates over diversity considerations in faculty hiring often invoke this type of “conferred dominance”,¹⁶⁰ or in other words, the privilege to ignore context.

3 Faculty hiring: the meritocracy myth

Free-speech hardliners are taking aim at DEI efforts within academia, specifically when it comes to faculty hiring. In the U.S., DEI or “commitment to diversity” statements are now a commonplace component of faculty job applications but that practice is decried by some as an affront to academic freedom.^{33,48,165–168} A frontline organization in these attacks is the Foundation for Individual Rights and Expression,¹⁶⁸ which has a long history of right-wing funding.¹⁶⁹ Other conservative



organizations have joined in these attacks,^{170–172} often characterizing DEI initiatives as exercises in CRT,^{172–176} and in the U.S. there is a growing push by conservative lawmakers to make DEI activities illegal.^{177–179} Rather than assuming that diversity statements are intrusive, however, why not consider that they present an opportunity for candidates to enunciate professional activities (or plans for future activities) that do not naturally find a home in other parts of an application? To do so recognizes that there are many dimensions to what makes a good scholar, and that a research proposal and publication list may not cover all facets of leadership, mentorship, and pedagogy.

At the nexus of DEI efforts and the free-speech debate sits the case of Prof. Dorian Abbot, whose invitation to deliver a named lecture at M.I.T. was rescinded in the wake of controversy regarding his views on diversity considerations.^{104,180} Perhaps most notably, Abbot has written that DEI initiatives will sap talent from American universities in a manner analogous to when Jews were expelled from German universities under the Nuremberg Laws,¹⁸¹ and he has compared DEI efforts and “woke ideology” to Soviet totalitarianism.^{43,180} (Professor Abbot’s lecture was later rescheduled at Princeton,^{180,182} and he received a “Hero of Intellectual Freedom” award for his trouble.¹⁸² Nevertheless, he subsequently made an appearance on Tucker Carlson’s Fox News program to bemoan his “cancellation”.^{183,184}) Some have attempted to reverse victim and offender,^{29,34} offering a sanitized version of events in which the courageous Prof. Abbot is merely an advocate for “equal opportunity, fairness, merit-based evaluation, and academic freedom”.²⁹

The phrase “merit-based evaluation” is a canard used to justify the status quo, shorthand for refusal to acknowledge implicit bias or the fact that ostensibly objective metrics may encode bias.^{185–205} Standardized test scores,^{198,199} publication rates,^{192–195} citation statistics,^{200–205} grant funding,^{186–192} patents,¹⁹⁶ and speaking invitations¹⁹⁷ have all been shown to exhibit bias against minoritized scientists. Women in science win fewer awards^{206–211} and are less likely to be journal editors^{211–213} as compared to men. Inequity begins much earlier, however, especially for people of color. Access to resources is a critical component of achievement, yet the availability of high-quality schools too often depends on income.^{214–217} Access to institutions builds peer networks, thus poverty of opportunity is strongly influenced by race^{157,218–223} as a consequence of the racial wealth gap.^{224–229} This legacy affects the preparation of junior scholars, which warrants consideration as we address how merit should be evaluated.

The case for “merit-based evaluation” is best examined against the stark White backdrop of academia. In the U.S., only 6% of college and university faculty are Black as compared to 13% of undergraduates, and 5% of faculty are Hispanic *versus* 22% of students.^{230–232} (Representation by both women and faculty of color drops when only tenure-track positions are considered.^{233,234}) Increasingly, the undergraduate student body in America does not look like its teachers, as the former has grown from 16% to 46% non-White between 1976 and 2020,²³⁵ consistent with a public grade school population that has been majority non-White since 2014.^{236,237} Faculty hiring from

underrepresented groups is not keeping pace.²³⁸ For example, between 1985 and 2020 the fraction of Black faculty grew from 4.1% to just 5.7%,²³⁵ and the increase in *tenured* faculty of color has been even slower,²³⁹ while rates of attrition are much higher for faculty in underrepresented groups.^{240–242} If present trends continue, by 2060 the overall percentage of underrepresented faculty in the U.S. will lag about 20% behind demographic parity, at both research-intensive universities and liberal arts colleges.²⁴³ While some countries are beginning to approach gender parity at entry-level faculty ranks,^{244,245} this is only true when the data are aggregated across disciplines. Furthermore, women advance more slowly through the ranks than men, even when the data are corrected for productivity.²⁴⁶

These disparities are most pronounced in science, technology, engineering, and mathematics (STEM).^{247–253} In the U.S., for example, less than 2% of chemistry and biology faculty are Black and only 3% are Hispanic.^{252,254} In the U.K. in 2013, 18% of first-year undergraduate chemistry majors identified as Black or minority ethnic (excluding Asian students),²⁵⁵ yet there was a singular Black faculty member in chemistry as of 2020.²⁵⁶ A partial explanation lies in the dearth of doctoral degrees awarded to students of color,^{257–259} *e.g.*, in the U.S. only 3% of physical science Ph.D.s awarded in 2019 went to Black students and only 7% to Hispanic students.²⁵⁹ Percentages are similarly low in engineering disciplines.^{260–262}

That said, the widely-used “pipeline” metaphor²⁶³ does not fully explain lack of representation. In 2001, women accounted for more 25% of physical science Ph.D.s awarded annually in the U.S.,²⁶⁴ yet by 2017 more than half of the top-50 chemistry departments still had no more than 20% female faculty, and none had more than 32%.²⁶⁵ The talent pool is “underutilized”,²⁴⁷ in the sense that the proportion of assistant professors who belong to underrepresented groups continually and significantly lags the gender and racial composition of recent Ph.D. recipients.^{243,247–249,265–268} For the past decade, the fraction of women hired by U.S. universities has been unchanged or has decreased in 107 separate fields of study,²⁴¹ despite the fact that women tend to be interviewed at somewhat higher rates than a random sample of applicants would produce.²⁶⁹ Higher rates of attrition^{240–242} partly explain why gender disparities are more pronounced at the rank of full professor,^{244,245} and for the most prestigious awards and senior editorships.^{207,213,270,271}

Data from the U.K. indicate that the fraction of women who express interest in an academic career plummets from 72% to 37% over the duration of the Ph.D. degree, whereas no significant drop occurs for men.^{240,272} In the U.S. in 2016, only 26% of chemistry postdocs were women as compared to 41% of graduate students.²⁶⁵ The pipeline leaks, so the metaphor goes, but often those leaks are evidence of systemic bias;^{156,243,273} *something* is keeping women and people of color out of academic jobs. For women, documented concerns include work/life balance,^{274–284} lack of professional support or mentoring,^{272,285} a hyper-masculine workplace culture,^{240,286,287} and differential standards that are reported by women but not perceived by their male colleagues.²⁸⁸ For aspiring faculty of color, additional factors include the psychological stress incurred in navigating a professional landscape that expects conformity with the



prevailing White hegemonic culture,^{156,262,289–295} as well as role models whose effort to be colorblind fails to acknowledge racial inequities in student preparation.²⁹⁶

Training additional underrepresented students up to the Ph.D. stage will be an insufficient salve until these underlying factors are addressed. Hiring data across disciplines suggest that the U.S. is approaching a steady state with regard to gender representation in academia, and one that is well below parity.²⁴² Why? One hypothesis is that family considerations limit the participation of women within the current structure of academia. Specifically in STEM disciplines, childbirth is a major driver of gender inequity as women leave their fields at much higher rates than men following the birth of a child.^{297,298} Cultural schemas within academia continue to stigmatize motherhood and other caregiver responsibilities,^{278,299–303} despite the fact that childbirth has no long-term effects on academic productivity.^{302,304} Gender disparities persist in caregiver obligations, as evidenced by disparities in various productivity metrics during the COVID-19 pandemic.^{305–312} The increasing “casualization” of the academic science workforce (e.g., postdoctoral scholars or adjuncts on short-term contracts),^{313–315} combined with a lack of effective labor unions for students and postdocs at most universities, serves to calcify inequity in the form of an exploitative workplace culture that disadvantages anyone with obligations beyond the narrow scope of their scientific duties.^{301–303} (Recent successful labor activism at the University of California is an interesting exception,³¹⁶ where students won a small subsidy for child care.³¹⁷) All of these factors are likely to depress the metrics of potential faculty candidates who have caregiver responsibilities. The more emphasis that we place on those metrics, the more we tilt the supposedly meritocratic evaluation process in favor of candidates with no such obligations.

What can be done to mitigate the compromises that women feel they must make in order to pursue an academic career? University leadership must address abusive workplace culture,³⁰¹ including excessive working hours.^{315,318} (Some studies have suggested that working beyond about 55 hours per week does not lead to increased productivity.^{319–322}) Workplace culture may be partly responsible for a growing mental health crisis amongst graduate students and postdocs.^{314,323–329} As a community, we must normalize the idea of flexible work schedules and a work culture that makes home life visible,³¹⁵ as women in academia often report feeling they must de-emphasize their role as a caregiver.³⁰² If an expectant mother already has federal grant funding, then administrative supplements are available under limited circumstances,^{330,331} but we should not predicate this support on securing extramural funding. Paid maternity leave, access to child care, and conference travel grants to support child care would further mitigate the motherhood penalty.^{298,304,332–334} While we are at it, why shouldn't we extend such benefits to graduate students and postdocs? If the answer to that question is “cost”, then I would ask: what monetary value should we place on equity? Developing or expanding the aforementioned programs would almost certainly help to recruit and retain women in academia.³⁰⁴

Whatever the underlying causes, it is farcical to suggest that the statistics cited above represent the equilibrium state of a merit-based hiring process. This “unwillingness to name the contours of racism”³³⁵ (or sexism) is a defining characteristic of how White (male) supremacy permeates our culture.¹⁶⁴ Out-of-proportion hiring of White men is never viewed as a racial or gender preference, yet every candidate of color risks being labeled a “diversity hire” in the eyes of some. Network effects exacerbate inequality by amplifying the advantages of privileged groups,^{192,336–340} meaning that those who aren't victimized by systemic discrimination actually benefit from it. The supposed meritocracy frequently devolves into pattern-matching, with a template that reflects the legacy elites who have historically dominated the scientific enterprise.³⁴¹

These observations are not inconsistent with the fact that faculty diversity has improved somewhat in recent decades, especially with regard to gender. Studies suggest that older female academics sometimes conform to the values (and unconscious biases) of their male colleagues, in particular a science-above-all mentality and a philosophy of “toughness”,^{273,342} as well as a belief in meritocratic rather than structural explanations for gender disparities in academia.³⁴³ These factors dilute the effect that these women might otherwise have in reshaping academic culture.^{273,342} That these pioneers have struggled and succeeded is evidence that some women are able to navigate a traditional male power structure, albeit sometimes by adopting stereotypically masculine traits.^{344,345} Their success, however, need not indicate that the male-dominated power structure is fundamentally changing. Institutionalized discrimination manifests in the way that we support diversity in principle, yet we demand that a diverse cohort succeed according to metrics that were established by a hegemonic White male power structure. There are, however, some signs that younger women may be succeeding in academia without conforming to masculine norms.³⁴²

For all of these reasons, terms like “systemic racism” and “systemic sexism” seem inadequate, and only “White male supremacy” properly characterizes a world in which Whiteness and masculinity are the normative standards.^{9,164,346} Some opponents of DEI initiatives advocate for separating science from morality according to Merton's principle of universality,^{25,28,37} which supposes that it is possible to evaluate truth according to criteria that are unaffected by gender or ethnicity. This principle has been used to delegitimize the lived experience of minoritized groups,³⁷ ignoring the manner in which the entire academic system is designed around the lived experience of White men. A reality-based analysis must reject Merton's abstract conceit, as the notion that unconscious bias can be eliminated is wishful thinking, inconsistent with scientific data.^{347–351} Merton's universalism supposes that science is open to anyone with talent, but science is not practiced in a vacuum and our social structures are neither race- nor gender-neutral.²⁹⁹ That is Bell's “hard-to-accept fact that all history verifies”.⁵

Nevertheless, the idea that science and engineering are strictly meritocratic, apolitical endeavors is an endemic one, instilled from students' earliest training.³⁵² The notion that anti-racism efforts are detrimental to White interests is similarly deeply



rooted.^{353–359} The latter view, however, is also politically partisan,^{358–360} having been a mainstay of conservative American politics since the 1960s.³⁶⁰ Much of the backlash against DEI efforts reads to me as the politics of White victimhood that emerged as a reaction to the movement for African American civil rights, and which is showcased whenever “merit-based hiring” is framed as the antithesis of “diversity hiring”.³⁶¹ It is a fallacy and an insult to suggest that these strategies are mutually antagonistic, or that merit and diversity constitute a zero-sum game. It is equally absurd to suppose that any unbiased metric exists, according to which candidates can be objectively ranked. Should that metric be the length of a candidate’s publication list? Of course not, because the nature and content of the papers matters. (Moreover, the conventional narrative of peak productivity early in one’s career does not hold up to detailed scrutiny.³⁶²) Should it be citation counts, which have well-documented gender bias?^{200–204} Should it be the ranking of the candidate’s doctoral institution? The latter encodes significant bias, given the overwhelming Whiteness of most elite institutions, many of which actively excluded people of color (as well as women, Jews, and others) for decades if not centuries. Western cultural schemas to evaluate merit evolved in Europe and the U.S. over those same centuries, when science in Western countries was pursued almost exclusively by White men. These paradigms inherently disadvantage women, people of color, and also gender non-conforming men.^{299,302,363} For example, the “work-devotion schema”,³⁰² in which excellence demands singular focus on scientific activities, actively stigmatizes parenthood.^{299,301–303} To a significant extent, our entire construction of the academic scientist (and thus our paradigm for “merit”) is predicated on the existence of domestic support structures.²⁹⁹

In practice, institutional pedigree is the metric that best correlates with who gets a faculty job,^{241,338,364–368} and a tiny number of institutions account for the majority of U.S. faculty.^{241,365} For example, half of the chemistry faculty at the top 25 research universities obtained Ph.D.s from just 10 institutions.³⁶⁹ Across all disciplines, 20% of U.S. universities produce 80% of its faculty,^{241,367} with just five institutions accounting for 1 in 8 faculty members.³⁶⁸ One might hypothesize that candidates from these top universities are simply more qualified than their competitors but that assumption is at odds with existing data. Enhanced productivity at elite institutions has been objectively documented,^{370–372} yet it has been demonstrated to be a function of environment rather than pedigree.^{339,372–375} In other words, access to resources (including better students³⁷² and collaborator networks³⁷⁵) serves to amplify faculty productivity at elite institutions, as does the “Matthew effect” of accumulated advantage,^{339,376–379} whereby notoriety begets greater recognition for work of comparable quality. In-group bias based on peer networks is also a likely contributor to documented racial disparities in grant funding,^{186–189,191,192} which in turn contributes to documented retention issues for faculty of color.^{239,241} (Experiments with double-blind review produced mixed results on the question of whether it aids underrepresented authors,^{380–386} but do suggest that authors from top-ranked universities experience lower acceptance rates when their identities are concealed.^{384–388}) Crucially, individuals

who obtain their Ph.D.s from lower-ranked institutions wind up being just as productive at elite institutions, despite differences in pedigree.^{339,374} Unfortunately, the achievements necessary to attend an elite university (where peer networks begin to foment) represent a form of social capital, and systemic racism ensures that people of color have less of that capital.³⁸⁹ Limited-submission “pathway to independence” awards (in the style of the NIH-K99 program,³⁹⁰ but with a fixed number of applicants per institution) have been suggested as a strategy to promote institutional diversity amongst new hires.²⁴²

4 Diversity should be empowering, not threatening

In view of these data, it is difficult to defend the premise that academia is a meritocracy,³⁰² and hard to hear the phrase “merit-based hiring” as anything but a dog-whistle whose real meaning is to encourage a process that protects existing power structures by ignoring both implicit bias and the overwhelming evidence of systemic oppression of underrepresented groups within the scientific enterprise.^{155–159} Prestige-driven hiring is a form of ambient White supremacy that reinforces existing social capital.^{336–340} In reality, “merit” is not so easy to define or measure, and it is precisely because of that subjectivity that the process is vulnerable to implicit bias; there is always a tendency for successful people to use their own life experience as a paradigm to evaluate others. That homophilicity manifests within the faculty search process in language such as “top person”, “star”, or “visionary”, which is often used without qualification or quantification, and which is frequently code for promoting White men. The phrase “good fit” is an especially widespread form of euphemized bias,^{391–396} by means of which the definition of merit is redefined on-the-fly in order to match idiosyncratic credentials of a particular applicant.³⁹⁷

This subjectivity, while daunting, also presents opportunities to broaden how we define merit. Why shouldn’t a candidate’s outreach or mentorship activities be considered alongside their discipline-specific technical proficiencies? Why shouldn’t a candidate’s bold ideas regarding how to advance inclusivity be considered alongside their clever proposals for new laboratory experiments? What if a candidate has ideas to address the ways in which introductory science courses disproportionately drive minoritized students out of STEM?^{398–401} Progress towards mitigating that pernicious problem might be worth the equivalent of a considerable number of incremental research articles in an assistant professor’s tenure dossier, though it will require research-intensive institutions to embrace and encourage young faculty members who have new ideas about teaching.⁴⁰² I suggest that a holistic view of faculty hiring must accept that excellence has many facets, including not just research endeavors but also an obligation to teach, mentor, and train new generations of scientists. The latter responsibilities are often overlooked at research-intensive universities. Women and faculty of color are left to shoulder the burden of mentorship, at significant professional cost,⁴⁰³ in what is sometimes called the “minority



tax".⁴⁰⁴ Not coincidentally, women are overrepresented in awards for teaching, mentoring, and service.²⁰⁶

That said, to ignore mentorship is to create a feedback loop whereby predominantly White Ph.D. recipients from top-ranked institutions continue to dominate academia. Given a student body that is increasingly non-White (46% of U.S. college and university students) and more than half female (59%),²³⁵ we are increasingly depriving students of role models who look like themselves, setting up a self-perpetuating cycle of unsupportive mentoring relationships.^{156,405,406} To counter this, evidence suggests that people of color benefit when their White mentors acknowledge race as a potential obstacle.^{220,295,407–409} Social cognitive exercises, such as explicit discussion of issues related to representation, have been shown to have a positive effect on women's attitudes towards physical science.^{410–412} Such exercises might combat stereotypes about intellectual ability that drive young women out of STEM disciplines.^{413–415}

As academics, it is our job to ensure that educational resources are accessible to students of all backgrounds, but when our language fails to be inclusive—and rants comparing DEI initiatives to totalitarianism can hardly be considered otherwise—the effect is to maintain and bolster hostile environments for students and coworkers who are not White, or who belong to other historically marginalized groups. This includes the LGBT+ community, which may include as many as 1 in 5 young adults in America.^{135,136} That community has faced its own representation, retention, and harassment issues within STEM,^{416–427} sometimes in the form of *heteroprophesism* or the need to hide one's identity in the workplace.⁴²⁸ (Within academia as within society, these issues are much more severe outside of the U.S. and parts of Europe.^{428–431}) Unsurprisingly, LGBT+ individuals are more likely to be open in the workplace when they perceive a supportive environment and when employers have policies that protect against discrimination based on sexual identity.^{432–434} Representation matters,^{423,429} because it lowers barriers for others to be open. That simple fact has characterized the entire historical evolution of the struggle for LGBT+ rights.⁴³⁵

In contrast, non-inclusive language creates barriers (either implicitly or explicitly) that prevent some students from having the same access to educational resources as their peers. For example, an unwelcoming environment towards LGBT+ students within a particular research group might cause those students to self-select away from that group, closing off entire career opportunities even if students never experience explicit harassment. It is our duty as scholars and educators to make it unambiguously clear that individuals from all backgrounds are valued members of our community, and that means advocating for diversity.

Beyond that responsibility, however, we should place real value on diversity and not simply acquiesce to demographic changes, because data suggest that diversity enhances the health and productivity of the scientific enterprise.^{436–444} Everyone has blind spots, and building a diverse community of scholars is how we collectively fill those gaps in knowledge, experience, and appreciation, while avoiding “group-think”.^{199,445} Conversely, the semi-closed academic ecosystem

created by non-meritocratic, prestige-driven hiring impacts what research topics are pursued by newly-minted faculty.⁴⁴⁶ Diversity thus pays dividends for scholarship, and educational practices can create a positive feedback loop. For example, curricula developed around DEI concepts can improve student buy-in by providing real-world context,^{447–449} and there is evidence that diversity itself both enhances student engagement⁴⁵⁰ and improves graduation rates for underrepresented students.⁴⁵¹

To address stark racial disparities in college graduation rates, which do not correlate with secondary school preparation,⁴⁵² some have suggested elevating anti-racism studies in higher education.⁴⁵³ Recognizing that racism (whether implicit or explicit) has often driven both curriculum and scholarship,^{454–458} efforts are actively underway to “decolonize” the science curriculum in the U.K.^{459–461} In pursuing such efforts, one must summon the resolve to face inevitable backlash, as students from culturally homogeneous backgrounds often perceive anti-racism efforts to be threatening.³⁵³ Peer-cooperative instruction practices have been suggested as means to retain underrepresented students in STEM disciplines.^{452,462–464} As scholars, we need to recognize that education is not a race-neutral construct,^{9,164} and that an essential part of our job is to provide context and to “educate for critical consciousness”.⁹ The challenges faced by underrepresented students cannot be adequately addressed so long as we insist on viewing society and education through colorblind schema.

5 The dangerous language of right-wing grievance

Much of what has been written recently in defense of academic free speech enthusiastically embraces the language of right-wing grievance. These similarities are not esoteric and should disturb even those who take an expansive view of free expression. Terms such as “cancel culture”,^{22,465–468} “woke ideology”,^{19–23} and “critical race theory”^{13–15,173–176} are now routinely used to promote a political agenda that opposes progressive policies. Americans' feelings about “cancel culture” correlate with their overall political leanings,^{469–471} suggesting that much of the current outrage over supposed threats to free speech may in reality be a response to perceived threats to White identity.⁴⁷¹

Much of this language originates in the U.S., yet the volume of American media is such that it has quickly been exported. The same rhetoric has been adopted enthusiastically by Viktor Orbán in Hungary,^{472–474} whose advocacy for the racist “Great Replacement Theory”^{475–477} parallels that of leading figures in right-wing American politics.^{477–486} Anti-LGBT hate speech by Orbán,^{487,488} and by Vladimir Putin in Russia,^{489,490} has made both men into darlings of the American political right.^{473,474,490–498} Former Australian Prime Minister Scott Morrison described efforts to remove discrimination protections for the LGBT+ community as a fight against “cancel culture”,^{499,500} and U.K. Prime Minister Rishi Sunak has described such



protections as “woke nonsense”.⁵⁰¹ In France, the epithets “woke culture” and “cancel culture” have been used in an attempt to discredit academics working on race and gender issues,^{502–504} who have been labeled as “Islamо-leftists”,⁵⁰⁴ while the bombast of “cancel culture” and “woke ideology” has also been embraced by ultra-right parties in Germany and Italy.^{505–509} These phrases are now fully dissociated from their progressive origins,^{18–21,56} having become slogans for conservative politics and codewords used by those who would defend the status quo against progressive change.

Consider an example that involves a genuine free speech issue, namely, a recent move by the U.S. state of Florida to eliminate the institution of tenure in higher education by requiring that all academic appointments be renewed every five years.^{510–512} (Similar efforts are underway or have passed already in several U.S. states.^{51–55,513}) The Florida legislation follows an “intellectual diversity” survey that was sent to faculty,⁵¹⁰ and the Speaker of Florida’s House of Representatives made it clear that the goal was to prevent faculty from promoting a “radical agenda”.^{510,511} Who decides what is radical? In this case, it is the same state government that passed a “Don’t Say Gay” law aimed at stifling discussion of LGBT+ issues.^{514–516} Another new Florida law, designed to limit classroom and workplace discussion of race, is literally titled the “Stop WOKE Act”.^{516–518} Florida’s governor has described that law, which faces legal challenges,⁵¹⁹ as a ban on CRT.⁵²⁰ His rants against a “radical vigilante woke mob”^{521,522} are indistinguishable (to my ears) from the language used by academics who defend birthright speech.^{24–27,29–38} Whereas the latter group’s premise is that academics are devouring their own academic freedom, these examples encapsulate how catchphrases such as “woke identity” and “woke activism” are in fact used by politicians as a pretense to restrict speech, under the guise of a crusade against a purportedly anti-speech “cancel culture”.^{523–528} It is these restrictions, rather than squabbles about offensive remarks by this or that academic, that are having a real impact on academic freedom.^{525–529} It is disappointing that some members of the academic community are willing to join conservative politicians engaging in rhetorical sleight of hand.

Just as Noah Carl’s Oxford credentials were touted by White supremacists in order to promote eugenics,¹¹³ amplification of right-wing talking points by academic scientists provides intellectual cover for policies and behavior that actually function to restrict free speech, and to embolden attacks on marginalized communities. Consider the following examples.

- Several U.S. states have recently passed legislation restricting classroom discussion of gender and sexuality.⁵³⁰ At present, 18 states have banned transgender athletes from participating in youth sports,^{531,532} and some are denying other transgender accommodations as well.^{532–534} Florida’s governor has characterized such legislation as an effort to eliminate “woke gender ideology” from the curriculum.^{535,536} A conservative politician with anti-LGBT views was recently selected to lead the University of Florida,^{537–539} despite strident opposition from within the university.^{539,540} Meanwhile, the person primarily responsible for the U.S. Republican party’s anti-CRT and anti-transgender obsession^{14,15} has

been appointed to the Board of Trustees of a Florida liberal arts college.^{526–528} In the U.S., transphobia has become a political statement.^{125,541–547} The situation may be even worse in the U.K.,^{548–560} where mainstream media outlets skew anti-trans^{556–563} and there have been calls to remove legal protections for gender identity.^{501,562–564}

- Anti-CRT rhetoric is equally politicized.^{170–176} At least two dozen U.S. states have passed legislation that restricts the ability of educators to discuss race and other “divisive concepts”.^{565,566} Similar laws are under consideration elsewhere,⁵⁶⁷ and DEI efforts in general are under siege.^{177–179} Absent serious discussion of race at the classroom level, racist ideologies such as Replacement Theory will continue to spread.^{567,568}

- *This has led to harassment.* With coaching from anti-CRT advocacy groups, White parents in the U.S. state of Georgia mobilized to destroy the career of a Black educator who was set to become a school district’s first-ever coordinator for DEI initiatives.⁵⁶⁹ Opposition to her appointment was framed as a fight against “woke political understanding”.⁵⁶⁹ The state of Oklahoma recently moved to revoke the credentials of a teacher who provided access to books about LGBT+ identity,^{570–572} which were banned under a new law that is part of a broader effort by U.S. conservatives to eliminate discussion of race and gender identity in the classroom.^{573–577} (Over 100 anti-LGBT bills were introduced in U.S. state legislatures in the first few days of 2023.^{576–578}) In the Oklahoma case, teachers were urged to avoid terms such as “diversity” and “white privilege”.⁵⁷⁹

- *This has led to violence.* Numerous mass shootings in the U.S. over the past decade can be traced to racist ideologies, inspired in part by Replacement Theory.^{475,580–583} Nevertheless, some have tried to blame “cancel culture” for causing young White men to commit acts of mass murder.⁵⁸⁴ Intimidation by armed protestors is the new reality for LGBT+ events in the U.S.,^{585–587} fueled by a right-wing narrative that the LGBT+ community is “grooming” children.^{588–590}

Contemporary enthusiasm for transphobia is especially troubling in view of data indicating that 30–40% of transgender individuals have attempted suicide,^{591–595} with transgender adolescents at significantly greater risk than their cisgender peers.⁵⁹⁶ Studies suggest that policy changes described above are already having a negative impact on the mental health of LGBT+ youth.^{597,598} It is therefore notable that LGBT+ teenagers are more than four times more likely (as compared to heterosexual peers) to contemplate suicide.⁵⁹⁹ They also experience homelessness at far higher rates.^{600,601}

Transphobia has become a point of fixation for the birthright-speech community,^{30–32,36,37} which has once again attempted to disguise bigotry under a patina of academic freedom.^{30,602–612} One example is a controversial study of “rapid-onset gender dysphoria”,⁶¹³ a pseudoscientific term invented and weaponized by the trans-antagonistic community.^{614,615} When that study was corrected following post-publication review,^{616–618} there were accusations (from free-speech hardliners) of editorial interference.^{30,602,610} In reality, the correction



added important clarifications such as the fact that data were not collected from the adolescent subjects themselves, nor from clinicians, but only from parents who were recruited from websites known to be skeptical of gender-affirming medical care.⁶¹⁶

Efforts to de-platform so-called gender-critical scholars (a term that is itself a form of euphemism) have also drawn concerns over academic freedom.^{609–611} The gender-critical community has successfully adopted the language of martyrdom and victimization,^{548,562,619–621} in order to repackage attacks on transgender people into an ostensibly neutral guise that is palatable to certain establishment liberals who do not ordinarily traffic in right-wing tropes.^{563,619} It is “laundered extremism”,⁶¹⁵ but in reality there is disconcerting overlap between gender-critical activism and far-right ideologies.^{620–625} By suggesting that the trans community is denying “the material reality of sex”,⁶¹⁰ gender-critical scholars base their objections on a dimorphic, gendered-at-birth essentialism that presents a façade of neutrality,^{548,563} but which ignores the diversity of non-binary sexual identity.^{561,621} The existence of transgender people threatens those who would dichotomize gender,⁶²⁶ with gender-critical scholarship often promoting a form of zero-sum feminism that is eerily reminiscent of White backlash again immigration, diversity hiring, and anti-racism efforts.⁶²⁷

One of the most visible gender-critical feminists is Dr Kathleen Stock, formerly of the University of Sussex, who has become a flashpoint in the free-speech debate. Her writing offers a shifting rationale for excluding trans women from female-only spaces,^{628,629} and she has attacked the LGBT+ advocacy group Stonewall for its trans-inclusive activism,⁶³⁰ suggesting that it exaggerates claims of anti-trans violence and has “turned universities into trans activist organisations”.⁶¹² (There is no evidence that allowing access to toilets conforming to one's gender identity leads to any increase in sex crimes.^{631–633}) Hundreds of academics signed an open letter decrying Stock's rhetoric for its role in promoting further oppression of the trans community.^{87,634} Although publicly defended by her university in the face of student protests,^{635–637} Dr Stock ultimately resigned her academic position citing lack of support from colleagues.⁶³⁸

While some of the protest efforts against Dr Stock might be characterized as harassment,^{607–610,639} and with the strict caveat that threats of violence should never be acceptable, such incidents cannot reasonably be equated with the intimidation and violence that has been directed against transgender people.^{640–644} Some have expressed concern that the calamitous departure of Prof. Stock from her academic position may have a “chilling effect” on academic discussions of gender identity,⁶¹² but a competing viewpoint is that one should not expect outspoken bigotry to be met with polite debate. Denial of trans identity is a form of harassment and thus transphobia,^{640,645–647} even when couched (as it often is) in a veneer of concern for the well-being of transgender or gender-questioning individuals.⁶⁴⁷ When it comes to calling out bigotry, protesting gender-critical speakers, or petitioning universities to investigate

“scholarship” that undermines trans identity, I find it difficult not to sympathize with a community whose very legitimacy is constantly under attack. People *should* protest the denial of their rights, even when that rejection is camouflaged with a pretense of “academic freedom”. Transgender rights are human rights, and to abandon the former is to surrender the latter.⁵⁹⁰

Dehumanizing language aimed at historically marginalized groups, whether spouted by politicians or disguised as scholarship, has the effect of normalizing discrimination and creating a climate that foments stochastic terrorism.^{594,648–653} Hate crimes are on the rise,^{654–657} including those targeting the LGBT+ community.^{643,644,652} For example, 40% of transgender Britons say they have experienced a hate crime within the past year.⁶⁵⁸ In the U.S., there are indications that universities are failing to provide an equitable learning environment for LGBT+ students, leading to disproportionately high dropout rates as compared to heterosexual peers.^{659,660} For students of color, the prevalence of hate crimes reinforces the “battle fatigue”⁶⁶¹ that they already experience at predominantly White institutions.^{262,290,291,661–663}

6 Standing up: silence is complicity

Academics who desire freedom from the consequences of their own language strike me as this generation's “white moderate[s]” (to use King's phrase), unaware or unconcerned that their arguments resonate with the backlash against non-White perspectives that lies at the heart of anti-CRT rhetoric.⁶⁶⁴ Overwrought concern over “outrage mobs”^{24,26–34,36–38} reads like a desperate plea from in-group elites who are terrified that they are losing control of the social narrative to a younger generation that is both more diverse and more progressive.⁶⁶⁵ Likewise, strong reactions to the climate in today's universities can be understood as a reflexive defense of the status quo, in the face of a new generation that is disgusted with the racism and sexism that have long been perpetuated by academic institutions. Those of us who belong to the dominant elite—and I certainly count myself in that category—need to recognize our own privilege,⁶⁶⁶ and learn to appreciate that what strikes us as ostensibly neutral policy or objective measure often carries the full force of legacy discrimination and disenfranchisement behind it. Too often, tenured faculty work to protect the system that put them in a position of privilege, without questioning the assumptions that underlie the institution. This is precisely the power dynamic that CRT was formulated to dissect, and serious scholarship has been dedicated to understanding how paradigms constructed by White men over centuries have distorted our view of scientific achievement.^{302,667} This is not “woke ideology”, but rather critical and essential self-examination.

Suggestions that we should not “politicize” the scientific enterprise,^{25,40–42} or that scientific journals should keep social commentary out of their pages,^{45–47} fail to recognize that doing nothing to address the legacy of racism and unequal representation is itself a social science policy: it is ambient White supremacy. Those who question the need for equity policies are effectively denying unequivocal evidence of systemic racism and



gender discrimination in science.^{155–159} In some cases that rejection is explicit, as in calls to avoid injecting concerns about race into science,^{40–42} with scholarship addressing racial inequality being dismissed as “political activism”.⁴² This is a perfect example of White privilege, in its assumption that the scientific enterprise is unblemished by the racist society in which it exists. Any attempt to question the hegemonic power structure is regarded by the dominant group as inherently political, whereas behavior that perpetuates the status quo (and thus tacitly endorses the hegemony) is taken to be politically neutral. The privilege inherent in “just asking questions” is a tacit but no less pernicious denial of the manner in which those questions attack minoritized communities by reinforcing the norms of a White heterosexual male culture.

Freedom of expression and the freedom to pursue one's own research agenda are factors that have drawn many to pursue academic careers, but the present times call for caution and intentionality. Social pushback against non-inclusive speech is not the enemy of the academic freedom that we cherish, and even for tenured faculty there must be limits.⁹⁰ There are certainly genuine debates to be had regarding the climate and culture of modern universities, including what should be done when conservative provocateurs invite speakers to campus whose basic theses are attacks on marginalized communities.^{146,668–670} Who decides what is controversial *versus* what is simply inflammatory? Who shall pay for security when communities targeted for harassment invariably come out to protest?^{146–148} Social media has amplified this debate and altered its contours in ways that prevent simple comparisons to the campus free-speech movement at Berkeley in the 1960s.⁶⁷¹ In its contemporary incarnation, invitations to radical “alright” speakers are often intended simply to focus attention on far-right points of view;⁶⁶⁸ the outrage and the protests are not a by-product, they are the goal. With regard to these and other campus free-speech issues, there are undoubtedly cases where university officials have overreacted, though perhaps not with nefarious intent, but the complexities are difficult to disentangle when the defenders of birthright speech insist upon euphemizing bad behavior.

It is the duty of decent people not to aid in furtherance of racist ideas, and as members of the academic and scientific communities we cannot allow ourselves to provide intellectual cover for—and thereby lend credibility to—society's worst elements. Replacement Theory is no longer a fringe idea but a mainstream one,^{473,476,672} espoused by top-rated television news programs and conservative politicians.^{477–486} By some measure, the last few years have seen radical right-wing politics enter mainstream conversations to an extent not seen in a generation.⁶⁷³ Those who advocate for a perceived entitlement to say whatever they want, without fear of backlash, are using their privilege and the megaphone that it provides in order to advance the language of exclusion rather than inclusion, in dangerous resonance with the enemies of progressive social change. These are the elements of genuine illiberalism, and to counter those forces it is incumbent upon the rest of us to hear the voices of those with less privilege and to choose our words in ways that welcome students and colleagues of all backgrounds.

As a prerequisite to any serious discussion, we need to divorce ourselves (and our literature) from the language of White supremacy, from the language of transphobia, and from those who enable or promote either.

Lack of diversity in academia requires structural solutions that go beyond bemoaning the “pipeline”, and which recognize that underrepresented scholars—even those who make it to a Ph.D. degree—face real barriers. Others have articulated specific ideas regarding improvements to faculty hiring procedures,^{393,674} mentoring practices that are explicitly conscious of racial identity,^{262,409,675–678} creation of an anti-racist university atmosphere and curriculum,^{447–449,461,677–683} and more equitable grading strategies.^{684–687} These must be introduced in tandem with institutional support and reward structures for DEI activities.^{674,688}

We must fight the reflexive urge to defend the status quo against change, and acknowledge that the present way of doing things supports White supremacy.⁶⁸⁹ Along those lines, a common refrain from colleagues is “I support diversity, but...”.³⁹³ Although the speaker usually trails off, one may easily complete the sentence: “...I am unwilling to do anything beyond pay lip service, especially if it requires changing the way that we do things”. The speaker might as well admit that he or she supports diversity, *provided that everyone acts like a White, gender-conforming man*. (This is documented in scholarship and evaluation penalties for non-White faculty.^{239,404,690}) Thus we get search committees who triage applicants using curriculum vitae, because that is easier than reading entire research statements, and prestige-based hiring persists. *Complacency supports White male supremacy*. As an alternative, consider reading anonymized research and diversity statements,⁶⁹¹ assessed using rubrics,^{397,692,693} prior to looking at vitae or recommendation letters. This requires more effort, but no one said that dismantling hegemonic power structures would be easy. Department Chairs need to recognize the significant service commitment that is required to run a faculty search the right way,⁶⁹⁴ and they need to appoint faculty who can be trusted to do so.^{393,695} Search committees need to be vigilant in holding their colleagues accountable and calling out counterproductive behavior.^{393,696}

There is room for debate about tactics, so long as that debate is not overtly hostile to the idea of using diversity as one aspect of a holistic approach to evaluating merit in our future colleagues. Should we have faculty searches that are open only to underrepresented candidates?⁶⁹⁷ Should we screen applicants based on diversity statements alone?⁶⁹⁸ Extend the tenure clock for everyone, in order to accommodate childbirth without exacerbating the gender pay gap?⁶⁹⁹ I mention these specific examples because they make me uncomfortable, even as an advocate for diversity, yet I am open to discussion. A careful consideration of tactics does not mean that we discard the entire idea of a holistic evaluation of merit. Moreover, these conversations need to acknowledge what Bell called the “permanence of racism”:⁷⁰⁰ White people being invested in the status quo is not an aberration, it is the norm,⁷⁰¹ and STEM is no exception.^{155–159} We must acknowledge the dramatically different lived experience of many underrepresented students



as compared to their advisors. To have a truly free and fair debate, we must maintain a clear, bright line between our community and the true enemies of academic freedom, who are working hard to perpetuate the status quo. DEI efforts by universities and scientific societies are not a slippery slope towards totalitarianism but rather good-faith attempts to name the contours of White male supremacy (and of prestige-driven pattern-matching), and in so doing, begin to erode them.

A first step is to acknowledge that those who are not victims of systemic discrimination are its beneficiaries. (Others have said this out loud,^{157,702} but many are squeamish. The suggestion that science is anything but a perfect meritocracy is often perceived as an attack on the integrity of the scientific enterprise itself.³⁴¹) It is morally incumbent upon those who have benefitted from discrimination—namely, White men—to do some of the work of calling out retrograde ideas when they are encountered, even if they originate with friends or colleagues. Bystander intervention training is a proven strategy to combat sexual harassment and sexual violence,^{679,703–706} and one may expect that similar strategies can be effective against other objectionable behavior.^{422,707} Intervention is often awkward and uncomfortable, but revolutionary change is always disruptive. Don't accept it at face value when a friend or colleague complains that they must self-censor to avoid the “diversity police”; ask for a real example of something that person was afraid to say. Just as words can be political, silence also makes a statement,⁷⁰⁸ and ignoring the legacy of racism and sexism in science, along with the ways in which toxic indifference continues to shape our culture, is a capitulation to White male supremacy. The status quo will persist so long as those in power are comfortable doing nothing, or relegating diversity considerations to sideshow discussions. We cannot “just focus on the science”, because the manner in which society intersects science is a critical aspect of the scientific enterprise. Instead, we need to speak and act as advocates for social change. *What is the purpose of tenure, if not for a struggle such as this?*

Beyond being confrontational, take a moment to consider whether you wish to provide a platform to those with noxious ideas. There is no shortage of scientists with tremendous technical accomplishments, so is a person who is committed to the social status quo, or who pushes an agenda of speech without consequences, the best choice for an invited speaker, or for an award? (The Royal Society of Chemistry does not think so.^{709,710}) When forming leadership committees, or search committees to hire new faculty, consider whether such individuals ought to function as gatekeepers. For such duties, a person's technical prowess is only one consideration. Speech *should* have consequences because words have ramifications, especially when they originate with people in positions of power. Allowing a tenured academic the freedom to pursue their own research agenda does not mean that their biases should be allowed to stall progress towards a more inclusive academic and scientific community. This is not “cancelling” so much as *recalibrating*.⁶⁰ It is a necessary step in moving science and society forward.

Data availability

No new data were produced as part of this work.

Conflicts of interest

There are no conflicts to declare.

Acknowledgements

I am grateful to the friends and trusted colleagues who provided feedback on drafts of this work, though I will omit their names because some requested anonymity. Two peer reviewers also provided valuable suggestions. Opinions are my own.

Notes and references

- 1 M. L. King Jr, Letter from Birmingham jail (April 16, 1963), in *Why We Can't Wait*, The New American Library, New York, 1964, pp. 76–95.
- 2 G. Orfield and C. Lee, *Brown at 50: King's dream or Plessy's nightmare?*, The Civil Rights Project at Harvard University, 2004, <https://civilrightsproject.ucla.edu/research/k-12-education/integration-and-diversity/brown-at-50-king2019s-dream-or-plessy2019s-nightmare>, accessed 2023-01-21.
- 3 E. Frankenberg, C. Lee, and G. Orfield, *A multiracial society with segregated schools: Are we losing the dream?*, The Civil Rights Project at Harvard University, 2003, <https://civilrightsproject.ucla.edu/research/k-12-education/integration-and-diversity/a-multiracial-society-with-segregated-schools-are-we-losing-the-dream>, accessed 2023-01-21.
- 4 J. Cobb, *The man behind critical race theory*, The New Yorker, September 13, 2021, <https://www.newyorker.com/magazine/2021/09/20/the-man-behind-critical-race-theory>, accessed 2023-01-21.
- 5 D. Bell, Racial realism, *Conn. Law Rev.*, 1992, **24**, 363–379.
- 6 R. Delgado and J. Stefancic, *Critical Race Theory: An Introduction*, New York University Press, New York, 2nd edn, 2012.
- 7 M. Rodriguez, R. Barthelemy and M. McCormick, Critical race and feminist standpoint theories in physics education research: A historical review and potential applications, *Phys. Rev. Phys. Educ. Res.*, 2022, **18**, 013101.
- 8 E. Bonilla-Silva and D. Dietrich, The sweet enchantment of color-blind racism in Obamerica, *Annals Am. Acad. Pol. Soc. Sci.*, 2011, **634**, 190–206.
- 9 b. hooks, *Talking Back: Thinking Feminist, Thinking Black*, South End Press, Boston, 1989.
- 10 D. Gillborn, Rethinking white supremacy: Who counts in ‘WhiteWorld’, *Ethnicities*, 2006, **6**, 318–340.
- 11 V. R. Newkirk II, *The language of white supremacy*, The Atlantic, October 6, 2017, <https://www.theatlantic.com/politics/archive/2017/10/the-language-of-white-supremacy/542148>, accessed 2023-01-21.



- 12 E. Bonilla-Silva, *Racism Without Racists: Color-Blind Racism and the Persistence of Racial Inequality in America*, Rowman & Littlefield, Lanham, 6th edn, 2021.
- 13 L. Meckler and J. Dawsey, *Republicans, spurred by an unlikely figure, see political promise in targeting critical race theory*, Washington Post, June 21, 2021, <https://www.washingtonpost.com/education/2021/06/19/critical-race-theory-rufu-republicans>, accessed 2022-10-28.
- 14 B. Wallace-Wells, *How a conservative activist invented the conflict over critical race theory*, The New Yorker, June 18, 2021, <https://www.newyorker.com/news/annals-of-inquiry/how-a-conservative-activist-invented-the-conflict-over-critical-race-theory>, accessed 2023-01-10.
- 15 T. Gabriel, *He fuels the right's cultural fires (and spreads them to Florida)*, New York Times, April 24, 2022, <https://www.nytimes.com/2022/04/24/us/politics/christopher-rufu-crt-lgbtq-florida.html>, accessed 2022-01-10.
- 16 M. L. King Jr, Remaining awake through a great revolution, in *A Testament of Hope: The Essential Writings and Speeches of Martin Luther King, Jr.*, ed. J. M. Washington, HarperCollins, New York, 1986, pp. 268–269.
- 17 Upon learning its origins, I have come to embrace the term “woke” to describe the positions espoused in this essay. Having been awakened to the inequalities that exist within society, one cannot easily go back to sleep.
- 18 M. B. McCormack and A. Legal-Miller, All over the world like a fever: Martin Luther King Jr.'s world house and the movement for Black lives in the United States and United Kingdom, in *Reclaiming the Great World House: The Global Vision of Martin Luther King Jr.*, ed. V. L. Crawford and L. V. Baldwin, University of Georgia Press, 2019, ch. 10, pp. 254–281.
- 19 K. Ng, *What is the history of the word ‘woke’ and its modern uses?*, The Independent, January 22, 2021, <https://www.independent.co.uk/news/uk/home-news/woke-meaning-word-history-b1790787.html>, accessed 2022-08-06.
- 20 M. Harriot, *Weaponizing ‘woke’: A brief history of white definitions*, The Root, November 12, 2021, <https://www.theroot.com/weaponizing-woke-an-brief-history-of-white-definitions-1848031729>, accessed 2022-10-28.
- 21 A. Romano, *A history of “wokeness”*, Vox, October 9, 2020, <https://www.vox.com/culture/21437879/stay-woke-wokeness-history-origin-evolution-controversy>, accessed 2022-07-17.
- 22 P. Bacon Jr, *Why attacking ‘cancel culture’ and ‘woke’ people is becoming the GOP’s new political strategy*, FiveThirtyEight, March 17, 2021, <https://fivethirtyeight.com/features/why-attacking-cancel-culture-and-woke-people-is-becoming-the-gops-new-political-strategy>, accessed 2023-01-21.
- 23 J. McWhorter, *How ‘woke’ became an insult*, New York Times, August 17 2021, <https://www.nytimes.com/2021/08/17/opinion/woke-politically-correct.html>, accessed 2022-10-09.
- 24 S. T. Stevens, L. Jussim and N. Honeycutt, Scholarship suppression: Theoretical perspectives and emerging trends, *Societies*, 2020, **10**, 82.
- 25 A. I. Krylov, The perils of politicizing science, *J. Phys. Chem. Lett.*, 2021, **12**, 5371–5376.
- 26 A. I. Krylov, G. Frenking and P. M. W. Gill, Royal Society of Chemistry provides guidelines for censorship to its editors, *Chem. Int.*, 2022, **44**, 32–34.
- 27 A. I. Krylov, J. S. Tanzman, G. Frenking and P. M. W. Gill, Scientists must resist cancel culture, *Nachr. Chem.*, 2022, **70**, 12–14.
- 28 A. I. Krylov, Social justice warriors subvert scientific publishing, in *Ben ik wel woke genoeg? Een ontdekkingsstocht door het land der Social Justice Warriors*, ed. M. Harlaar, Gompel & Svacina, 2022, pp. 223–230.
- 29 A. Krylov and J. Tanzman, *Academic ideologues are corrupting STEM. The silent liberal majority must fight back*, Quillette, December 18, 2021, <https://quillette.com/2021/12/18/scientists-must-gain-the-courage-to-oppose-the-politicization-of-their-disciplines>, accessed 2022-07-15.
- 30 L. Jussim, *Rapid onset gender dysphoria*, Psychology Today, March 20, 2019, <https://www.psychologytoday.com/us/blog/rabble-rouser/201903/rapid-onset-gender-dysphoria>, accessed 2022-12-20.
- 31 L. Jussim, *Censorious academics try again*, Psychology Today, December 22, 2019, <https://www.psychologytoday.com/us/blog/rabble-rouser/201912/censorious-academics-try-again>, accessed 2022-09-17.
- 32 L. Jussim, *Ten ways to tell if you are targeted for cancellation*, Psychology Today, November 27, 2020, <https://www.psychologytoday.com/us/blog/rabble-rouser/202011/ten-ways-tell-if-you-are-targeted-cancellation>, accessed 2022-09-06.
- 33 L. Jussim, *Required diversity statements as ideological loyalty oaths*, Psychology Today, November 21, 2019, <https://www.psychologytoday.com/us/blog/rabble-rouser/201911/required-diversity-statements-ideological-loyalty-oaths>, accessed 2022-09-17.
- 34 L. Jussim, *The threat to academic freedom...from academics*, Medium, December 27, 2019, <https://psychabble.medium.com/the-threat-to-academic-freedom-from-academics-4685b1705794>, accessed 2022-09-17.
- 35 L. Jussim, *The psychology of the new McCarthyism*, Psychology Today, August 11, 2017, <https://www.psychologytoday.com/us/blog/rabble-rouser/201708/the-psychology-the-new-mccarthyism>, accessed 2022-09-17.
- 36 N. Honeycutt and L. Jussim, On the connection between bias and censorship in academia, *PsyArXiv*, 2022, preprint, DOI: [10.31234/osf.io/4f9va](https://doi.org/10.31234/osf.io/4f9va).
- 37 N. Honeycutt and L. Jussim, Political bias in the social sciences: A critical, theoretical, and empirical review, *PsyArXiv*, 2022, preprint, DOI: [10.31234/osf.io/qpn57](https://doi.org/10.31234/osf.io/qpn57).
- 38 L. Jussim, *Ten ways to defend against a cancellation attack*, Psychology Today, December 22, 2020, <https://www.psychologytoday.com/us/blog/rabble-rouser/202012/ten-ways-defend-against-cancellation-attack>, accessed 2022-09-06.
- 39 L. Jussim, *Why Americans don't feel free to speak their minds*, Psychology Today, June 1, 2021, <https://www.psychologytoday.com/us/blog/rabble-rouser/202106/why-americans-dont-feel-free-to-speak-their-minds>, accessed 2022-09-06.



- www.psychologytoday.com/us/blog/rabble-rouser/202106/why-americans-dont-feel-free-speak-their-minds, accessed 2022-09-18.
- 40 A. Bikfalvi and M. Kuntz, *International scholars must resist American campaign to inject racial tribalism into science*, Quillette, August 21, 2020, <https://quillette.com/2020/08/21/international-scholars-must-resist-the-american-campaign-to-inject-racial-tribalism-into-science>, accessed 2022-09-08.
- 41 A. Bikfalvi and M. Kuntz, *Viewpoint: Rethinking 'critical race theory'—What happens when broad racist viewpoints 'invade' science?*, Genetic Literacy Project, September 14, 2020, <https://geneticliteracyproject.org/2020/09/14/viewpoint-rethinking-critical-race-theory-what-happens-when-broad-racist-viewpoints-invade-science>, accessed 2023-01-21.
- 42 B. Hommel, *Dealing with diversity in psychology: Science or ideology?*, *PsyArXiv*, 2022, preprint, DOI: [10.31234/osf.io/hvgrm](https://doi.org/10.31234/osf.io/hvgrm).
- 43 D. Abbot, *MIT abandons its mission. And me*, Common Sense, October 5, 2021, <https://www.commonsense.news/mit-abandons-its-mission-and-me>, accessed 2022-09-06.
- 44 J. Ciccolini, *Dénoncer et bannir: Quand les universités américaines dévorent leurs propres enfants*, Observatoire du Décolonialisme, October 8, 2021, <https://decolonialisme.fr/?p=5865>, accessed 2022-09-08.
- 45 M. Shermer, *Scientific American goes woke*, Skeptic, November 17, 2021, <https://michaelshermer.substack.com/p/scientific-american-goes-woke>, accessed 2022-09-17.
- 46 J. Staddon, *The ideological capture of Nature and why it matters*, The Daily Sceptic, July 2, 2022, <https://dailysceptic.org/2022/07/02/the-ideological-capture-of-nature-and-why-it-matters>, accessed 2023-01-21.
- 47 N. Carl, *Top scientific journal goes woke*, The Daily Sceptic, August 24, 2022, <https://dailysceptic.org/2022/08/24/top-scientific-journal-goes-woke>, accessed 2022-09-10.
- 48 E. Kaufmann, *Political discrimination is fuelling a crisis of academic freedom*, Unherd, January 17, 2022, <https://unherd.com/the-post/political-discrimination-is-fuelling-a-crisis-of-academic-freedom>, accessed 2023-01-21.
- 49 D. Nuccio, *World's top theoretical physicist rejects DEI ideology, says it's anti-science*, The College Fix, September 13, 2022, <https://www.thecollegefix.com/worlds-top-theoretical-physicist-rejects-dei-ideology-says-its-anti-science>, accessed 2022-09-25.
- 50 S. Jaschik, *Why Republicans don't trust higher ed*, Inside Higher Ed, August 17, 2017, <https://www.insidehighered.com/news/2017/08/17/new-data-explain-republican-loss-confidence-higher-education>, accessed 2022-10-09.
- 51 A. Widener, *Tenure under fire from Republican legislatures in two U.S. states*, Chemical & Engineering News, January 23, 2017, <https://cen.acs.org/articles/95/i4/Tenure-under-fire-Republican-legislatures.html>, accessed 2022-07-17.
- 52 M. J. Drozdowski, *Tenure under attack nationwide*, Best Colleges, December 7, 2021, <https://www.bestcolleges.com/news/analysis/2021/12/07/tenure-under-attack-nationwide>, accessed 2022-07-17.
- 53 D. Montgomery, *GOP targets tenure to curb classroom discussions of race, gender*, The Pew Charitable Trusts, March 14, 2022, <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2022/03/14/gop-targets-tenure-to-curb-classroom-discussions-of-race-gender>, accessed 2023-01-21.
- 54 M. Stewart, *Tenure under attack*, Insight Into Diversity, February 10, 2022, <https://www.insightintodiversity.com/tenure-under-attack>, accessed 2022-07-17.
- 55 J. Ruth, *The increasingly authoritarian war on tenure*, Chronicle of Higher Education, February 23, 2022, <https://www.chronicle.com/article/the-increasingly-authoritarian-war-on-tenure>, accessed 2022-09-06.
- 56 M. D. Clark, *DRAG THEM: A brief etymology of so-called "cancel culture"*, *Commun. Public*, 2020, **5**, 88–92.
- 57 Elsewhere this sentiment has been called “the smug, sadistic sophistry that is the birthright of a certain sort of centrist intellectual”.⁵⁴⁸
- 58 P. Ball, *Science is political, and we must deal with it*, *J. Phys. Chem. Lett.*, 2021, **12**, 6336–6340.
- 59 M. Micheel, *The myth of cancel culture in chemistry (and science)*, Gesellschaft Deutscher Chemiker, February 2, 2022, <https://gdch.app/article/the-myth-of-cancel-culture-in-chemistry-and-science>, accessed 2023-01-21.
- 60 J. M. Herbert, M. Head-Gordon, H. P. Hratchian, T. Head-Gordon, R. E. Amaro, A. Aspuru-Guzik, R. Hoffmann, C. A. Parish, C. M. Payne and T. Van Voorhis, *Words matter: On the debate over free speech, inclusivity, and academic excellence*, *J. Phys. Chem. Lett.*, 2022, **13**, 7100–7104.
- 61 B. Ehrler, E. M. Hutter and J. J. Berry, *The complicated morality of named inventions*, *ACS Energy Lett.*, 2021, **6**, 565–567.
- 62 R. J. Huxtable, *Reflections: Fritz Haber and the ambiguity of ethics*, *Proc. West. Pharmacol. Soc.*, 2002, **45**, 1–3.
- 63 S. Ritter, *Three takes on Haber*, Chemical & Engineering News, February 6, 2006, <https://cen.acs.org/articles/84/i6/Three-Takes-Haber.html>, accessed 2022-10-09.
- 64 S. Everts, *Who was the father of chemical weapons?*, Chemical & Engineering News, February 23, 2015, <https://cen.acs.org/articles/93/i8/100-years-chemical-weapons.html#Who-Was-the-Father-of-Chemical-Weapons>, accessed 2023-01-21.
- 65 Withdrawal: T. Hudlický, *'Organic synthesis—Where now?' is thirty years old. A reflection on the current state of affair*, *Angew. Chem., Int. Ed. Engl.*, 2020, **59**, 12576.
- 66 L. Howes, *Essay criticizing efforts to increase diversity in organic synthesis deleted after backlash from chemists*, Chemical & Engineering News, June 8, 2020, <https://cen.acs.org/research-integrity/ethics/Essay-criticizing-efforts-increase-diversity-in-organic-synthesis-deleted-after-backlash-from-chemists/98/web/2020/06>, accessed 2022-06-19.
- 67 K. Krämer, *Angewandte essay calling diversity in chemistry harmful decried as 'abhorrent' and 'egregious'*, Chemistry World, June 9, 2020, <https://www.chemistryworld.com/>



- [news/angewandte-essay-calling-diversity-in-chemistry-harmful-decried-as-abhorrent-and-egregious/4011926.article](#), accessed 2022-06-19.
- 68 P. Ball, Prejudice persists, *Chemistry World*, June 9, 2020, <https://www.chemistryworld.com/opinion/viewing-science-as-a-meritocracy-allows-prejudice-to-persist/4011923.article>, accessed 2022-12-16.
- 69 L. K. Sydnes, The Hudlicky case—A reflection on the current state of affairs, *Chem. Int.*, 2021, **43**, 42–44.
- 70 T. Kitossa, *Defending academic freedom, defending Thomas Hudlicky*, The St. Catharines Standard, August 6, 2020, <https://www.stcatharinesstandard.ca/opinion/contributors/2020/08/06/defending-academic-freedom-defending-tomas-hudlicky.html>, accessed 2023-01-21.
- 71 *UCL renames three facilities that honoured prominent eugenicists*, The Guardian, June 19, 2020, <https://www.theguardian.com/education/2020/jun/19/ucl-renames-three-facilities-that-honoured-prominent-eugenicists>, accessed 2022-12-21.
- 72 G. Viglione and N. Subbaraman, Universities scrub names of racist leaders—students say it's a first step, *Nature*, 2020, **584**, 331–332.
- 73 G. Anderson, *Campuses reckon with racist past*, Inside Higher Ed, July 6, 2020, <https://www.insidehighered.com/news/2020/07/06/campuses-remove-monuments-and-building-names-legacies-racism>, accessed 2022-07-12.
- 74 L. Spitalniak, *Colleges seek better ways to rename buildings*, Higher Ed Dive, March 22, 2022, <https://www.highereddive.com/news/colleges-seek-better-ways-to-rename-buildings/620725>, accessed 2022-07-12.
- 75 J. Alonso, *A building by any other name*, Inside Higher Ed, November 18, 2022, <https://www.insidehighered.com/news/2022/11/18/new-policies-guide-removal-controversial-building-names>, accessed 2022-11-18.
- 76 J. L. Gibson and J. L. Sutherland, *Keeping your mouth shut: Spiraling self-censorship in the United States*, Social Science Research Network, 2022, preprint, DOI: [10.2139/ssrn.3647099](https://doi.org/10.2139/ssrn.3647099).
- 77 J. Menzner and R. Traunmüller, Subjective freedom of speech: Why do citizens think they cannot speak freely?, *Politische Vierteljahresschr.*, 2022, DOI: [10.1007/s11615-022-00414-6](https://doi.org/10.1007/s11615-022-00414-6), in press.
- 78 D. Chong, J. Citrin and M. Levy, The realignment of political tolerance in the United States, *Perspect. Politics*, 2022, DOI: [10.1017/S1537592722002079](https://doi.org/10.1017/S1537592722002079), in press.
- 79 V. Fielding, *It's not 'cancel culture', it's audience feedback*, The Independent Australia, November 1, 2021, <https://independentaustralia.net/business/business-display/its-not-cancel-culture-its-audience-feedback,15695>, accessed 2022-08-06.
- 80 J. Thomson, *Polar bears chosen as a bizarre symbol to deny climate change, scientists say*, The Narwhal, November 30, 2017, <https://thenarwhal.ca/polar-bears-chosen-bizarre-symbol-deny-climate-change-scientists-say>, accessed 2022-07-21.
- 81 Susan Crockford, DeSmog, <https://www.desmog.com/susan-crockford>, accessed 2023-01-21.
- 82 *Open letter: No to racist pseudoscience at Cambridge*, Medium, December 18, 2018, <https://medium.com/@racescienceopenletter/open-letter-no-to-racist-pseudoscience-at-cambridge-472e1a7c6dca>, accessed 2023-01-21.
- 83 J. P. Jackson Jr and A. S. Winston, The mythical taboo on race and intelligence, *Rev. Gen. Psychol.*, 2021, **225**, 3–26.
- 84 P. Ghosh, *Cern scientist: 'Physics built by men—not by invitation'*, BBC, October 1, 2018, <https://www.bbc.com/news/world-europe-45703700>, accessed 2022-09-13.
- 85 S. Hossenfelder, *Gender-bias in academia: The case Strumia*, BackReAction, October 15, 2018, <http://backreaction.blogspot.com/2018/10/gender-bias-in-academia-case-strumia.html>, accessed 2023-01-21.
- 86 C. Young, *Alessandro Strumia: Another politically-correct witch-hunt, or a more complicated story?*, Quillette, April 22, 2019, <https://quillette.com/2019/04/22/alessandro-strumia-another-politically-correct-witch-hunt-or-a-more-complicated-story>, accessed 2022-09-17.
- 87 *Open letter concerning transphobia in philosophy*, January, 2021, <https://sites.google.com/view/trans-phil-letter>, accessed 2023-01-21.
- 88 E. Gahr, *Suspended UCLA professor files lawsuit, now headed for trial*, California Globe, April 12, 2022, <https://californiaglobe.com/articles/suspended-ucla-professor-files-lawsuit-now-headed-for-trial>, accessed 2022-09-08.
- 89 M. Bérubé, *Talking out of school: Academic freedom and extramural speech*, Profession, 2019, <https://profession.mla.org/talking-out-of-school-academic-freedom-and-extramural-speech>, accessed 2022-09-06.
- 90 M. Bérubé and J. Ruth, *It's Not Free Speech: Race, Democracy, and the Future of Academic Freedom*, Johns Hopkins University Press, Baltimore, 2022.
- 91 M. Bérubé and J. Ruth, *Saving academic freedom from free speech*, Chronicle of Higher Education, May 10, 2022, <https://www.chronicle.com/article/saving-academic-freedom-from-free-speech>, accessed 2022-09-06.
- 92 A. C. Kafka, *Another year, another controversy over Penn's grenade-throwing legal scholar. How will this one play out?*, Chronicle of Higher Education, July 24, 2019, <https://www.chronicle.com/article/another-year-another-controversy-over-penns-grenade-throwing-legal-scholar-how-will-this-one-play-out>, accessed 2022-09-12.
- 93 *Here's what Amy Wax really said about immigration*, The Federalist, July 26, 2019, <https://thefederalist.com/2019/07/26/heres-amy-wax-really-said-immigration>, accessed 2023-01-21.
- 94 J. A. Synder, *What are the limits of academic freedom?*, Chronicle of Higher Education, May 5, 2022, <https://www.chronicle.com/article/what-are-the-limits-of-academic-freedom>, accessed 2022-09-12.
- 95 S. Barr, *Physicist who claimed 'physics was invented by men' suspended by Cern with immediate effect*, The Independent, October 2, 2018, <https://www.independent.co.uk/life-style/women/physics-men-women-invented-alessandro-strumia-physicist-cern-workshop-talk-a8562801.html>, accessed 2023-01-21.



- 96 Updated statement: CERN stands for diversity, March 7, 2019, <https://home.cern/news/press-release/cern/updated-statement-cern-stands-diversity>, accessed 2023-01-21.
- 97 P. Ghosh, *Cern cuts ties with 'sexist' scientist Alessandro Strumia*, BBC, March 7, 2019, <https://www.bbc.com/news/science-environment-47478537>, accessed 2022-09-13.
- 98 J. P. Andersen, M. W. Nielsen and J. W. Schneider, Selective referencing and questionable evidence in Strumia's paper on "Gender issues in fundamental physics", *Quant. Sci. Stud.*, 2021, 2, 254–262.
- 99 P. Ball, T. B. Britton, E. Hengel, P. Moriarty, R. A. Oliver, G. Rippon, A. Saini and J. Wade, Gender issues in fundamental physics: Strumia's bibliometric analysis fails to account for key confounders and confuses correlation with causation, *Quant. Sci. Stud.*, 2021, 2, 263–272.
- 100 V. Richardson, *Susan Crockford fired after finding polar bears thriving despite climate change*, Washington Times, October 20, 2019, <https://www.washingtontimes.com/news/2019/oct/20/susan-crockford-fired-after-finding-polar-bears-th>, accessed 2022-09-12.
- 101 L. Jussim, *The psychological connection of bias to censorship*, Psychology Today, September 12, 2020, <https://www.psychologytoday.com/us/blog/rabble-rouser/202009/the-psychological-connection-bias-censorship>, accessed 2022-09-17.
- 102 S. Jaschik, *Cold Spring Harbor strips honors from James Watson*, Inside Higher Ed, January 15, 2019, <https://www.insidehighered.com/quicktakes/2019/01/15/cold-spring-harbor-strips-honors-james-watson>, accessed 2022-09-10.
- 103 A. Harmon, *Lab severs ties with James Watson, citing 'unsubstantiated and reckless' remarks*, New York Times, January 11, 2019, <https://www.nytimes.com/2019/01/11/science/watson-dna-genetics.html>, accessed 2022-09-10.
- 104 M. Powell, *M.I.T.'s choice of lecturer ignited criticism. So did its decision to cancel*, New York Times, October 20, 2021, <https://www.nytimes.com/2021/10/20/us/dorian-abbot-mit.html>, accessed 2022-07-12.
- 105 E. Owens, *UPDATE: Penn Law dean relieves controversial professor of some teaching duties*, Philadelphia Magazine, March 13, 2018, <https://www.phillymag.com/news/2018/03/13/amy-wax-penn-law-teaching>, accessed 2023-01-21.
- 106 C. Flaherty, *Is retraction the new rebuttal?*, Inside Higher Ed, September 19, 2017, <https://www.insidehighered.com/news/2017/09/19/controversy-over-paper-favor-colonialism-sparks-calls-retraction>, accessed 2023-01-15.
- 107 E. Busby, *Cambridge university college sacks academic over links to far-right extremists*, The Independent, May 2, 2019, <https://www.theguardian.com/education/2019/may/01/cambridge-university-college-dismisses-researcher-far-right-links-noah-carl>, accessed 2022-07-21.
- 108 R. Adams, *Cambridge gives role to academic accused of racist stereotyping*, The Guardian, December 7, 2018, <https://www.theguardian.com/world/2018/dec/07/cambridge-gives-role-to-academic-accused-of-racist-stereotyping>, accessed 2022-07-22.
- 109 R. Bradbury and N. Chye, *Hundreds of academics oppose research fellow's eugenics work on discredited 'race sciences'*, Varsity, December 7, 2018, <https://www.varsity.co.uk/news/16685>, accessed 2022-09-17.
- 110 R. Adams, *Cambridge college sacks researcher over links with far right*, The Guardian, May 1, 2019, <https://www.theguardian.com/education/2019/may/01/cambridge-university-college-dismisses-researcher-far-right-links-noah-carl>, accessed 2022-07-21.
- 111 E. Bothwell, *UCL launches investigation into secret eugenics conference*, Times Higher Education, January 11, 2018, <https://www.timeshighereducation.com/news/ucl-launches-investigation-secret-eugenics-conference>, accessed 2022-09-18.
- 112 J. Daley, *Secret eugenics conference uncovered at University College London*, The Scientist, January 12, 2018, <https://www.the-scientist.com/the-nutshell/secret-eugenics-conference-uncovered-at-university-college-london-30423>, accessed 2022-09-18.
- 113 B. van der Merwe, *It might be a pseudo science, but students take the threat of eugenics seriously*, The New Statesman, February 19, 2018, <https://www.newstatesman.com/politics/2018/02/it-might-be-pseudo-science-students-take-threat-eugenics-seriously>, accessed 2022-09-16.
- 114 R. Bradbury and J. Cook, *Controversial research fellow Noah Carl dismissed by St Edmund's*, Varsity, April 30, 2019, <https://www.varsity.co.uk/news/17456>, accessed 2023-01-21.
- 115 R. F. Fuchs, *Academic freedom—its basic philosophy, function, and history*, *Law Contemp. Probl.*, 1963, 28, 431–446.
- 116 P. G. Altbach, *Academic freedom: International realities and challenges*, *Higher Educ.*, 2001, 41, 205–219.
- 117 J. Butler, *The criminalization of knowledge*, Chronicle of Higher Education, May 27, 2018, <https://www.chronicle.com/article/the-criminalization-of-knowledge>, accessed 2023-01-15.
- 118 A. Cole, *What is academic? What is freedom?*, The Daily Princetonian, July 15, 2020, <https://www.dailyprincetonian.com/article/2020/07/princeton-academic-freedom-white-supremacy-racism-woodrow-wilson-free-speech>, accessed 2022-09-06.
- 119 A. Romano, *Why we can't stop fighting about cancel culture*, Vox, August 25, 2020, <https://www.vox.com/culture/2019/12/30/20879720/what-is-cancel-culture-explained-history-debate>, accessed 2022-06-20.
- 120 A. Harell, *The limits of tolerance in diverse societies: Hate speech and political tolerance norms among youth*, *Can. J. Political Sci.*, 2010, 43, 407–432.
- 121 J. Poushter, *40% of Millennials OK with limiting speech offensive to minorities*, Pew Research Center, November 20, 2015 <https://www.pewresearch.org/fact-tank/2015/11/20/40-of-millennials-ok-with-limiting-speech-offensive-to-minorities>, accessed 2023-01-21.
- 122 J. Bauer-Wolf, *Students say diversity is more important than free speech*, Inside Higher Ed, March 12, 2018, <https://www.insidehighered.com/news/2018/03/12/students-value->



- diversity-inclusion-more-free-expression-study-says**, accessed 2023-01-15.
- 123 D. Chong and M. Levy, Competing norms of free expression and political tolerance, *Soc. Res.*, 2018, **85**, 197–227.
- 124 S. Bell, *Americans' tolerance for hate speech and racist rhetoric is declining*, USC Dornsife College of Letters, Arts, and Sciences, July 23, 2019, <https://dornsife.usc.edu/news/stories/3054/americans-tolerance-for-hate-speech-declines>, accessed 2022-11-27.
- 125 E. Thomas, *Transphobia is a powerful force in American politics, but young voters are leading a cultural shift towards inclusion*, Data for Progress, February 23, 2022, <https://www.dataforprogress.org/blog/2022/2/23/transphobia-is-a-powerful-force-in-american-politics-but-young-voters-are-leading-a-cultural-shift-towards-inclusion>, accessed 2022-11-27.
- 126 *Since Trump's election, increased attention to politics—especially among women*, Pew Research Center, July 20, 2017, <https://www.pewresearch.org/politics/2017/07/20/since-trumps-election-increased-attention-to-politics-especially-among-women>, accessed 2023-01-21.
- 127 A. Blake, *Nearly half of liberals don't even like to be around Trump supporters*, Washington Post, July 20, 2017, <https://www.washingtonpost.com/news/the-fix/wp/2017/07/20/half-of-liberals-cant-even-stand-to-be-around-trump-supporters>, accessed 2022-11-27.
- 128 A. Brown, *Most Democrats who are looking for a relationship would not consider dating a Trump voter*, Pew Research Center, April 24, 2020, <https://www.pewresearch.org/fact-tank/2020/04/24/most-democrats-who-are-looking-for-a-relationship-would-not-consider-dating-a-trump-voter>, accessed 2022-11-27.
- 129 B. Cohen, *Generation Z: The intolerant ones*, The James G. Martin Center for Academic Renewal, July 27, 2018, <https://www.jamesgmartin.center/2018/07/generation-z-the-intolerant-ones>, accessed 2022-12-18.
- 130 B. Cohen, *How Generation Z became America's most intolerant generation*, The Federal Observer, August 14, 2018, <https://federalobserver.com/2018/08/14/how-generation-z-became-americas-most-intolerant-generation>, accessed 2022-12-18.
- 131 M. Gryboski, *Gen Z more close-minded than parents, grandparents' generations: 'Young, illiberal progressives'*, Christian Post, November 22, 2022, <https://www.christianpost.com/news/gen-z-more-close-minded-than-older-generations-british-study.html>, accessed 2023-01-21.
- 132 S. Gecsoslyer, *Gen Z aren't 'intolerant': We're just poor, fed-up and want real change*, The Guardian, November 4, 2022, <https://www.theguardian.com/commentisfree/2022/nov/04/gen-z-intolerant-poor-illiberal>, accessed 2022-12-18.
- 133 E. Jensen, N. Jones, M. Rabe, B. Pratt, L. Medina, K. Orozco, and L. Spell, *The chance that two people chosen at random are of different race or ethnicity groups has increased since 2010*, United States Census Bureau, August 12, 2021, <https://www.census.gov/library/stories/2021/08/2020-united-states-population-more-racially-ethnically-diverse-than-2010.html>, accessed 2022-11-27.
- 134 *How has the population changed in the US?*, USA Facts, July 2022, <https://usafacts.org/data/topics/people-society/population-and-demographics/our-changing-population>, accessed 2023-01-21.
- 135 J. M. Jones, *LGBT identification in U.S. ticks up to 7.1%*, Gallup, February 17, 2022, <https://news.gallup.com/poll/389792/lgbt-identification-ticks-up.aspx>, accessed 2022-10-08.
- 136 J. McShane, *A record number of U.S. adults identify as LGBTQ. Gen Z is driving the increase*, Washington Post, February 17, 2022, <https://www.washingtonpost.com/lifestyle/2022/02/17/adults-identifying-lgbt-gen-z>, accessed 2022-10-08.
- 137 R. Wike and K. Simmons, *Global support for principle of free expression, but opposition to some forms of speech*, Pew Research Center, November 18, 2015, <https://www.pewresearch.org/global/2015/11/18/global-support-for-principle-of-free-expression-but-opposition-to-some-forms-of-speech>, accessed 2022-11-27.
- 138 R. Wike, *Americans more tolerant of offensive speech than others in the world*, Pew Research Center, October 12, 2016, <https://www.pewresearch.org/fact-tank/2016/10/12/americans-more-tolerant-of-offensive-speech-than-others-in-the-world>, accessed 2022-11-27.
- 139 D. Frum, *Liberals and the illiberal left*, The Atlantic, January 29, 2015, <https://theatlantic.com/politics/archive/2015/01/liberals-and-the-illiberal-left/384988>, accessed 2022-11-27.
- 140 M. B. Dougherty, *Biden won't stop the illiberal left*, National Review, October 27, 2020, <https://www.nationalreview.com/2020/10/biden-wont-stop-the-illiberal-left>, accessed 2022-11-27.
- 141 *How did American "wokeness" jump from elite schools to everyday life?*, The Economist, September 4, 2021, <https://www.economist.com/briefing/2021/09/04/how-did-american-wokeness-jump-from-elite-schools-to-everyday-life>, accessed 2022-11-27.
- 142 *The threat from the illiberal left*, The Economist, September 4, 2021, <https://www.economist.com/leaders/2021/09/04/the-threat-from-the-illiberal-left>, accessed 2022-11-27.
- 143 B. Telfair, *You are not entitled to 'civility'*, The Daily Princetonian, October 21, 2020, <https://www.dailyprincetonian.com/article/2020/10/civil-discourse-entitlement-constitution-racism>, accessed 2022-11-27.
- 144 C. Flaherty, *'Rigorous inquiry and respectful debate'*, Insider Higher Ed, October 5, 2018, <https://www.insidehighered.com/news/2018/10/05/colgate-offers-statement-campus-speech-arguing-its-not-just-what-you-say-its-how-you>, accessed 2023-01-21.
- 145 S. Ben-Porath, *Against endorsing the Chicago Principles*, Inside Higher Ed, December 11, 2018, <https://www.insidehighered.com/views/2018/12/11/what-chicago-principles-miss-when-it-comes-free-speech-and-academic-freedom-opinion>, accessed 2023-01-03.
- 146 E. G. Ellis, *Milo, Ann Coulter, and "free speech week" add up to the right's best troll yet*, Wired, September 28, 2017,



- <https://www.wired.com/story/free-speech-week-milo-best-troll-yet>, accessed 2023-01-15.
- 147 S. Hussein, *The costs of the campus speech wars are piling up for the police*, Chronicle of Higher Education, July 3, 2017, <https://www.chronicle.com/article/the-costs-of-the-campus-speech-wars-are-piling-up-for-the-police>, accessed 2023-01-15.
- 148 K. Mangan, *What some colleges have learned from hosting controversial speakers*, Chronicle of Higher Education, November 6, 2017, <https://www.chronicle.com/article/what-some-colleges-have-learned-from-hosting-controversial-speakers>, accessed 2023-01-15.
- 149 O. Li, *When protestors carry guns, does it impede others' free speech?*, The Trace, March 5, 2020, <https://www.thetrace.org/2020/03/freedom-of-speech-open-carry-demonstrations-first-amendment>, accessed 2022-11-27.
- 150 B. Brooks, *Free speech, gun rights on collision course in United States, some legal experts say*, Reuters, September 11, 2020, <https://www.reuters.com/article/us-global-race-usa-guns-analysis/free-speech-gun-rights-on-collision-course-in-united-states-some-legal-experts-say-idUSKBN2621TX>, accessed 2022-11-27.
- 151 M. McIntire, *At protests, guns are doing the talking*, New York Times, November 6, 2022, <https://www.nytimes.com/2022/11/26/us/guns-protests-open-carry.html>, accessed 2022-11-27.
- 152 Z. Beauchamp, *The "free speech debate" isn't really about free speech*, Vox, July 22, 2020, <https://www.vox.com/policy-and-politics/2020/7/22/21325942/free-speech-harpers-letter-bari-weiss-andrew-sullivan>, accessed 2022-07-16.
- 153 K. Manne and J. Stanley, *When free speech becomes a political weapon*, Chronicle of Higher Education, November 13, 2015, <https://www.chronicle.com/article/when-free-speech-becomes-a-political-weapon>, accessed 2023-01-18.
- 154 J. Higgins-Dailey, *You need to calm down: You're getting called out, not cancelled*, Intellectual Freedom Blog, September 3, 2020, <https://www.oif.ala.org/oif/you-need-to-calm-down-youre-getting-called-out-not-canceled>, accessed 2023-01-21.
- 155 *Addressing Gender Bias in Science & Technology*, ed. S. Azad, American Chemical Society, Washington D.C., 2020, vol. 1354 of ACS Symposium Series.
- 156 E. O. McGee, *Interrogating structural racism in STEM higher education*, *Educ. Res.*, 2020, **49**, 633–644.
- 157 M. L. Gosztyla, L. Kwong, N. A. Murray, C. E. Williams, N. Behnke, P. Curry, K. D. Corbett, K. N. DSouza, J. G. de Pablo, J. Gicobi, M. Javidnia, N. Lotay, S. M. Prescott, J. P. Quinn, Z. M. G. Rivera, M. A. Smith, K. T. Y. Tang, A. Venkat and M. A. Yamoah, *Responses to 10 common criticisms of anti-racism action in STEM*, *PLoS Comput. Biol.*, 2021, **17**, e1009141.
- 158 I. H. Settles, M. K. Jones, N. T. Buchanan and K. Dotson, *Epistemic exclusion: Scholar(ly) devaluation that marginalizes faculty of color*, *J. Divers. High. Educ.*, 2021, **14**, 493–507.
- 159 E. O. McGee, P. K. Botchway, D. E. Naphan-Kingery, A. J. Brockman, S. Houston II and D. T. White, *Racism camouflaged as imposterism and the impact on Black STEM doctoral students*, *Race Ethn. Educ.*, 2022, **25**, 487–507.
- 160 P. McIntosh, *White privilege: Unpacking the invisible knapsack*, Peace and Freedom, 1989, pp. 10–12, <https://nationalseedproject.org/Key-SEED-Texts/white-privilege-unpacking-the-invisible-knapsack>, accessed 2023-01-21.
- 161 This term was inspired by *ambient heterosexist harassment*,⁴¹⁶ as discussed in ref. 295.
- 162 A similar idea is that of *dysconscious racism*³⁵³ or *dysconscious xenophobia*,⁷¹¹ meaning racism that is not precisely unconscious but which amounts to tacit acceptance of White norms, such that “[any] serious challenge to the status quo that calls this racial privilege into question inevitably challenges the self-identity of White people who have internalized these ideological justifications”.³⁵³ Habitual acceptance of White social norms is ambient White supremacy.
- 163 J. Mervis, *The toll of white privilege*, Science, March 1, 2022, <https://www.science.org/content/article/how-culture-of-white-privilege-discourages-black-students-from-becoming-physicists>, accessed 2023-02-11.
- 164 D. Gillborn, *Education policy as an act of white supremacy: Whiteness, critical race theory and education reform*, *J. Educ. Policy*, 2005, **20**, 485–505.
- 165 A. Thompson, *The university's new loyalty oath*, Wall Street Journal, December 19, 2019, <https://www.wsj.com/articles/the-universitys-new-loyalty-oath-11576799749>, accessed 2023-01-21.
- 166 M. Poliakoff, *How diversity screening at the University of California could degrade faculty quality*, Forbes, January 21, 2020, <https://www.forbes.com/sites/michaelpoliakoff/2020/01/21/how-diversity-screening-at-the-university-of-california-could-degrade-faculty-quality>, accessed 2022-09-06.
- 167 D. Ortner, *What is UC Davis hiding about its use of diversity statements?*, The Hill, February 3, 2020, <https://thehill.com/opinion/education/480603-what-is-uc-davis-hiding-about-its-use-of-diversity-statements>, accessed 2022-09-06.
- 168 A. Terr, *FIRE releases statement on the use of 'diversity, equity, and inclusion' criteria in faculty hiring and evaluation*, Foundation for Individual Rights and Expression, June 2, 2022, <https://www.thefire.org/fire-releases-statement-on-the-use-of-diversity-equity-and-inclusion-criteria-in-faculty-hiring-and-evaluation>, accessed 2023-01-21.
- 169 *Foundation for individual rights in education*, Center for Media and Democracy, https://www.sourcewatch.org/index.php?title=Foundation_for_Individual_Rights_in_Education, accessed 2023-01-21.
- 170 *How to identify critical race theory*, The Heritage Foundation, <https://www.heritage.org/civil-society/heritage-explains/how-identify-critical-race-theory>, accessed 2023-01-21.



- 171 M. Gonzalez, *Institutionalizing racial fanaticism across American society*, The Heritage Foundation, May 12, 2021, <https://www.heritage.org/progressivism/commentary/institutionalizing-racial-fanaticism-across-american-society>, accessed 2023-01-21.
- 172 A. Sailor, *Schools hiding behind diversity and inclusion rhetoric to spew critical race theory vile*, The Heritage Foundation, July 7, 2021, <https://www.heritage.org/education/commentary/schools-hiding-behind-diversity-and-inclusion-rhetoric-spew-critical-race>, accessed 2023-01-21.
- 173 M. Iati, *What is critical race theory, and why do Republicans want to ban it in schools?*, Washington Post, May 29, 2021, <https://www.washingtonpost.com/education/2021/05/29/critical-race-theory-bans-schools>, accessed 2022-07-31.
- 174 A. Harris, *The GOP's 'critical race theory' obsession*, The Atlantic, May 7, 2021, <https://www.theatlantic.com/politics/archive/2021/05/gops-critical-race-theory-fixation-explained/618828>, accessed 2022-07-28.
- 175 F. Cineas, *What the hysteria over critical race theory is really all about*, Vox, June 24, 2021, <https://www.vox.com/22443822/critical-race-theory-controversy>, accessed 2022-07-16.
- 176 S. Sawchuk, *What is critical race theory, and why is it under attack?*, Education Week, May 18, 2021, <https://www.edweek.org/leadership/what-is-critical-race-theory-and-why-is-it-under-attack/2021/05>, accessed 2022-07-15.
- 177 J. Moody, *The new conservative playbook on DEI*, Inside Higher Ed, February 7, 2023, <https://www.insidehighered.com/news/2023/02/07/desantis-debuts-new-conservative-playbook-ending-dei>, accessed 2023-02-12.
- 178 J. Moody, *Texas governor warns against DEI in hiring practices*, Inside Higher Ed, February 9, 2023, <https://www.insidehighered.com/news/2023/02/09/texas-latest-state-attack-dei-targeting-hiring>, accessed 2023-02-12.
- 179 C. Rufo, I. Shapiro and M. Beienburg, *Abolish DEI bureaucracies and restore colorblind equality in public universities*, Manhattan Institute, January 18, 2023, <https://www.manhattan-institute.org/model-dei-legislation>, accessed 2023-02-12.
- 180 C. Flaherty, *A canceled lecture, revisited*, Inside Higher Ed, October 19, 2021, <https://www.insidehighered.com/news/2021/10/19/mit-deals-fallout-canceled-lecture>, accessed 2022-09-06.
- 181 D. S. Abbot and I. Marinovic, *The diversity problem on campus*, Newsweek, August 12, 2021, <https://www.newsweek.com/diversity-problem-campus-opinion-1618419>, accessed 2022-09-08.
- 182 C. Mayberry, *Geophysicist 'canceled' by MIT honored with award while thousands register for his lecture*, Newsweek, October 12, 2021, <https://www.newsweek.com/geophysicist-canceled-mit-honored-award-while-thousands-register-his-lecture-1637820>, accessed 2022-09-06.
- 183 *Dorian Abbot joins 'Tucker Carlson today'*, Fox News, October 21, 2021, <https://video.foxnews.com/v/6278073422001>, accessed 2022-07-12.
- 184 C. Creitz, *Professor Dorian Abbot: I was canceled for basing admissions on merit*, Fox News, October 20, 2021, <https://www.foxnews.com/media/professor-dorian-abbot-i-was-canceled-merit>, accessed 2022-10-09.
- 185 V. Tartari and A. Salter, *The engagement gap: Exploring gender differences in university–industry collaboration activities*, *Res. Policy*, 2015, **44**, 1176–1191.
- 186 J. Kaiser, *NIH uncovers racial disparity in grant awards*, *Science*, 2011, **333**, 925–926.
- 187 D. K. Ginther, W. T. Schaffer, J. Schnell, B. Masimore, F. Liu, L. L. Haak and R. Kington, *Race, ethnicity, and NIH research awards*, *Science*, 2011, **333**, 1015–1019.
- 188 Z. Corbyn, *Black applicants less likely to win NIH grants*, *Nature*, August 18, 2011, <https://www.nature.com/articles/news.2011.485>, accessed 2023-02-11.
- 189 E. C. Hayden, *Racial bias continues to haunt NIH grants*, *Nature*, 2015, **527**, 286–287.
- 190 H. O. Witteman, M. Hendricks, S. Straus and C. Tannenbaum, *Are gender gaps due to evaluations of the applicant or the science? A natural experiment at a national funding agency*, *Lancet*, 2019, **393**, 531–540.
- 191 R. A. Oliver, *Let's fix the system, not the scientists*, *Nat. Rev. Mater.*, 2020, **5**, 83–84.
- 192 D. K. Ginther, J. Basner, U. Jensen, J. Schnell, R. Kington and W. T. Schaffer, *Publications as predictors of racial and ethnic differences in NIH research awards*, *PLoS One*, 2018, **13**, e0205929.
- 193 M. R. E. Symonds, N. J. Gemmill, T. L. Braisher, K. L. Gorringer and M. A. Elgar, *Gender differences in publication output: Towards an unbiased metric of research performance*, *PLoS One*, 2006, **1**, e127.
- 194 R. Mendoza-Denton, C. Patt, A. Fisher, A. Eppig, I. Young, A. Smith and M. A. Richards, *Differences in STEM doctoral publication by ethnicity, gender and academic field at a large public research university*, *PLoS One*, 2017, **12**, e0174296.
- 195 A. E. Day, P. Corbett and J. Boyle, *Is there a gender gap in chemical sciences scholarly communication?*, *Chem. Sci.*, 2020, **11**, 2277–2301.
- 196 W. W. Ding, F. Murray and T. E. Stuart, *Gender differences in patenting in the academic life sciences*, *Science*, 2006, **313**, 665–667.
- 197 J. Schroeder, H. L. Dugdale, R. Radersma, M. Hinsch, D. M. Buehler, J. Saul, L. Porter, A. Liker, I. De Cauwer, P. J. Johnson, A. W. Santure, A. S. Griffin, E. Bolund, L. Ross, T. J. Webb, P. G. D. Feulner, I. Winney, M. Szulkin, J. Komdeur, M. A. Versteegh, C. K. Hemelrijk, E. I. Svensson, H. Edwards, M. Karlsson, S. A. West, E. L. B. Barrett, D. S. Richardson, V. Van Den Brink, J. H. Wimpenny, S. A. Ellwood, M. Rees, K. D. Matson, A. Charmantier, N. D. Remedios, N. A. Schneider, C. Teplitsky, W. F. Laurance, R. K. Butlin and N. P. C. Horrocks, *Fewer invited talks by women in*



- evolutionary biology symposia, *J. Evol. Biol.*, 2013, **26**, 2063–2069.
- 198 A. Bleske-Rechek and K. Browne, Trends in GRE scores and graduate enrollments by gender and ethnicity, *Intelligence*, 2014, **46**, 25–34.
- 199 J. Trejo, A reflection on faculty diversity in the 21st century, *Mol. Biol. Cell*, 2017, **28**, 2911–2914.
- 200 K. Lerman, Y. Yu, F. Morstatter and J. Pujara, Gendered citation patterns among the scientific elite, *Proc. Natl. Acad. Sci. U. S. A.*, 2022, **119**, e2206070119.
- 201 E. G. Teich, J. Z. Kim, C. W. Lynn, S. C. Simon, A. A. Klishin, K. P. Szymula, P. Srivastava, L. C. Bassett, P. Zurn, J. D. Dworkin and D. S. Bassett, Citation inequity and gendered citation practices in contemporary physics, *Nat. Phys.*, 2022, **18**, 1161–1170.
- 202 H. Kong, M. Martin-Gutierrez and F. Karimi, Influence of the first-mover advantage on the gender disparities in physics citations, *Commun. Phys.*, 2022, **5**, 243.
- 203 M. B. Ross, B. M. Glennon, R. Murciano-Goroff, E. G. Berkes, B. A. Weinberg and J. I. Lane, Women are credited less in science than men, *Nature*, 2022, **608**, 135–145.
- 204 C. L. Lloreda, *Women researchers are cited less than men. Here's why—and what can be done about it*, Science, October 13, 2022, <https://www.science.org/content/article/women-researchers-cited-less-men-heres-why-what-can-done>, accessed 2023-02-11.
- 205 K. S. Ray, P. Zurn, J. D. Dworkin, D. S. Bassett and D. B. Resnik, Citation bias, diversity, and ethics, *Acc. Res.*, 2022, DOI: [10.1080/08989621.2022.2111257](https://doi.org/10.1080/08989621.2022.2111257).
- 206 Y. Ma, D. F. M. Oliveira, T. K. Woodruff and B. Uzzi, Women who win prizes get less money and prestige, *Nature*, 2019, **565**, 287–288.
- 207 B. Uzzi, *Women are winning more scientific prizes, but men still win the most prestigious ones*, Harvard Business Review, February 14, 2019, <https://hbr.org/2019/02/research-women-are-winning-more-scientific-prizes-but-men-still-win-the-most-prestigious-ones>, accessed 2023-01-22.
- 208 L. I. Meho, The gender gap in highly prestigious international research awards, 2001–2020, *Quant. Sci. Stud.*, 2021, **2**, 976–989.
- 209 C. Watson, Women less likely to win major research awards, *Nature*, September 13, 2021, <https://www.nature.com/articles/d41586-021-02497-4>, accessed 2023-02-11.
- 210 D. Casstelvecchi, Mathematics prizes have a gender problem—can it be fixed?, *Nature*, 2021, **606**, 240–241.
- 211 N. Tripathi and M. K. Goshisht, Advancing women in chemistry: A step toward gender parity, *J. Chem. Inf. Model.*, 2022, **62**, 6386–6397.
- 212 F. Liu, P. Holme, M. Chiesa, B. AlShebli and T. Rahwan, Gender inequality and self-publication are common among academic editors, *Nat. Hum. Behav.*, 2023, DOI: [10.1038/s41562-022-01498-1](https://doi.org/10.1038/s41562-022-01498-1), in press.
- 213 B. Owens, *Largest-ever study of journal editors highlights 'self-publication' and gender gap*, *Nature*, January 19, 2023, <https://www.nature.com/articles/d41586-023-00129-7>, accessed 2023-01-22.
- 214 A. Owens, Income segregation between school districts and inequality in students' achievement, *Sociol. Educ.*, 2018, **91**, 1–18.
- 215 P. Tough, *The Years That Matter: How College Makes or Breaks Us*, Houghton Mifflin Harcourt, Boston, 2019.
- 216 J. Barshay, *A decade of research in the rich-poor divide in education*, The Hechinger Report, June 29, 2020, <https://hechingerreport.org/a-decade-of-research-on-the-rich-poor-divide-in-education>, accessed 2022-06-19.
- 217 S. Callcott, *There's still one big trick for getting into an elite college*, New York Times, October 1, 2022, <https://www.nytimes.com/2022/10/01/opinion/school-private-college.html>, accessed 2022-10-02.
- 218 J. Kozol, *Savage Inequalities: Children in America's Schools*, Crown Publishers, New York, 1991.
- 219 J. Kozol, *The Shame of the Nation: The Restoration of Apartheid Schooling in America*, Three Rivers Press, New York, 2005.
- 220 T. C. Howard, *Why Race and Culture Matter in Schools: Closing the Achievement Gap in America's Classrooms*, Teachers College Press, New York, 2010.
- 221 D. Rhode, K. Cooke, and H. Ojha, *The decline of the 'great equalizer'*, The Atlantic, December 19, 2012, <https://www.theatlantic.com/business/archive/2012/12/the-decline-of-the-great-equalizer/266455>, accessed 2022-08-06.
- 222 S. Breyer, *Breaking the Promise of Brown: The Resegregation of America's Schools*, The Brookings Institution, Washington, D.C., 2022.
- 223 T. R. Jones and S. Burrell, Present in class yet absent in science: The individual and societal impact of inequitable science instruction and challenge to improve science instruction, *Sci. Educ.*, 2022, **106**, 10322–11053.
- 224 T. Meschede, J. Taylor, A. Mann and T. Shapiro, "Family achievements?": How a college degree accumulates wealth for whites but not blacks, *Fed. Reserve Bank St. Louis Rev.*, 2017, **99**, 121–137.
- 225 M. W. Kaus, I. N. Onyeador, N. M. Daumeyer, J. M. Rucker and J. A. Richeson, The misperception of racial economic inequality, *Perspect. Psychol. Sci.*, 2019, **14**, 899–921.
- 226 C. Weller, *America's racial wealth gap was aided by a 400-year head start*, MLK50: Justice Through Journalism, November 6, 2019, <https://mlk50.com/2019/11/06/americas-racial-wealth-gap-was-aided-by-a-400-year-head-start>, accessed 2023-01-21.
- 227 K. McIntosh, E. Moss, R. Nunn, and J. Shambaugh, *Examining the Black-white wealth gap*, Brookings Institution, February 27, 2020, <https://www.brookings.edu/blog/up-front/2020/02/27/examining-the-black-white-wealth-gap>, accessed 2023-01-21.
- 228 R. Fry, J. Bennett and A. Barroso, *Racial and ethnic gaps in the U.S. persist on key demographic indicators*, Pew Research Center, January 12, 2021, <https://www.pewresearch.org/interactives/racial-and-ethnic-gaps-in-the-u-s-persist-on-key-demographic-indicators>, accessed 2022-08-06.



- 229 S. Nerkar, *Canceled student debt could help close the wealth gap between white and black Americans*, FiveThirtyEight, May 31, 2022, <https://fivethirtyeight.com/features/canceling-student-debt-could-help-close-the-wealth-gap-between-white-and-black-americans>, accessed 2022-09-17.
- 230 L. Davis and R. Fry, *College faculty have become more racially and ethnically diverse, but remain far less so than students*, Pew Research Center, July 31, 2019, <https://www.pewresearch.org/fact-tank/2019/07/31/us-college-faculty-student-diversity>, accessed 2022-06-19.
- 231 *Characteristics of postsecondary students*, National Center for Education Statistics, U.S. Department of Education, Institute of Education Sciences, May 2022, <https://nces.ed.gov/programs/coe/indicator/csb>, accessed 2023-01-21.
- 232 *Characteristics of postsecondary faculty*, National Center for Education Statistics, U.S. Department of Education, Institute of Education Sciences, May 2022, <https://nces.ed.gov/programs/coe/indicator/csc>, accessed 2023-01-21.
- 233 M. Finkelstein, V. M. Conley, and J. H. Schuster, *Taking the measure of faculty diversity*, TIAA Institute, April 2016, <https://www.tiaa.org/public/institute/publication/2016/taking-measure-faculty-diversity>, accessed 2023-01-21.
- 234 C. Flaherty, *More faculty diversity, not on tenure track*, Inside Higher Ed, August 22, 2016, <https://www.insidehighered.com/news/2016/08/22/study-finds-gains-faculty-diversity-not-tenure-track>, accessed 2023-01-23.
- 235 *Digest of education statistics*, National Center for Education Statistics, U.S. Department of Education, Institute of Education Sciences, 2022, <https://nces.ed.gov/programs/digest>, accessed 2023-01-21.
- 236 L. A. Maxwell, *U.S. school enrollment hits majority-minority milestone*, Education Week, August 19, 2014, <https://www.edweek.org/leadership/u-s-school-enrollment-hits-majority-minority-milestone/2014/08>, accessed 2022-09-07.
- 237 C. de Brey, L. Musu, J. McFarland, S. Wilkinson-Flicker, M. Diliberti, A. Zhang, C. Branstetter, and X. Wang, *Status and trends in the education of racial and ethnic groups 2018*, National Center for Education Statistics, U.S. Department of Education, Institute of Education Sciences, February 20, 2019, <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2019038>, accessed 2023-01-21.
- 238 V. Strauss, *It's 2015. Where are all the black college faculty?*, Washington Post, November 12, 2015, <https://www.washingtonpost.com/news/answer-sheet/wp/2015/11/12/its-2015-where-are-all-the-black-college-faculty/>, accessed 2022-06-19.
- 239 J. N. Matias, N. Lewis Jr, and E. Hope, *Universities say they want more diverse faculties. So why is academia still so white?*, FiveThirtyEight, September 7, 2021, <https://fivethirtyeight.com/features/universities-say-they-want-more-diverse-faculties-so-why-is-academia-still-so-white/>, accessed 2022-12-07.
- 240 J. L. Newsome, *The chemistry PhD: The impact on women's retention*, The Royal Society of Chemistry, 2008, <https://epws.org/the-chemistry-phd-the-impact-on-womens-retention>, accessed 2023-01-21.
- 241 K. H. Wapman, S. Zhang, A. Clauset and D. B. Larremore, *Quantifying hierarchy and dynamics in US faculty hiring and retention*, *Nature*, 2022, **610**, 120–127.
- 242 D. Larremore, *Trends in US faculty hiring & retention from 10 years of data: A study of prestige, diversity & inequality*, National Science Foundation Waterman Lecture, September 28, 2022, <https://www.nsf.gov/sbe/videos/larremore-2022-waterman-lecture-video.jsp>, accessed 2023-01-21.
- 243 J. N. Matias, N. A. Lewis and E. C. Hope, *US universities not succeeding in diversifying faculty*, *Nat. Hum. Behav.*, 2022, **6**, 1606–1608.
- 244 R. Applebaum, Z. Lefkofridi, and L. Broch, *Gender comparisons*, European University Institute, August 18, 2017, <https://www.eui.eu/ProgrammesandFellowships/AcademicCareersObservatory/CareerComparisons/GenderComparisons/>, accessed 2023-01-21.
- 245 *Women in academia (quick take)*, Catalyst, January 23, 2020, <https://www.catalyst.org/research/women-in-academia>, accessed 2022-12-19.
- 246 P. van den Besselaar and U. Sandström, *Gender differences in research performance and its impact on careers: A longitudinal case study*, *Scientometrics*, 2016, **106**, 143–162.
- 247 D. J. Nelson and C. N. Brammer, *A national analysis of minorities in science and engineering faculties at research universities*, January 4, 2010, <https://ucd-advance.ucdavis.edu/post/national-analysis-minorities-science-and-engineering-faculties-research-universities>, accessed 2022-07-26.
- 248 K. D. Gibbs Jr, J. Basson, I. M. Xierali and D. A. Boniatowski, *Decoupling of the minority PhD talent pool and assistant professor hiring in medical school basic science departments in the US*, *eLife*, 2016, **5**, e21393.
- 249 D. J. Nelson, *Diversity of science and engineering faculty at research universities*, in *Diversity in the Scientific Community Volume 1: Quantifying Diversity and Formulating Success*, ed. D. J. Nelson and H. N. Cheng, American Chemical Society, Washington, D.C., 2017, ch. 2, vol. 1255 of ACS Symposium Series, pp. 15–86.
- 250 R. Hernandez, D. Stallings, and S. Iyer, *The gender and URM faculty demographics data collected by OXIDE*, in *Diversity in the Scientific Community Volume 1: Quantifying Diversity and Formulating Success*, ed. D. J. Nelson and H. N. Cheng, American Chemical Society, Washington, D.C., 2017, ch. 4, vol. 1255 of ACS Symposium Series, pp. 101–112.
- 251 D. Li and C. Koedel, *Representation and salary gaps by race-ethnicity and gender at selective public universities*, *Educ. Res.*, 2017, **46**, 343–354.
- 252 C. Koedel, *Examining faculty diversity at America's top public universities*, Brookings Institution, October 5, 2017, <https://www.brookings.edu/blog/brown-center-chalkboard/2017/10/05/examining-faculty-diversity-at-americas-top-public-universities/>, accessed 2022-07-26.



- 253 S. C. L. Kamerlin and P. Wittung-Stafshede, Female faculty: Why so few and why care?, *Chem.–Eur. J.*, 2020, **26**, 8319–8323.
- 254 A. Downey-Mavromatis and A. Widener, *Racial and ethnic diversity of US chemistry faculty has changed little since 2011*, Chemical & Engineering News, November 9, 2020, <https://cen.acs.org/education/Racial-ethnic-diversity-US-chemistry/98/i43>, accessed 2022-09-05.
- 255 A. King, *Diversity in the chemical sciences*, Chemistry World, August 29, 2022, <https://www.chemistryworld.com/features/diversity-in-the-chemical-sciences/6505.article>, accessed 2023-01-21.
- 256 K. Krämer, *UK chemistry pipeline loses almost all of its BAME students after undergraduate studies*, Chemistry World, August 10, 2020, <https://www.chemistryworld.com/news/uk-chemistry-pipeline-loses-almost-all-of-its-black-asian-and-other-ethnic-minority-chemists-after-undergraduate-studies/4012258.article>, accessed 2022-07-22.
- 257 M. Krupnik, *Colleges' promises to diversify face one challenge: Finding black faculty*, The Hechinger Report, September 12, 2016, <https://hechingerreport.org/colleges-promises-to-diversify-face-one-challenge-finding-black-faculty>, accessed 2023-01-21.
- 258 J. Trapani and K. Hale, *Demographic attributes of S&E degree recipients*, National Center for Science and Engineering Statistics, February 22, 2022, <https://nces.nsf.gov/pubs/nsb20223/demographic-attributes-of-s-e-degree-recipients>, accessed 2023-01-21.
- 259 A. Widener, *US physical science education by the numbers*, Chemical & Engineering News, February 25, 2022, <https://cen.acs.org/education/US-physical-science-education-by-the-numbers/100/i8>, accessed 2023-01-21.
- 260 E. Anderson, K. Williams, L. Ponjuan, and H. T. Frierson, *The 2018 status report on engineering education: A snapshot of diversity in degrees conferred in engineering*, Association of Public and Land-Grant Universities, December 1, 2018, <https://www.aplu.org/library/the-2018-status-report-on-engineering-education-a-snapshot-of-diversity-in-degrees-conferred-in-engineering>, accessed 2023-01-21.
- 261 J. Roy, A. Erdiaw-Kwasie, and T. King, *Engineering & engineering technology by the numbers 2021*, American Society for Engineering Education, 2022, <https://ira.asee.org/by-the-numbers>, accessed 2023-01-21.
- 262 E. O. McGee, *Black, Brown, Bruised: How Racialized STEM Education Stifles Innovation*, Harvard Education Press, Cambridge, 2020.
- 263 J. Alper, The pipeline is leaking women all along the way, *Science*, 1993, **260**, 409–411.
- 264 *Doctorate recipients from U.S. universities: 2021 (NSF 23-300)*, National Center for Science and Engineering Statistics (NCSES), Directorate for Social, Behavioral and Economic Sciences, National Science Foundation, October 18, 2022, <https://nces.nsf.gov/pubs/nsf23300>, accessed 2023-01-21.
- 265 L. Wang and A. Widener, *The struggle to keep women in academia*, Chemical & Engineering News, May 12, 2019, <https://cen.acs.org/careers/diversity/struggle-keep-women-academia/97/i19>, accessed 2023-01-15.
- 266 M. Caprile, E. Addis, C. Castaño, I. Klinge, M. Larios, D. Meulders, J. Müller, S. O'Dorchal, M. Palasik, R. Plasman, S. Roivas, F. Sagebiel, L. Schiebinger, N. Vallès, and S. Vázquez-Cupeiro, *Meta-analysis of gender and science research: Synthesis report*, Directorate-General for Research and Innovation, European Commission, 2012, <https://op.europa.eu/en/publication-detail/-/publication/3516275d-c56d-4097-abc3-602863bcefc8>, accessed 2023-01-21.
- 267 A. Widener, *Women chemists still face discrimination in academia*, Chemical & Engineering News, July 26, 2018, <https://cen.acs.org/articles/96/i31/Women-chemists-still-face-discrimination.html>, accessed 2022-12-17.
- 268 L. L. Espinosa, J. M. Turk, M. Taylor, and H. M. Chessman, *Race and ethnicity in higher education: A status report*, American Council on Higher Education, February 2019, <https://www.equityinhighered.org/resources/report-downloads>, accessed 2023-01-21.
- 269 *Gender differences at critical transitions in the careers of science, engineering, and mathematics faculty*, The National Academies Press, Washington, D.C., 2010, DOI: [10.17226/12062](https://doi.org/10.17226/12062).
- 270 A. James, R. Chisnall and M. J. Plank, Gender and societies: A grassroots approach to women in science, *R. Soc. Open Sci.*, 2019, **6**, 190633.
- 271 J. Huang, A. J. Gates, R. Sinatra and A.-L. Barabási, Historical comparison of gender inequality in scientific careers across countries and disciplines, *Proc. Natl. Acad. Sci. U. S. A.*, 2020, **117**, 4609–4616.
- 272 C. Rice, *Why women leave academia and why universities should be worried*, The Guardian, May 24, 2012, <https://www.theguardian.com/higher-education-network/blog/2012/may/24/why-women-leave-academia>, accessed 2022-08-31.
- 273 H. Etzkowitz, C. Kemelgor, M. Neuschatz, B. Uzzi and J. Alonzo, The paradox of critical mass for women in science, *Science*, 1994, **266**, 51–54.
- 274 A. L. W. Sears, Image problems deplete the number of women in academic applicant pools, *J. Women Minor. Sci. Eng.*, 2003, **9**, 169–181.
- 275 S. Acker and C. Armenti, Sleepless in academia, *Gen. Educ.*, 2004, **16**, 3–24.
- 276 M. A. Mason and E. M. Ekman, *Mothers on the Fast Track: How a New Generation Can Balance Family and Careers*, Oxford University Press, Oxford, 2007.
- 277 M. A. Mason, N. H. Wolfinger, and M. Goulden, *Do Babies Matter? Gender and Family in the Ivory Tower*, Rutgers University Press, 2013.
- 278 C. Flaherty, *The mom penalty*, Inside Higher Ed, June 6, 2013, <https://www.insidehighered.com/news/2013/06/06/new-book-gender-family-and-academe-shows-how-kids-affect-careers-higher-education>, accessed 2022-08-31.
- 279 E. A. Cech and M. Blair-Loy, Consequences of flexibility stigma among academic scientists and engineers, *Work Occup.*, 2014, **4**, 86–110.
- 280 V. Hogan, M. Hogan, M. Hodgins, G. Kinman and B. Bunting, An examination of gender differences in the



- impact of individual and organisational factors on work hours, work-life conflict and psychological strain in academics, *Jr. J. Psychol.*, 2015, **35**, 133–150.
- 281 R. Kachchaf, L. Ko, A. Hodari and M. Ong, Career-life balance for women of color: Experiences in science and engineering academia, *J. Divers. High. Educ.*, 2015, **8**, 175–191.
- 282 I. Dorenkamp and S. Süß, Work-life conflict among young academics: Antecedents and gender effects, *Eur. J. High. Educ.*, 2017, **7**, 402–423.
- 283 S. Torp, L. Lysfjord and H. H. Midjie, Workaholism and work-family conflict among university academics, *Higher Educ.*, 2018, **76**, 1071–1090.
- 284 M. E. Howe, L. V. Schaffer, M. J. Styles and S. Pazicni, Exploring factors affecting interest in chemistry faculty careers among graduate student women: Results from a local pilot study, *J. Chem. Educ.*, 2022, **99**, 92–103.
- 285 J. Greene, J. Stockard, P. Lewis and G. Richmond, Is the academic climate chilly? The views of women academic chemists, *J. Chem. Educ.*, 2010, **87**, 381–385.
- 286 S. Cheryan, S. A. Ziegler, A. K. Montoya and L. Jiang, Why are some STEM fields more gender balanced than others?, *Psychol. Bull.*, 2017, **143**, 1–35.
- 287 C. L. Baird, Male-dominated STEM disciplines: How do we make them more attractive to women?, *IEEE Instrum. Meas. Mag.*, 2018, **21**, 4–14.
- 288 S. Chapman, F. F. Dixon, N. Foster, V. J. Kuck, D. A. McCarthy, N. M. Tooney, J. P. Buckner, S. A. Nlan and C. H. Marzabadi, Female faculty members in university chemistry departments: Observations and conclusions based on site visits, *J. Chem. Educ.*, 2011, **88**, 716–720.
- 289 M. K. Eagan Jr and J. C. Garvey, Stressing out: Connecting race, gender, and stress with faculty productivity, *J. Higher Educ.*, 2015, **86**, 923–954.
- 290 E. O. McGee and D. B. Martin, “You would not believe what I have to go through to prove my intellectual value!” Stereotype management among academically successful Black mathematics and engineering students, *Am. Educ. Res. J.*, 2011, **48**, 1347–1389.
- 291 E. O. McGee and D. Stovall, Reimagining critical race theory in education: Mental health, healing, and the pathway to liberatory praxis, *Educ. Theory*, 2015, **65**, 491–511.
- 292 E. O. McGee, Devalued Black and Latino racial identities: A by-product of STEM college culture?, *Am. Educ. Res. J.*, 2016, **53**, 1626–1662.
- 293 C. V. Wood, P. B. Campbell and R. McGee, ‘An incredibly steep hill’: How gender, race, and class shape perspectives on academic careers among beginning biomedical PhD students, *J. Women Minor. Sci. Eng.*, 2016, **22**, 159–181.
- 294 E. O. McGee, D. M. Griffith and S. L. Houston II, “I know I have to work twice as hard and hope that makes me good enough”: Exploring the stress and strain of black doctoral students in engineering and computing, *Teach. Coll. Rec.*, 2019, **121**, 1–38.
- 295 Mentoring underrepresented students in STEM: Why do identities matter?, in *The Science of Effective Mentorship in STEM*, ed. A. Byars-Winston and M. L. Dahlberg, The National Academies Press, Washington, D.C., 2019, ch. 3, pp. 51–73, DOI: [10.17226/25568](https://doi.org/10.17226/25568).
- 296 D. L. McCoy, R. Winkle-Wagner and C. L. Luedke, Colorblind mentoring? Exploring white faculty mentoring of students of color, *J. Divers. High. Educ.*, 2015, **8**, 225–242.
- 297 E. A. Cech and M. Blair-Loy, The changing career trajectories of new parents in STEM, *Proc. Natl. Acad. Sci. U. S. A.*, 2019, **116**, 4182–4187.
- 298 A. Slater, C. Caltagirone, E. Draper, N. Busschaert, K. Hutchins and J. Leigh, Pregnancy in the lab, *Nat. Rev. Chem.*, 2022, **6**, 163–164.
- 299 H. Etzkowitz, C. Kemelgor, M. Neuschatz and B. Uzzi, Athena unbound: Barriers to women in academic science and engineering, *Sci. Public Policy*, 1992, **19**, 157–179.
- 300 K. Steiger, *Family-friendly university policies don't work as well as they should*, The Atlantic, May 31, 2013, <https://www.theatlantic.com/sexes/archive/2013/05/family-friendly-university-policies-dont-work-as-well-as-they-should/276404>, accessed 2022-08-31.
- 301 D. K. Smith, The race to the bottom and the route to the top, *Nat. Chem.*, 2020, **12**, 101–103.
- 302 M. Blair-Loy and E. A. Cech, *Misconceiving Merit: Paradoxes of Excellence and Devotion in Academic Science and Engineering*, University of Chicago Press, Chicago, 2022.
- 303 S. Jaschik, *Misconceiving merit*, Inside Higher Ed, June 28, 2022, <https://www.insidehighered.com/news/2022/06/28/authors-discuss-book-science-and-definitions-merit>, accessed 2022-09-06.
- 304 A. C. Morgan, S. F. Way, M. J. D. Hoefler, D. B. Larremore, M. Galesic and A. Clauset, The unequal impact of parenthood in academia, *Sci. Adv.*, 2021, **7**, eabd1996.
- 305 C. Flaherty, *No room of one's own*, Inside Higher Ed, April 21, 2020, <https://www.insidehighered.com/news/2020/04/21/early-journal-submission-data-suggest-covid-19-tanking-womens-research-productivity>, accessed 2023-01-18.
- 306 Z. Hasna, E. Faraglia, C. Giannitsarou, and N. Amano-Patiño, *Who is doing new research in the time of COVID-19? Not the female economists*, Centre for European Policy Research, May 2, 2020, <https://cepr.org/voxeu/columns/who-doing-new-research-time-covid-19-not-female-economists>, accessed 2023-01-18.
- 307 B. Daley, *Women are getting less research done than men during this coronavirus pandemic*, The Conversation, May 18, 2020, <https://theconversation.com/women-are-getting-less-research-done-than-men-during-this-coronavirus-pandemic-138073>, accessed 2022-11-15.
- 308 P. Vincent-Lamarre, C. R. Sugimoto and V. Larivière, The decline of women's research production during the coronavirus pandemic, *Nature Index*, May 19, 2020, <https://www.nature.com/nature-index/news-blog/decline-women-scientist-research-publishing-production-coronavirus-pandemic>, accessed 2023-02-11.



- 309 G. Viglione, *Are women publishing less during the pandemic? Here's what the data say*, *Nature*, May 20, 2020, <https://www.nature.com/articles/d41586-020-01294-9>, accessed 2023-02-11.
- 310 K. R. Myers, W. Y. Tham, Y. Yin, N. Cohodes, J. G. Thursby, M. C. Thursby, P. Schiffer, J. T. Walsh, K. R. Lakhani and D. Wang, Unequal effects of the COVID-19 pandemic on scientists, *Nat. Hum. Behav.*, 2020, **4**, 880–883.
- 311 S. Arrowsmith, *Mind the academic gender gap: How COVID-19 is skewing an already uneven playing field for female academics and what we can do collectively to respond*, Medical Research Council, February 22, 2021, <https://webarchive.nationalarchives.gov.uk/ukgwa/20210724035509/https://mrc.ukri.org/news/blog/mind-the-academic-gender-gap-how-covid-19-is-skewing-an-already-uneven-playing-field-for-female-academics-and-what-we-can-do-collectively-to-respond>, accessed 2022-11-15.
- 312 K. Kovarovic, M. Dixon, K. Hall, and N. Westmarland, *The impact of Covid-19 on mothers working in UK Higher Education Institutions*, Durham University, June 14, 2021, <https://www.durham.ac.uk/departments/academic/anthropology/news/covid-19-impact-on-mothers>, accessed 2023-01-21.
- 313 A. Fazackerley, *Why are so many academics on short-term contracts for years?*, *The Guardian*, February 4, 2013, <https://www.theguardian.com/education/2013/feb/04/academic-casual-contracts-higher-education>, accessed 2022-12-16.
- 314 J. C. Limas, L. C. Corcoran, A. N. Baker, A. E. Cartaya and Z. J. Ayres, The impact of research culture on mental health & diversity in STEM, *Chem.–Eur. J.*, 2022, **28**, e202102957.
- 315 A. Palermo, L. Norton, P. Matthews, M. Baldwin, E. Hall, J. Roberts, and H. Rowe, *Breaking the barriers: Women's retention and progression in the chemical sciences*, Royal Society of Chemistry, 2018, <https://www.rsc.org/new-perspectives/talent/breaking-the-barriers>, accessed 2023-01-21.
- 316 N. Lichtenstein, *A landmark wage increase at the University of California*, *Dissent*, December 24, 2022, https://www.dissentmagazine.org/online_articles/a-landmark-wage-increase-at-the-university-of-california, accessed 2022-12-24.
- 317 *University of California workers end strike after approving contracts*, NPR, December 24, 2022, <https://www.npr.org/2022/12/24/1145415255/university-of-california-end-strike-approve-contract>, accessed 2022-12-25.
- 318 L. K. G. Ackerman-Biegasiewicz, D. M. Arias-Rotondo, K. F. Biegasiewicz, E. Elacqua, M. R. Golder, L. V. Kayser, J. R. Lamb, C. M. Le, N. A. Romero, S. M. Wilkerson-Hill and D. A. Williams, Organic chemistry: A retrosynthetic approach to a diverse field, *ACS Cent. Sci.*, 2020, **6**, 1845–1850.
- 319 E. Shepard and T. Clifton, Are longer hours reducing productivity in manufacturing?, *Int. J. Manpower*, 2000, **21**, 540–552.
- 320 J. Pencavel, The productivity of working hours, *Econ. J.*, 2015, **125**, 2052–2076.
- 321 J. Pencavel, Recovery from work and the productivity of working hours, *Economica*, 2016, **83**, 545–563.
- 322 E. Okazaki, D. Nishi, R. Susukida, A. Inoue, A. Shimazu and A. Tsutsumi, Association between working hours, work engagement, and work productivity in employees: A cross-sectional study of the Japanese Study of Health, Occupation, and Psychological Factors Relates Equity, *J. Occup. Health*, 2019, **61**, 182–188.
- 323 L. Wang, *Opening up about stress in graduate school*, Chemical & Engineering News, September 14, 2015, <https://cen.acs.org/articles/93/i36/Opening-Stress-Graduate-School.html>, accessed 2022-12-21.
- 324 J. Kemsley, *Grappling with graduate student mental health and suicide*, Chemical & Engineering News, August 7, 2017, <https://cen.acs.org/articles/95/i32/Grappling-graduate-student-mental-health.html>, accessed 2022-12-21.
- 325 T. M. Evans, L. Bira, J. B. Gastelum, L. T. Weiss and N. L. Vanderford, Evidence for a mental health crisis in graduate education, *Nat. Biotechnol.*, 2018, **36**, 282–284.
- 326 P. Puri, *The emotional toll of graduate school*, *Scientific American*, January 31, 2019, <https://blogs.scientificamerican.com/observations/the-emotional-toll-of-graduate-school>, accessed 2022-12-19.
- 327 C. Woolston, Signs of depression and anxiety soar among US graduate students during pandemic, *Nature*, 2020, **585**, 147–148.
- 328 N. Forrester, Mental health of graduate students sorely overlooked, *Nature*, 2021, **595**, 135–137.
- 329 Z. Ayres, Five ways team leaders can improve research culture, *Nat. Rev. Mater.*, 2021, **6**, 758–759.
- 330 *Balancing the scale: NSF's career-life balance initiative*, National Science Foundation, <https://www.nsf.gov/career-life-balance>, accessed 2023-01-21.
- 331 *Notice of special interest (NOSI): Administrative supplement for continuity of biomedical and behavioral research among first-time recipients of NIH research project grant awards*, National Institutes of Health, December 1, 2022, <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-23-032.html>, accessed 2023-01-21.
- 332 A. M. Kloxin, Addressing the leaky pipeline through mentoring and support: A personal perspective, *Nat. Rev. Mater.*, 2019, **4**, 287–289.
- 333 K. Powell, The parenting penalties faced by scientist mothers, *Nature*, 2021, **595**, 611–613.
- 334 E. Harrison, S. O'Brien, and T. B. Taylor, *Breaking barriers for women: How to build effective parental leave*, *Times Higher Education*, May 26, 2022, <https://www.timeshighereducation.com/campus/breaking-barriers-women-how-build-effective-parental-leave>, accessed 2022-09-07.
- 335 Z. Leonardo, The souls of white folk: Critical pedagogy, whiteness studies, and globalization discourse, *Race Ethn. Educ.*, 2002, **5**, 29–50.



- 336 P. DiMaggio and F. Garip, Network effects and social inequality, *Annu. Rev. Sociol.*, 2012, **38**, 93–118.
- 337 M. Abascal and D. Baldassarri, Love thy neighbor? Ethnoracial diversity and trust reexamined, *Am. J. Sociol.*, 2015, **121**, 722–782.
- 338 A. Clauset, S. Arbesman and D. B. Larremore, Systemic inequality and hierarchy in faculty hiring networks, *Sci. Adv.*, 2015, **1**, e1400005.
- 339 S. F. Way, A. C. Morgan, D. B. Larremore and A. Clauset, Productivity, prominence, and the effects of academic environment, *Proc. Natl. Acad. Sci. U. S. A.*, 2019, **116**, 10729–10733.
- 340 E. Lee, A. Clauset and D. B. Larremore, The dynamics of faculty hiring networks, *EPJ Data Sci.*, 2021, **10**, 48.
- 341 S. Mallapaty, Predicting scientific success, *Nature*, 2018, **561**, S32–S33.
- 342 J. Miller-Friedmann, A. Childs and J. Hillier, Approaching gender equity in academic chemistry: Lessons learned from successful female chemists in the UK, *Chem. Educ. Res. Pract.*, 2018, **19**, 24–41.
- 343 E. A. Cech and M. Blair-Loy, Perceiving a glass ceiling? Meritocratic versus traditional explanations of gender inequality among women in science and technology, *Soc. Probl.*, 2010, **57**, 371–397.
- 344 M. Ong, Body projects of young women of color in physics: Intersections of gender, race, and science, *Soc. Probl.*, 2005, **52**, 593–617.
- 345 D. Dickens, M. Jones and N. Hall, Being a token black female faculty member in physics: Exploring research on gendered racism, identity shifting as a coping strategy, and inclusivity in physics, *Phys. Teach.*, 2020, **58**, 335–337.
- 346 J. Desmond-Harris, *White people have a race—but everyone flips out when we talk about it*, *Vox*, July 24, 2015, <https://www.vox.com/2015/7/24/9023721/white-whiteness-race-identity>, accessed 2022-09-18.
- 347 C. A. Moss-Racusin, J. F. Dovidio, V. L. Brescoli, M. J. Graham and J. Handelsman, Science faculty's subtle gender biases favor male students, *Proc. Natl. Acad. Sci. U. S. A.*, 2012, **109**, 16474–16479.
- 348 M. Helmer, M. Schottdorf, A. Neef and D. Battaglia, Gender bias in scholarly peer review, *eLife*, 2017, **6**, e21718.
- 349 D. J. Dean and C. L. Simpson, Understanding bias in science, in *Addressing Gender Bias in Science & Technology*, ed. S. Azad, American Chemical Society, Washington, D.C., 2020, ch. 3, vol. 1354 of ACS Symposium Series, pp. 29–49.
- 350 B. Schneider and M. A. Holmes, Science behind bias, in *Addressing Gender Bias in Science & Technology*, ed. S. Azad, American Chemical Society, Washington, D.C., 2020, ch. 4, vol. 1354 of ACS Symposium Series, pp. 51–71.
- 351 M. Hosseini, E. S. Hidalgo, S. P. J. M. Horbach, S. Güttinger and B. Penders, Messing with Merton: The intersection between open science practices and Mertonian values, *Acc. Res.*, 2022, DOI: [10.1080/08989621.2022.2141625](https://doi.org/10.1080/08989621.2022.2141625), in press.
- 352 E. A. Cech, The (mis)framing of social justice: Why ideologies of depoliticization and meritocracy hinder engineers' ability to think about social injustices, *Engineering Education for Social Justice: Critical Explorations and Opportunities*, ed. J. Lucena, Springer Science+Business Media, Dordrecht, 2013, pp. 67–84.
- 353 J. E. King, Dysconscious racism: Ideology, identity, and the miseducation of teachers, *J. Negro Educ.*, 1991, **60**, 133–146.
- 354 M. Berbrier, The victim ideology of white supremacists and white separatists in the United States, *Sociol. Focus*, 2000, **33**, 175–191.
- 355 M. I. Norton and S. R. Sommers, Whites see racism as a zero-sum game that they are now losing, *Perspect. Psychol. Sci.*, 2011, **6**, 215–218.
- 356 V. C. Plaut, Law and the zero-sum game of discrimination: Commentary on Norton and Sommers, *Perspect. Psychol. Sci.*, 2011, **6**, 219–221.
- 357 S. Gündemir, A. C. Homan, A. Usova and A. D. Galinsky, Multicultural meritocracy: The synergistic benefits of valuing diversity and merit, *J. Expt. Soc. Psychol.*, 2017, **73**, 34–41.
- 358 R. Rasmussen, D. E. Levari, M. Akhtar, C. S. Crittle, M. Gately, J. Pagan, A. Brennen, D. Cashman, A. N. Wulff, M. I. Norton, S. R. Sommers and H. L. Urry, White (but not black) Americans continue to see racism as a zero-sum game; white conservatives (but not moderates or liberals) see themselves as losing, *Perspect. Psychol. Sci.*, 2022, **17**, 1800–1810.
- 359 A. Samuels and N. Lewis Jr, *How white victimhood fuels Republican politics*, FiveThirtyEight, March 21, 2022, <https://fivethirtyeight.com/features/how-white-victimhood-fuels-republican-politics>, accessed 2022-12-07.
- 360 J. Engels, The politics of resentment and the tyranny of the minority: Rethinking victimage for resentful times, *Rhetor. Soc. Q.*, 2010, **40**, 303–325.
- 361 Lately I have seen “inclusive excellence” used by well meaning people as a substitute for “diversity hiring”, in what feels to me like an attempt to sidestep White resentment. I am quite comfortable labeling diversity efforts as such. To avoid “the D-word” is to capitulate to the false notion that diversity and merit are mutually exclusive.
- 362 S. F. Way, A. C. Morgan, A. Clauset and D. B. Larremore, The misleading narrative of the canonical faculty productivity trajectory, *Proc. Natl. Acad. Sci. U. S. A.*, 2017, **114**, E9216–E9223.
- 363 C. A. Moss-Racusin, J. E. Phelan and L. A. Rudman, When men break the gender rules: Status incongruity and backlash against modest men, *Psychol. Men Masc.*, 2010, **11**, 140–151.
- 364 J. Warner and A. Clauset, *The academy's dirty secret* Slate, February 23, 2015, <https://slate.com/human-interest/2015/02/university-hiring-if-you-didn-t-get-your-ph-d-at-an-elite-university-good-luck-finding-an-academic-job.html>, accessed 2022-09-02.
- 365 B. L. Benderly, *How prestige shapes the professoriate*, Science, March 2, 2016, <https://www.science.org/content/article/how-prestige-shapes-professoriate>, accessed 2022-09-02.



- 366 S. F. Way, D. B. Larremore, and A. Clauset, Gender, productivity, and prestige in computer science faculty hiring networks in WWW '16, *Proceedings of the 25th International Conference on World Wide Web*, International World Wide Web Conferences Steering Committee, Geneva, 2016, pp. 1169–1179.
- 367 A. Nowogrodzki, Most US professors are trained at same few elite universities, *Nature*, 2022, **609**, 887.
- 368 C. Kuimelis, *Just 5 universities produce one-eighth of the nation's tenure-track professors*, Chronicle of Higher Education, September 22, 2022, <https://www.chronicle.com/article/just-5-universities-produce-one-eighth-of-the-nations-tenure-track-professors>, accessed 2022-09-25.
- 369 S. Wu, Where do faculty receive their PhDs?, *Academe*, 2005, **91**, 53–54.
- 370 E. H. Kim, A. Morse and L. Zingales, Are elite universities losing their competitive edge?, *J. Financ. Econ.*, 2009, **93**, 353–381.
- 371 C. Wellmon, A. Piper, Publication, power, and patronage: On inequality and academic publishing, *Crit. Inq.*, 2017, https://criticalinquiry.uchicago.edu/publication_power_and_patronage_on_inequality_and_academic_publishing.
- 372 S. Zhang, K. H. Wapman, D. B. Larremore and A. Clauset, Labor advantages drive the greater productivity of faculty at elite universities, *Sci. Adv.*, 2022, **8**, eabq7056.
- 373 M. F. Fox, Publication productivity among scientists: A critical review, *Soc. Stud. Sci.*, 1983, **13**, 283–305.
- 374 C. Flaherty, *Pedigree and productivity*, Inside Higher Ed, May 2, 2019, <https://www.insidehighered.com/news/2019/05/02/study-when-it-comes-research-output-where-phds-get-hired-matters-more-where-they>, accessed 2022-09-02.
- 375 W. Li, S. Zhang, Z. Zheng, S. J. Cranmer and A. Clauset, Untangling the network effects of productivity and prominence among scientists, *Nat. Commun.*, 2022, **13**, 4907.
- 376 R. K. Merton, The Matthew effect in science, *Science*, 1968, **159**, 56–63.
- 377 R. K. Merton, The Matthew effect in science, II. Cumulative advantage and the symbolism of intellectual property, *Isis*, 1988, **79**, 606–623.
- 378 T. A. DiPrete and G. M. Eirich, Cumulative advantage as a mechanism for inequality: A review of theoretical and empirical developments, *Annu. Rev. Sociol.*, 2006, **32**, 271–297.
- 379 T. Bol, M. de Vaan and A. van de Rijt, The Matthew effect in science funding, *Proc. Natl. Acad. Sci. U. S. A.*, 2018, **115**, 4887–4890.
- 380 T. Tregenza, Gender bias in the refereeing process?, *Trends Ecol. Evol.*, 2002, **17**, 349–350.
- 381 A. E. Budden, T. Tregenza, L. W. Aarssen, J. Koricheva, R. Leimu and C. J. Lortie, Double-blind review favours increased representation of female authors, *Trends Ecol. Evol.*, 2008, **23**, 4–6.
- 382 A. R. Cox and R. Montgomerie, The cases for and against double-blind reviews, *PeerJ*, 2019, **7**, e6702.
- 383 A. R. Kern-Goldberger, R. James, V. Berghella and E. S. Miller, The impact of double-blind peer review on gender bias in scientific publishing: A systematic review, *Am. J. Obstet. Gynecol.*, 2022, **227**, 43–50.
- 384 R. M. Blank, The effects of double-blind versus single-blind reviewing: Experimental evidence from the American Economic Review, *Am. Econ. Rev.*, 1991, **81**, 1041–1067.
- 385 J. S. Ross, C. P. Gross, M. M. Desai, Y. Hong, A. O. Grant, S. R. Daniels, V. C. Hachinski, R. J. Gibbons, T. J. Gardner and H. M. Krumholz, Effect of blinded peer review on abstract acceptance, *J. Am. Med. Assoc.*, 2006, **295**, 1675–1680.
- 386 K. Okike, K. T. Hug, M. S. Kocher and S. S. Leopold, Single-blind vs. double-blind peer review in the setting of author prestige, *J. Am. Med. Assoc.*, 2016, **316**, 1315–1316.
- 387 A. Tomkins, M. Zhang and W. D. Heavlin, Reviewer bias in single- versus double-blind peer review, *Proc. Natl. Acad. Sci. U. S. A.*, 2017, **114**, 12708–12713.
- 388 M. Sun, J. B. Danfa and M. Teplitskiy, Does double-blind peer review reduce bias? Evidence from a top computer science conference, *J. Assoc. Inf. Technol.*, 2021, **73**, 811–819.
- 389 M. Gasman, *The five things no one will tell you about why colleges don't hire more faculty of color*, The Hechinger Report, September 20, 2016, <https://hechingerreport.org/five-things-no-one-will-tell-colleges-dont-hire-faculty-color>, accessed 2023-01-18.
- 390 *Research career development awards*, National Institutes of Health, May 23, 2017, <https://researchtraining.nih.gov/index.php/programs/career-development/K99-R00>, accessed 2023-01-21.
- 391 M. A. D. Sagaria, An exploratory model of filtering in administrative searches: Toward counter-hegemonic discourses, *J. Higher Educ.*, 2002, **73**, 677–710.
- 392 F. A. Tuit, M. A. D. Sagaria, and C. S. V. Turner, Signals and strategies in hiring faculty of color, in *Higher Education: Handbook of Theory and Research*, ed. J. C. Smart, Springer, Dordrecht, 2007, vol. 22, pp. 497–535.
- 393 O. Sensoy and R. DiAngelo, We are all for diversity, but...": How faculty hiring committees reproduce whiteness and practical suggestions for how they can change, *Harv. Educ. Rev.*, 2017, **87**, 557–580.
- 394 R. Liera and C. Ching, Reconceptualizing "merit" and "fit", in *Higher Education Administration for Social Justice and Equity: Critical Perspectives for Leadership*, ed. A. Kezar and J. Posselt, Routledge, New York, 1st edn, 2019, ch. 7, pp. 111–131.
- 395 D. K. White-Lewis, The facade of fit in the faculty search process, *J. Higher Educ.*, 2019, **91**, 833–857.
- 396 C. Flaherty, *A bad fit?*, Inside Higher Ed, July 14, 2020, <https://www.insidehighered.com/news/2020/07/14/study-concept-faculty-fit-hiring-vague-and-potentially-detrimental-diversity-efforts>, accessed 2022-09-04.
- 397 E. L. Uhlmann and G. L. Cohen, Constructed criteria: Redefining merit to justify discrimination, *Psychol. Sci.*, 2005, **16**, 474–480.



- 398 C. Riegle-Crumb, B. King and Y. Irizarry, Does STEM stand out? Examining racial/ethnic gaps in persistence across postsecondary fields, *Educ. Res.*, 2019, **48**, 133–144.
- 399 C. H. Arnaud, *Weeding out inequity in undergraduate chemistry classes*, Chemical & Engineering News, September 4, 2020, <https://cen.acs.org/education/undergraduate-education/Weeding-inequity-undergraduate-chemistry-classes/98/i34>, accessed 2022-10-12.
- 400 N. Hatfield, N. Brown and C. M. Topaz, Do introductory courses disproportionately drive minoritized students out of STEM pathways?, *PNAS Nexus*, 2022, **1**, pgac167.
- 401 C. Flaherty, *'The system needs to be changed'*, Inside Higher Ed, October 4, 2022, <https://www.insidehighered.com/news/2022/10/04/study-finds-intro-stem-courses-push-out-urm-students>, accessed 2022-10-04.
- 402 S. E. Bradforth, E. R. Miller, W. R. Dichtel, A. K. Leibovich, A. L. Feig, J. D. Martin, K. S. Bjorkman, Z. D. Schultz and T. L. Smith, University learning: Improve undergraduate science education, *Nature*, 2015, **523**, 282–284.
- 403 J. Schwartz, Faculty as undergraduate research mentors for students of color: Taking into account the costs, *Sci. Educ. Policy*, 2012, **96**, 527–542.
- 404 M. Syed, Why traditional metrics may not adequately represent ethnic minority psychology, *Perspect. Psychol. Sci.*, 2017, **12**, 1162–1165.
- 405 D. L. Brunson, D. G. Embrick and J. H. Shin, Graduate students of color: Race, racism, and mentoring in the white waters of academia, *Sociol. Race Ethn.*, 2017, **3**, 1–13.
- 406 J. Stockard, C. M. Rohlfsing and G. L. Richmond, Equity for women and underrepresented minorities in STEM: Graduate experiences and career plans in chemistry, *Proc. Natl. Acad. Sci. U. S. A.*, 2020, **118**, e2020508118.
- 407 D. A. Thomas, *Race matters*, Harvard Business Review, April 2001, <https://hbr.org/2001/04/race-matters>, accessed 2022-07-26.
- 408 R. E. Zambrana, R. Ray, M. M. Espino, C. Castro, B. D. Cohen and J. Eliason, Don't leave us behind": The importance of mentoring for underrepresented minority faculty, *Am. Educ. Res. J.*, 2015, **52**, 40–72.
- 409 S. Gündemir, A. E. Martin and A. C. Homan, Understanding diversity ideologies from the target's perspective: A review and future directions, *Front. Psychol.*, 2019, **10**, 282.
- 410 Z. Hazari, G. Potvin, R. M. Lock, F. Lung, G. Sonnert and P. M. Sadler, Factors that affect the physical science career interests of female students: Testing five common hypotheses, *Phys. Rev. Phys. Educ. Res.*, 2013, **9**, 020115.
- 411 K. L. Lewis, J. G. Stout, S. J. Pollock, N. D. Finkelstein and T. A. Ito, Fitting in or opting out: A review of key social-psychological factors influencing a sense of belonging for women in physics, *Phys. Rev. Phys. Educ. Res.*, 2016, **12**, 020110.
- 412 A. M. Kelly, Social cognitive perspective of gender disparities in undergraduate physics, *Phys. Rev. Phys. Educ. Res.*, 2016, **12**, 020116.
- 413 A. M. Penner, Gender inequality in science, *Science*, 2015, **347**, 234–235.
- 414 S.-J. Leslie, A. Cimpian, M. Meyer and E. Freeland, Expectations of brilliance underlie gender distributions across academic disciplines, *Science*, 2015, **347**, 262–265.
- 415 A. Hannak, K. Joseph, A. Cimpian and D. B. Larremore, Explaining gender differences in academics' career trajectories, *ArXiv*, 2020, preprint, arXiv:2009.10830, DOI: [10.48550/arXiv.2009.10830](https://doi.org/10.48550/arXiv.2009.10830).
- 416 P. Silverschanz, L. M. Cortina, J. Konik and V. J. Magley, Slurs, snubs, and queer jokes: Incidence and impact of heterosexist harassment in academia, *Sex Roles*, 2008, **58**, 179–191.
- 417 T. J. Atherton, R. S. Barthelemy, W. Deconinck, M. L. Falk, S. Garmon, E. Long, M. Plisch, E. H. Simmons, and K. Reeves, *LGBT climate in physics: Building an inclusive community*, American Physical Society, March 2016, <https://www.aps.org/programs/lgbt/upload/LGBTClimateinPhysicsReport.pdf>, accessed 2023-01-21.
- 418 E. Gibney, *Excluded, intimidated and harassed: LGBT physicists face discrimination*, *Nature*, March 22, 2016, <https://www.nature.com/articles/nature.2016.19614>, accessed 2023-02-11.
- 419 J. B. Yoder and A. Mattheis, Queer in STEM: Workplace experiences reported in a national survey of LGBTQA individuals in science, technology, engineering, and mathematics careers, *J. Homosex.*, 2016, **63**, 1–27.
- 420 B. E. Hughes, Coming out in STEM: Factors affecting retention of sexual minority STEM students, *Sci. Adv.*, 2018, **4**, eaao6373.
- 421 K. Langin, *STEM is losing male LGBQ undergrads*, *Science*, March 14, 2018, <https://www.science.org/content/article/stem-losing-male-lgbq-undergrads>, accessed 2023-02-11.
- 422 *Exploring the workplace for LGBT+ physical scientists*, Royal Society of Chemistry, 2019, <https://www.rsc.org/new-perspectives/talent/lgbt-report>, accessed 2022-10-15.
- 423 D. K. Smith, A personal matter?, *Matter*, 2019, **1**, 1439–1442.
- 424 E. Gibney, Discrimination drives LGBT+ scientists to think about quitting, *Nature*, 2019, **571**, 16–17.
- 425 E. A. Cech and T. J. Waidzunus, Systemic inequalities for LGBTQ professionals in STEM, *Sci. Adv.*, 2021, **7**, eaeb0933.
- 426 J. A. Kroll and K. L. Plath, Seen and unseen identities: Investigation of gender and sexual orientation identities in the general chemistry classroom, *J. Chem. Educ.*, 2022, **99**, 195–201.
- 427 L. Ferguson and M. K. Seery, Role models and inspirations of LGBT+ scientists, *J. Chem. Educ.*, 2022, **99**, 444–451.
- 428 R. C. Mizzi, "There aren't any gays here": Encountering heteroprofessionalism in an international development workplace, *J. Homosex.*, 2013, **60**, 1602–1624.
- 429 J. D. Unsay, LGBTQ+ in STEM: Visibility and beyond, *Chem.–Eur. J.*, 2020, **26**, 8670–8675.
- 430 C. J. Atchison, Challenges of fieldwork for LGBTQ+ scientists, *Nat. Human Behav.*, 2021, **5**, 1462.
- 431 M. Cascella and T. A. Soares, Bias amplification in gender, gender identity, and geopolitical affiliation, *J. Chem. Inf. Model.*, 2022, **62**, 6297–6301.



- 432 B. R. Ragins and J. M. Cornwell, Pink triangles: Antecedents and consequences of perceived workplace discrimination against gay and lesbian employees, *J. Appl. Psychol.*, 2001, **86**, 1244–1261.
- 433 J. A. Clair, J. E. Beatty and T. L. MacLean, Out of sight but not out of mind: Managing invisible social identities in the workplace, *Acad. Manage. Rev.*, 2005, **30**, 78–95.
- 434 B. R. Ragins, R. Singh and J. M. Cornwell, Making the invisible visible: Fear and disclosure of sexual orientation at work, *J. Appl. Psychol.*, 2007, **92**, 1103–1118.
- 435 A. P. Pintado, *Why do so many Gen Zers identify as LGBTQ? Because of the sacrifices of prior generations, experts say*, USA Today, June 8, 2022, <https://www.usatoday.com/story/news/nation/2022/06/08/why-gen-z-more-likely-lgbtq-identity/9824246002>, accessed 2022-12-17.
- 436 L. Hong and S. E. Page, Groups of diverse problem solvers can outperform groups of high-ability problem solvers, *Proc. Natl. Acad. Sci. U. S. A.*, 2004, **101**, 16385–16389.
- 437 S. E. Page, *The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools, and Societies*, Princeton University Press, Princeton, 2007.
- 438 C. M. Rey, *Team science and the diversity advantage*, Science, September 12, 2008, <https://www.science.org/content/article/team-science-and-diversity-advantage>, accessed 2023-02-11.
- 439 L. G. Campbell, S. Mehtani, M. E. Dozier and J. Rinehart, Gender-heterogeneous working groups produce higher quality science, *PLoS One*, 2013, **8**, e79147.
- 440 R. B. Freeman and W. Huang, Collaborating with people like me: Ethnic coauthorship within the United States, *J. Labor Econ.*, 2015, **33**, S289–S318.
- 441 D. Rock and H. Grant, *Why diverse teams are smarter*, Harvard Business Review, November 4, 2016, <https://hbr.org/2016/11/why-diverse-teams-are-smarter>, accessed 2022-07-26.
- 442 M. W. Nielsen, S. Alegria, L. Börjeson and L. Schiebinger, Gender diversity leads to better science, *Proc. Natl. Acad. Sci. U. S. A.*, 2017, **114**, 1740–1742.
- 443 B. K. AlShebli, T. Rahwan and W. L. Woon, The preeminence of ethnic diversity in scientific collaboration, *Nat. Commun.*, 2018, **9**, 5163.
- 444 B. Hofstra, V. V. Kulkarni, S. Munoz-Najar Galvez, B. He, D. Jurafsky and D. A. McFarland, The diversity–innovation paradox in science, *Proc. Natl. Acad. Sci. U. S. A.*, 2020, **117**, 9284–9291.
- 445 S. S. Levine, E. P. Apfelbaum, M. Bernard, V. L. Bartelt, E. J. Zajac and D. Stark, Ethnic diversity deflates price bubbles, *Proc. Natl. Acad. Sci. U. S. A.*, 2014, **111**, 18524–18529.
- 446 A. C. Morgan, D. J. Economou, S. F. Way and A. Clauzet, Prestige drives epistemic inequality in the diffusion of scientific ideas, *EPJ Data Sci.*, 2018, **7**, 40.
- 447 C. Hollond, R.-J. Sung and J. M. Liu, Integrating antiracism, social justice, and equity themes in a biochemistry class, *J. Chem. Educ.*, 2022, **99**, 202–210.
- 448 D. Doucette, A. R. Daane, A. Flynn, C. Gosling, D. Hsi, C. Mathis, A. Morrison, S. Park, M. Rifkin and J. Tabora, Teaching equity in chemistry, *J. Chem. Educ.*, 2022, **99**, 301–306.
- 449 M. R. Livezey, Using diverse, equitable, and inclusive course content to improve outcomes in a chemistry course for nonmajors, *J. Chem. Educ.*, 2022, **99**, 346–352.
- 450 N. Denson and M. J. Chang, Racial diversity matters: The impact of diversity-related student engagement and institutional context, *Am. Educ. Res. J.*, 2009, **46**, 322–353.
- 451 R. Stout, C. Archie, D. Cross and C. A. Carman, The relationship between faculty diversity and graduation rates in higher education, *Intercult. Educ.*, 2018, **29**, 399–417.
- 452 A. F. Cabrera, A. Nora, P. T. Terenzini, E. Pascarella and L. S. Hagedorn, Campus racial climate and the adjustment of students to college: A comparison between White students and African-American students, *J. Higher Educ.*, 1999, **70**, 134–160.
- 453 T. B. McNair, E. M. Bensimon, and L. Malcolm-Piqueux, *From Equity Talk to Equity Walk: Expanding Practitioner Knowledge for Racial Justice in Higher Education*, Jossey-Bass, Hoboken, 2020.
- 454 S. Graham, “Most of the subjects were white and middle class”: Trends in published research on African Americans in selected APA journals, 1970–1989, *Am. Psychol.*, 1992, **47**, 629–639.
- 455 E. Bonilla-Silva and G. Baiocchi, Anything but racism: How sociologists limit the significance of racism, *Race Soc.*, 2001, **4**, 117–131.
- 456 T. Zuberi and E. Bonilla-Silva, *White Methods, White Logic: Racism and Methodology*, Rowman & Littlefield Publishers, 2008.
- 457 S. O. Roberts, C. Bareket-Shavit, F. A. Dollins, P. D. Goldie and E. Mortenson, Racial inequality in psychological research: Trends of the past and recommendations for the future, *Perspect. Psychol. Sci.*, 2020, **15**, 1295–1309.
- 458 S. O. Roberts, Dealing with diversity in psychology: Science and ideology, *PsyArXiv*, 2022, preprint, DOI: [10.31234/osf.io/xk4yu](https://doi.org/10.31234/osf.io/xk4yu).
- 459 R. D. Roy, *It's time to decolonise science and end another imperial era*, April 13, 2018, https://www.independent.co.uk/news/long_reads/decolonise-science-time-end-imperial-era-racism-british-empire-a8291696.html, accessed 2022-12-17.
- 460 N. Notman, *Why is my chemistry curriculum White?*, Royal Society of Chemistry, October 8, 2021, <https://edu.rsc.org/analysis/why-is-my-chemistry-curriculum-white/4014379.article>, accessed 2023-01-22.
- 461 C. E. H. Dessent, R. A. Dawood, L. C. Jones, A. S. Matharu, D. K. Smith and K. O. Uleanya, Decolonizing the undergraduate chemistry curriculum: An account of how to start, *J. Chem. Educ.*, 2022, **99**, 5–9.
- 462 M. Salomone and T. Kling, Required peer-cooperative learning improves retention of STEM majors, *Int. J. STEM Educ.*, 2017, **4**, 19.
- 463 L. C. Reimer, J. M. Leslie, S. L. Bidwell, C. M. Isborn, D. Lair, E. Menke, B. J. Stokes, and H. P. Hratchian, Aiming toward an effective Hispanic serving chemistry curriculum, in



- Growing Diverse STEM Communities: Methodology, Impact, and Evidence*, ed. L. L. Winfield, G. Thomas, L. M. Watkins, and Z. S. Wilson-Kennedy, American Chemical Society, Washington, D.C., 2019, ch. 4, vol. 1328 of ACS Symposium Series, pp. 29–66.
- 464 M. Micari and P. Pazos, Beyond grades: Improving college students' social-cognitive outcomes in STEM through a collaborative learning environment, *Learn. Environ. Res.*, 2021, **24**, 123–136.
- 465 A. Romano, *The second wave of "cancel culture"*, Vox, May 5, 2021, <https://www.vox.com/22384308/cancel-culture-free-speech-accountability-debate>, accessed 2022-06-20.
- 466 D. Kurtzleben, *When Republicans attack 'cancel culture', what does it mean?*, NPR, February 10, 2021, <https://www.npr.org/2021/02/10/965815679/is-cancel-culture-the-future-of-the-gop>, accessed 2022-06-20.
- 467 C. McGrady, *The strange journey of 'cancel', from a Black-culture punchline to a White-grievance watchword*, Washington Post, April 2, 2021, https://www.washingtonpost.com/lifestyle/cancel-culture-background-black-culture-white-grievance/2021/04/01/2e42e4fe-8b24-11eb-aff6-4f720ca2d479_story.html, accessed 2023-01-21.
- 468 A. Zurcher, *Cancel culture: Have any two words become more weaponised?*, BBC, February 18, 2021, <https://www.bbc.com/news/world-us-canada-55959135>, accessed 2022-07-19.
- 469 E. A. Vogels, M. Anderson, M. Porteus, C. Baronavski, S. Atske, C. McClain, B. Auxier, A. Perrin, and M. Ramshankar, *Americans and 'cancel culture': Where some see calls for accountability, others see censorship, punishment*, Pew Research Center, May 19, 2021, <https://www.pewresearch.org/internet/2021/05/19/americans-and-cancel-culture-where-some-see-calls-for-accountability-others-see-censorship-punishment>, accessed 2022-07-17.
- 470 G. Piotrowski and S. Jacobs, *New poll finds that opinions about cancel culture stem from media*, Data for Progress, June 9, 2022, <https://www.dataforprogress.org/blog/2022/6/9/new-poll-finds-that-opinions-about-cancel-culture-stem-from-media>, accessed 2022-07-16.
- 471 E. Kaufmann, *The new culture wars: Why critical race theory matters more than cancel culture*, *Soc. Sci. Q.*, 2022, **103**, 773–788.
- 472 B. Waterfield, *Viktor Orban re-election bid in Hungary targets West's 'gender insanity'*, The Sunday Times, March 21, 2022, <https://www.thetimes.co.uk/article/viktor-orban-re-election-bid-in-hungary-targets-wests-gender-insanity-vmc3r53t3>, accessed 2022-07-16.
- 473 K. Joyce, *CPAC Hungary: Global right doubles down on "replacement" theory: "This is what tyrants do"*, Salon, May 5, 2022, <https://www.salon.com/2022/05/20/epac-hungary-global-right-doubles-down-on-replacement-theory-this-is-what-tyrants-do>, accessed 2022-10-03.
- 474 D. Milbank, *A hero of the Trump right shows his true colors: Whites only*, Washington Post, July 27, 2022, <https://www.washingtonpost.com/opinions/2022/07/27/viktor-orban-cpac-conservatives-welcome-racism>, accessed 2022-07-28.
- 475 J. Wilson and A. Flanagan, *The racist 'great replacement' conspiracy theory explained*, Southern Poverty Law Center, May 17, 2022, <https://www.splcenter.org/hatewatch/2022/05/17/racist-great-replacement-conspiracy-theory-explained>, accessed 2022-07-16.
- 476 D. Montanaro, *How the 'replacement' theory went mainstream on the political right*, NPR, May 17, 2022, <https://www.npr.org/2022/05/17/1099223012/how-the-replacement-theory-went-mainstream-on-the-political-right>, accessed 2022-07-17.
- 477 P. Rosenberg, *The dark history of the "Great Replacement": Tucker Carlson's racist fantasy has deep roots*, Salon, August 21, 2021, <https://www.salon.com/2021/08/21/the-dark-history-of-the-great-replacement-tucker-carlsons-racist-fantasy-has-deep-roots>, accessed 2022-07-26.
- 478 C. Miller and R. C. Rivas, *The year in hate & extremism report 2021*, Southern Poverty Law Center, March 9, 2022, <https://www.splcenter.org/20220309/year-hate-extremism-report-2021>, accessed 2022-07-27.
- 479 K. Rahman, *Video of Tucker Carlson repeatedly touting 'Replacement Theory' goes viral*, Newsweek, May 16, 2022, <https://www.newsweek.com/tucker-carlson-promotes-replacement-theory-viral-video-1706823>, accessed 2022-07-17.
- 480 G. Graziosi, *Video of Tucker Carlson promoting 'Great Replacement' theory surfaces again*, The Independent, May 16, 2022, <https://www.independent.co.uk/news/world/americas/us-politics/tucker-carlson-video-great-replacement-theory-b2080264.html>, accessed 2022-07-17.
- 481 J. Skolnik, *Doubling down on "great replacement" paranoia: How the right is reacting to the Buffalo shooting*, Salon, May 16, 2022, <https://www.salon.com/2022/05/16/doubling-down-on-great-replacement-paranoia-how-the-right-is-reacting-to-the-buffalo>, accessed 2022-07-26.
- 482 E. Higgins, *What "great replacement"? Right wants us to shut up about Buffalo shooter's ideology*, Salon, May 17, 2022, <https://www.salon.com/2022/05/17/what-great-replacement-right-wants-us-to-shut-up-about-buffalo-shooters-ideology>, accessed 2023-01-21.
- 483 A. Gabbatt, *Fox News suddenly goes quiet on 'great replacement' theory after Buffalo shooting*, The Guardian, May 17, 2022, <https://www.theguardian.com/us-news/2022/may/17/buffalo-shooting-fox-news-tucker-carlson-great-replacement-theory>, accessed 2022-07-17.
- 484 C. Ecarma, *Tucker Carlson, promoter of racist "replacement" theory, insists he's not a racist*, Vanity Fair, July 7, 2022, <https://www.vanityfair.com/news/2022/07/tucker-carlson-racist-replacement-theory>, accessed 2022-07-17.
- 485 T. Ring, *Meet the gay man fueling Tucker Carlson's anti-LGBTQ+ program*, The Advocate, December 2, 2022, <https://www.advocate.com/media/2022/12/02/meet-gay-man-fueling-tucker-carlsons-anti-lgbtq-program>, accessed 2023-01-02.
- 486 Tucker Carlson, GLAAD Accountability Project, <https://www.glaad.org/gap/tucker-carlson>, accessed 2023-01-21.



- 487 M. Gevisser, *Hungary's classrooms have become the new battleground for the war on 'LGBT ideology'*, *The Guardian*, June 22, 2021, <https://www.theguardian.com/commentisfree/2021/jun/22/hungary-lgbt-content-in-schools-law-homosexuality-paedophilia>, accessed 2022-10-03.
- 488 Z. Beauchamp, *How hatred of gay people became a key plank in Hungary's authoritarian turn*, *Vox*, June 28, 2021, <https://www.vox.com/22547228/hungary-orban-lgbt-law-pedophilia-authoritarian>, accessed 2022-10-03.
- 489 A. Cheng, *Putin slams 'cancel culture' and trans rights, calling teaching gender fluidity a 'crime against humanity'*, *Washington Post*, October 22, 2021, <https://www.washingtonpost.com/world/2021/10/22/putin-valdai-speech-trump-cancel-culture>, accessed 2022-10-03.
- 490 S. Olmos, *'Key to white survival': How Putin has morphed into a far-right savior*, *The Guardian*, March 5, 2022, <https://www.theguardian.com/us-news/2022/mar/05/putin-ukraine-invasion-white-nationalists-far-right>, accessed 2022-10-03.
- 491 B. Wallace-Wells, *What American conservatives see in Hungary's leader*, *The New Yorker*, September 13, 2021, <https://www.newyorker.com/news/annals-of-inquiry/what-rod-dreher-sees-in-viktor-orban>, accessed 2022-07-16.
- 492 *Head east, conservative intellectual*, *The American Conservative*, June 30, 2021, <https://www.theamericanconservative.com/mcc-orban-hungary-budapest-conservative-intellectual>, accessed 2022-07-16.
- 493 *Turn east, young conservative*, *The American Conservative*, May 6, 2022, <https://www.theamericanconservative.com/turn-east-young-conservative-budapest-conservative-intellectual>, accessed 2022-07-16.
- 494 D. Remnick, *Why do conservatives love Hungary's Viktor Orbán?*, *The New Yorker Radio Hour*, June 27, 2022, <https://www.newyorker.com/podcast/the-new-yorker-radio-hour/why-do-conservatives-love-hungarys-viktor-orban>, accessed 2022-07-16.
- 495 R. Dreher, *Putin gets it. Why don't we?*, *The American Conservative*, October 22, 2021, <https://www.theamericanconservative.com/putin-soft-totalitarianism-live-not-by-lies-wokelessness>, accessed 2022-10-03.
- 496 E. Tamkin, *Why the US far right can't quit Putin*, *The New Statesman*, March 17, 2022, <https://www.newstatesman.com/world/americas/north-america/us/2022/03/why-parts-of-the-us-right-cant-quit-putin>, accessed 2022-10-03.
- 497 S. Lawton, *Tucker Carlson's embrace of foreign authoritarian leaders*, *Media Matters*, August 3, 2022, <https://www.mediamatters.org/tucker-carlson/tucker-carlsons-embrace-foreign-authoritarian-leaders>, accessed 2022-10-04.
- 498 A. Marantz, *Does Hungary offer a glimpse of our authoritarian future?*, *The Atlantic*, June 27, 2022, <https://www.newyorker.com/magazine/2022/07/04/does-hungary-offer-a-glimpse-of-our-authoritarian-future>, accessed 2022-12-21.
- 499 *Australia tables contentious religious anti-discrimination bill*, *Al Jazeera*, November 25, 2021, <https://www.aljazeera.com/news/2021/11/25/australia-tables-contentious-religious-anti-discrimination-bill>, accessed 2022-12-17.
- 500 L. Wakefield, *Australia's anti-LGBT+ prime minister wants to protect religious people from 'cancel culture'*, *Pink News*, November 28, 2021, <https://www.pinknews.co.uk/2021/11/28/australia-scott-morrison-cancel-culture-lgbt>, accessed 2023-01-18.
- 501 L. Wakefield, *Rishi Sunak 'wants to gut trans rights from Equality Act'*, *Pink News*, November 1, 2022, <https://www.thepinknews.com/2022/11/01/rishi-sunak-trans-equality-act>, accessed 2022-12-16.
- 502 N. Onishi, *Will American ideas tear France apart? Some of its leaders think so*, *New York Times*, February 9, 2021, <https://www.nytimes.com/2021/02/09/world/europe/france-threat-american-universities.html>, accessed 2022-08-06.
- 503 F. Mulraney, *'Out-of-control woke leftism and cancel culture' from the U.S. is a threat to FRANCE because it 'attacks' the nation's heritage and identity*, *French politicians and intellectuals say*, *Daily Mail*, February 9, 2021, <https://www.dailymail.co.uk/news/article-9242453/Out-control-woke-leftism-cancel-culture-threat-FRANCE-French-politicians-say.html>, accessed 2022-10-09.
- 504 *'Woke culture' has made its way into the French presidential election*, *NPR*, April 12, 2022, <https://www.npr.org/2022/04/12/1092251236/woke-culture-has-made-its-way-into-the-french-presidential-election>, accessed 2022-09-06.
- 505 I. Eisele, *Opinion: More diversity, or cancel culture?*, *DW*, January 2, 2021, <https://www.dw.com/en/opinion-more-diversity-or-cancel-culture/a-56116513>, accessed 2022-08-06.
- 506 M. Pascoletti, *Why the rise of Giorgia Meloni is anything but business as usual for Italy*, *Open Democracy*, July 8, 2021, <https://www.opendemocracy.net/en/why-rise-giorgia-meloni-anything-business-usual-italy>, accessed 2022-09-27.
- 507 C. Hickey, *Accused of 'cancel culture', Dresden museums defend renaming works*, *The Art Newspaper*, January 28, 2022, <https://www.theartnewspaper.com/2022/01/28/accused-of-cancel-culture-dresden-museums-defend-renaming-works>, accessed 2022-08-06.
- 508 C. Harlan and S. Pitrelli, *A far-right politician is poised to become Italy's first female leader*, *Washington Post*, September 13, 2022, <https://www.washingtonpost.com/world/2022/09/13/giorgia-meloni-italy-election-right>, accessed 2022-09-27.
- 509 J. Imam, *Italy's far right weaponises culture in the interests of nationalism*, *The Art Newspaper*, September 23, 2022, <https://www.theartnewspaper.com/2022/09/23/italys-far-right-weaponises-culture-in-the-interests-of-nationalism>, accessed 2022-09-27.
- 510 D. Kumar, *DeSantis signs bill limiting tenure at Florida public universities*, *Tampa Bay Times*, April 19, 2022, <https://www.tampabay.com/news/education/2022/04/19/desantis-signs-bill-limiting-tenure-at-florida-public-universities>, accessed 2022-07-16.



- 511 N. Mesa, *Florida faculty await details on new tenure law*, *The Scientist*, May 4, 2022, <https://www.the-scientist.com/news-opinion/florida-faculty-await-details-on-new-tenure-law-69971>, accessed 2022-07-16.
- 512 S. Svrluga and L. Rozsa, *In Florida, DeSantis's plans for college rattle some academics*, *Washington Post*, July 1, 2022, <https://www.washingtonpost.com/education/2022/07/01/desantis-florida-universities-laws>, accessed 2022-07-16.
- 513 C. Flaherty, *Shoring up tenure, or weakening it?*, *Inside Higher Ed*, October 27, 2022, <https://www.insidehighered.com/news/2022/10/27/west-virginia-u-proposal-outlines-process-firing-faculty>, accessed 2023-01-16.
- 514 J. Diaz, *Florida's governor signs controversial law opponents dubbed 'Don't Say Gay'*, *NPR*, March 28, 2022, <https://www.npr.org/2022/03/28/1089221657/dont-say-gay-florida-desantis>, accessed 2022-07-16.
- 515 B. Migdon, *Florida's 'Don't Say Gay' law takes effect today. Its impact is already being felt*, *The Hill*, July 1, 2022, <https://thehill.com/changing-america/respect/equality/3543536-floridas-dont-say-gay-law-takes-effect-today-its-impact-is-already-being-felt>, accessed 2022-07-16.
- 516 V. Strauss, *Florida law limiting LGBTQ discussions takes effect—and rocks schools*, *Washington Post*, July 1, 2022, <https://www.washingtonpost.com/education/2022/07/01/dont-say-gay-florida-law>, accessed 2022-07-16.
- 517 J. Kennedy, *DeSantis' 'Stop WOKE Act' faces court test as universities become targets. At issue: Free speech*, *Tallahassee Democrat*, June 16, 2022, <https://www.tallahassee.com/story/news/politics/2022/06/16/desantis-florida-stop-woke-act-challenged-universities-free-speech/7630033001>, accessed 2022-07-16.
- 518 T. Craig, *Florida legislature passes bill that limits how schools and workplaces teach about race and identity*, *Washington Post*, March 10, 2022, <https://www.washingtonpost.com/nation/2022/03/10/florida-legislature-passes-anti-woke-bill>, accessed 2022-07-16.
- 519 A. Atterbury, *'Positively dystopian': Florida judge blocks DeSantis' anti-woke law for colleges*, *Politico*, November 17, 2022, <https://www.politico.com/news/2022/11/17/florida-anti-woke-law-block-colleges-education-00069252>, accessed 2022-11-19.
- 520 T. Bella, *DeSantis invokes MLK as he proposes Stop Woke Act against critical race theory*, *Washington Post*, December 15, 2021, <https://www.washingtonpost.com/politics/2021/12/15/desantis-stop-woke-act-mlk-crt>, accessed 2022-09-17.
- 521 R. DeSantis, *The enemy is within*, *Coalition of Conservatives in Action*, May 31, 2022, <https://conservativesinaction.org/knowledge-box/2022/05/31/the-enemy-is-within>, accessed 2022-07-16.
- 522 P. Crespo, *Florida governor goes to war against 'radical vigilante woke mob'*, *American Liberty*, June 21, 2022, <https://americanliberty.news/politics/florida-governor-goes-to-war-against-radical-vigilante-woke-mob/pcrespo/2022/06>, accessed 2022-07-16.
- 523 Z. Anderson, *COVID-19 crusader Gov. DeSantis gets new title: Chief of 'woke' police*, *Tallahassee Democrat*, April 13, 2022, <https://www.tallahassee.com/story/news/politics/2022/04/13/desantis-emulates-donald-trump-florida-laws-dont-say-gay-covid/9496794002>, accessed 2022-07-16.
- 524 C. A. Bridges, *What does it mean to be 'woke,' and why does Florida Governor Ron DeSantis want to stop it?*, *Tallahassee Democrat*, April 14, 2022, <https://www.tallahassee.com/story/lifestyle/2022/04/14/wokeness-how-meaning-woke-evolved-and-where-its-going-next/7287343001>, accessed 2022-07-16.
- 525 D. Golden, *Muzzled by DeSantis, critical race theory professors cancel courses or modify their teaching*, *ProPublica*, January 3, 2023, <https://www.propublica.org/article/desantis-critical-race-theory-florida-college-professors>, accessed 2023-01-08.
- 526 C. Downey, *DeSantis shakes up leadership of woke Florida college, appoints conservative majority*, *National Review*, January 6, 2023, <https://www.nationalreview.com/news/desantis-shakes-up-leadership-of-woke-florida-college-appoints-conservative-majority>, accessed 2023-01-10.
- 527 E. Grench, *They were loving college. Then Ron DeSantis got involved*, *The Daily Beast*, January 10, 2023, <https://www.thedailybeast.com/new-college-of-florida-students-call-out-ron-desantis-and-christopher-rufo-takeover>, accessed 2022-01-10.
- 528 J. Moody, *DeSantis aims to turn college into 'Hillsdale of the south'*, *Inside Higher Ed*, January 11, 2023, <https://www.insidehighered.com/news/2023/01/11/desantis-seeks-overhaul-small-liberal-arts-college>, accessed 2022-01-20.
- 529 P. Mazzei and A. Hartocollis, *Florida rejects A.P. African American studies class*, *New York Times*, January 19, 2023, <https://www.nytimes.com/2023/01/19/us/desantis-florida-ap-african-american-studies.html>, accessed 2023-01-20.
- 530 A. Branigin, *10 anti-LGBTQ laws just went into effect. They all target schools*, *Washington Post*, July 8, 2022, <https://www.washingtonpost.com/nation/2022/07/08/anti-lgbtq-education-laws-in-effect>, accessed 2022-10-16.
- 531 *Ban on transgender youth participation in sports*, *Movement Advancement Project*, January 5, 2023, https://www.lgbtmap.org/equality-maps/sports_participation_bans, accessed 2023-01-19.
- 532 A. Branigin and N. Kirkpatrick, *Anti-trans laws are on the rise. Here's a look at where—and what kind*, *Washington Post*, October 14, 2022, <https://www.washingtonpost.com/lifestyle/2022/10/14/anti-trans-bills>, accessed 2022-10-16.
- 533 J. Valant and N. Zerbino, *Transgender students' rights shouldn't be subject to partisan feuds*, *Brookings Institution*, September 13, 2021, <https://www.brookings.edu/blog/brown-center-chalkboard/2021/09/13/transgender-student-rights-shouldnt-be-subject-to-partisan-feuds>, accessed 2022-09-17.
- 534 H. Natanson, *Virginia will block schools from accommodating transgender students*, *Washington Post*, September 16, 2022, <https://www.washingtonpost.com/education/2022/09/16/trans-students-virginia-bathroom-sports>, accessed 2022-09-17.



- 535 J. Henry, *Ron DeSantis slams 'woke gender ideology' in speech to Jewish group in Manhattan*, *The Times of Israel*, June 13, 2022, <https://www.timesofisrael.com/ron-desantis-slams-woke-gender-ideology-in-speech-to-jewish-group-in-manhattan>, accessed 2022-07-17.
- 536 J. Poff, *DeSantis signs into law controversial gender ideology education bill*, *Washington Examiner*, March 28, 2022, <https://www.washingtonexaminer.com/policy/desantis-signs-parental-rights-measure-labeled-dont-say-gay-by-critics>, accessed 2022-07-17.
- 537 M. Zahneis, *'It could have been worse': Higher ed reacts to Ben Sasse at U. of Florida*, *Chronicle of Higher Education*, October 7, 2022, <https://www.chronicle.com/article/it-could-have-been-worse-higher-ed-reacts-to-ben-sasse-at-u-of-florida>, accessed 2022-10-09.
- 538 J. Moody, *Florida trustees select Sasse as president*, *Inside Higher Ed*, November 2, 2022, <https://www.insidehighered.com/news/2022/11/02/florida-trustees-select-sasse-president>, accessed 2022-11-02.
- 539 S. Jaschik, *No-confidence vote in selection process for Ben Sasse*, *Inside Higher Ed*, October 31, 2022, <https://www.insidehighered.com/quicktakes/2022/10/31/no-confidence-vote-selection-process-ben-sasse>, accessed 2022-11-02.
- 540 J. Moody, *Protests planned for first day of Sasse's presidency*, *Insider Higher Ed*, February 6, 2023, <https://www.insidehighered.com/news/2023/02/06/president-sasse-face-protests-and-demands-first-day>, accessed 2023-06-12.
- 541 K. Burns, *The massive Republican push to ban trans athletes, explained*, *Vox*, March 26, 2021, <https://www.vox.com/identities/22334014/trans-athletes-bills-explained>, accessed 2022-07-17.
- 542 K. Glueck and P. Mazzei, *Red states push L.G.B.T.Q. restrictions as education battles intensify*, *New York Times*, April 14, 2022, <https://www.nytimes.com/2022/04/12/us/politics/transgender-laws-us.html>, accessed 2022-09-06.
- 543 T. Gabriel, *After Roe, Republicans sharpen attacks on gay and transgender rights*, *New York Times*, July 22, 2022, <https://www.nytimes.com/2022/07/22/us/politics/after-roe-republicans-sharpen-attacks-on-gay-and-transgender-rights.html>, accessed 2022-07-22.
- 544 C. J. Atkins, *Republicans prepare transphobic offensive for 2022 elections*, *People's World*, November 5, 2021, <https://www.peoplesworld.org/article/republicans-prepare-transphobia-offensive-for-2022-elections>, accessed 2022-07-17.
- 545 K. Sosin, *How did trans people become a GOP target? Experts say it's all about keeping evangelicals voting*, *The 19th*, May 17, 2022, <https://19thnews.org/2022/05/white-evangelical-voters-gop-anti-trans-bills>, accessed 2022-07-17.
- 546 G. S. Schneider, *What's in a word? Youngkin takes aim at 'equity'*, *Washington Post*, March 5, 2022, <https://www.washingtonpost.com/dc-md-va/2022/03/05/whats-word-youngkin-takes-aim-equity>, accessed 2022-07-28.
- 547 A. Ahn, *Right-wing groups spend millions of dollars on ads targeting transgender kids*, *NPR*, November 3, 2022, www.npr.org/2022/11/03/1133741967/right-wing-groups-spend-millions-dollars-ads-anti-transgender-kids, accessed 2022-11-03.
- 548 L. Penny, *TERF wars: Why transphobia has no place in feminism*, *Medium*, June 15, 2020, <https://pennyred.medium.com/terf-wars-why-transphobia-has-no-place-in-feminism-60d3156ad06e>, accessed 2023-01-02.
- 549 R. Pearce, *Academic freedom and the paradox of tolerance*, *Nat. Human Behav.*, 2021, 5, 1461.
- 550 F. McConnell, *Trans people in the UK are being crushed by relentless attacks from extremists. Where are our allies?*, *Pink News*, March 17, 2021, <https://www.thepinknews.com/2021/03/17/freddy-mcconnell-trans-uk-transphobia-attacks-maternity-bill-puberty-blockers-census-fair-play-for-women>, accessed 2022-12-18.
- 551 A. Barnett, *Transphobia in British politics*, *Medium*, July 30, 2022, <https://andrewbarnett567.medium.com/transphobia-in-british-politics-57bea8c61a5c>, accessed 2023-01-21.
- 552 V. Parsons, *Meet the trans storytellers fighting British transphobia*, *Them*, May 26, 2022, <https://www.them.us/story/trans-storytellers-fighting-british-transphobia>, accessed 2023-01-21.
- 553 C. Hart, *UK politics: Transphobia within the Tories*, *Injection*, July 27, 2022, <https://www.injectionmag.com/post/uk-politics-transphobia-within-the-tories>, accessed 2023-01-21.
- 554 C. Turner, *Age-appropriate sex education set to be enforced by Sunak administration*, *The Telegraph*, October 27, 2022, <https://www.telegraph.co.uk/politics/2022/10/27/age-appropriate-sex-education-set-enforced-sunak-administration>, accessed 2023-01-21.
- 555 *Report: Mapping anti-gender movements in the UK*, *Global Network for Trans Equality*, July 12, 2022, <https://gate.ngo/mapping-anti-gender-movements-in-the-uk>, accessed 2023-01-21.
- 556 R. Kaveney, *Transphobia is the latest weapon in a raging culture war*, *Red Pepper*, December 5, 2017, <https://www.redpepper.org.uk/transphobia-is-the-latest-weapon-in-the-culture-war>, accessed 2022-12-20.
- 557 R. Dommu, *Why the British media is so transphobic*, *Them*, May 21, 2018, <https://www.them.us/story/british-media-transphobia>, accessed 2022-12-18.
- 558 J. J. Gleeson, *On The Guardian's transphobic centrism*, *New Socialist*, October 21, 2018, <https://newsocialist.org.uk/on-the-guardians-transphobic-centrism>, accessed 2022-12-20.
- 559 J. Jacques, *Transphobia is everywhere in Britain*, *New York Times*, March 9, 2020, <https://www.nytimes.com/2020/03/09/opinion/britain-transphobia-labour-party.html>, accessed 2022-12-18.
- 560 L. Dale, *Trans Activism UK's finalised open letter to the BBC*, *LauraKBuzz*, October 29, 2021, <https://laurakbuzz.com/2021/10/29/trans-activism-uks-finalised-open-letter-to-the-bbc>, accessed 2022-02-12.
- 561 S. Hines, *Sex wars and (trans) gender panics: Identity and body politics in contemporary UK feminism*, *Soc. Rev. Mon.*, 2020, 68, 699–717.



- 562 E. Horbury and C. Yao, Empire and eugenics: Trans studies in the United Kingdom, *Transgender Stud. Q.*, 2020, 7, 445–454.
- 563 R. Pearce, S. Erikainen and B. Vincent, TERF wars: An introduction, *Soc. Rev. Mon.*, 2020, 68, 677–698.
- 564 M. Baska, *Trans woman 'considering escaping UK' over relentless political attacks: 'They're trying to erase us'*, Pink News, January 18, 2023, <https://www.thepinknews.com/2023/01/18/trans-woman-uk-political-attacks-gender-reform>, accessed 2023-01-21.
- 565 S. Schwartz, *Map: Where critical race theory is under attack*, Education Week, January 17, 2023, <https://www.edweek.org/policy-politics/map-where-critical-race-theory-is-under-attack/2021/06>, accessed 2023-01-21.
- 566 N. T. Ellis, *Critical race theory has become a social and political lightning rod. This is how we got here*, CNN, July 14, 2021, <https://www.cnn.com/2021/07/14/us/critical-race-theory-what-is-it/index.html>, accessed 2022-09-02.
- 567 J. E. Collins, *The 'Great Replacement Theory' is a lie, It's also a threat to schools*, Education Week, May 19, 2022, <https://www.edweek.org/leadership/opinion-the-great-replacement-theory-is-lie-its-also-a-threat-to-schools/2022/05>, accessed 2023-01-02.
- 568 I. X. Kendi, *The danger more Republicans should be talking about*, The Atlantic, April 16, 2022, <https://www.theatlantic.com/ideas/archive/2022/04/white-supremacy-grooming-in-republican-party/629585>, accessed 2022-07-28.
- 569 N. Carr, *White parents rallied to chase a Black educator out of town. Then, they followed her to the next one*, ProPublica, June 16, 2022, <https://www.propublica.org/article/georgia-dei-crt-schools-parents>, accessed 2022-07-16.
- 570 M. Bryan, *Walters asks state board to revoke former NPS teacher's certificate*, Norman Transcript, August 31, 2022, https://www.normantranscript.com/news/walters-asks-state-board-to-revoke-former-nps-teachers-certificate/article_546ab96e-293d-11ed-a184-d3d4f8caeb8f.html, accessed 2023-01-16.
- 571 P. Melendez, *How a harmless teacher got branded a 'pedophile' by extremists*, The Daily Beast, September 5, 2022, <https://www.thedailybeast.com/summer-boismier-exiled-norman-oklahoma-teacher-faces-cloudy-future>, accessed 2023-01-16.
- 572 S. Murphy, *Banned book lesson thrusts Oklahoma teaching into campaign*, Los Angeles Times, November 6, 2022, <https://www.latimes.com/world-nation/story/2022-11-06/banned-book-lesson-thrusts-oklahoma-teacher-into-campaign>, accessed 2023-01-16.
- 573 A. Marcotte, *Republican war on books: They don't just want to control your body—next up, your mind*, Salon, August 11, 2022, <https://www.salon.com/2022/08/11/on-books-on-schools-libraries-and-even-bookstores-is-just-beginning>, accessed 2022-09-11.
- 574 M. Downey, *Opinion: Book bans target nonwhite authors and characters*, The Atlanta Journal-Constitution, October 3, 2022, <https://www.ajc.com/education/get-schooled-blog/opinion-book-bans-target-nonwhite-authors-and-characters/V2IOFI546VGBHJEAJTQR4PQTUQ>, accessed 2022-10-05.
- 575 C. Flaherty, *A show of solidarity*, Inside Higher Ed, September 6, 2022, <https://www.insidehighered.com/news/2022/09/26/professors-support-k-12-teacher-investigated-race-lesson>, accessed 2022-12-17.
- 576 V. A. Brownworth, *GOP continues pushing anti-LGBTQ legislation in 2023*, Philadelphia Gay News, January 18, 2023, <https://epgn.com/2023/01/18/gop-continues-pushing-anti-lgbtq-legislation-in-2023>, accessed 2023-01-20.
- 577 J. Yurcaba, *With over 100 anti-LGBTQ bills before state legislatures in 2023 so far, activists say they're 'fired up'*, NBC News, January 14, 2023, <https://www.nbcnews.com/nbc-out/out-politics-and-policy/100-anti-lgbtq-bills-state-legislatures-2023-far-activists-say-fired-rcna65349>, accessed 2023-01-20.
- 578 *Mapping attacks on LGBTQ rights in U.S. state legislature*, American Civil Liberties Union, January 12, 2023, <https://www.aclu.org/legislative-attacks-on-lgbtq-rights>, accessed 2023-01-20.
- 579 M. Holcombe, *ACLU sues Oklahoma over law prohibiting critical race theory topics from being taught in schools*, CNN, October 19, 2021, <https://www.cnn.com/2021/10/19/us/oklahoma-lawsuit-critical-race-theory/index.html>, accessed 2023-01-16.
- 580 K. Hankes and A. Amend, *The alt-right is killing people*, Southern Poverty Law Center, February 5, 2018, <https://www.splcenter.org/20180205/alt-right-killing-people>, accessed 2022-08-31.
- 581 K.-Y. Taylor, *American racism and the Buffalo shooting*, New Yorker, May 15, 2022, <https://www.newyorker.com/news/our-columnists/american-racism-and-the-buffalo-massacre>, accessed 2022-07-19.
- 582 M. Feola, *How 'great replacement' theory led to the Buffalo mass shooting*, Washington Post, May 25, 2022, <https://www.washingtonpost.com/politics/2022/05/25/buffalo-race-war-invasion-violence>, accessed 2022-07-17.
- 583 *New ADL data: Far-right extremists responsible for overwhelming majority of domestic extremist-related murders in 2021*, ADL, February 14, 2022, <https://www.adl.org/news/press-releases/new-adl-data-far-right-extremists-responsible-for-overwhelming-majority-of>, accessed 08-31-2022.
- 584 R. B. Duque, R. Rivera and E. J. LeBlanc, *The active shooter paradox: Why the rise of cancel culture, "me too", ANTIFA and Black Lives Matter...matters*, *Aggress. Violent Behav.*, 2021, 60, 101544.
- 585 C. Parks, *Club Q shooting follows year of bomb threats, drag protests, anti-trans bills*, Washington Post, November 20, 2022, <https://www.washingtonpost.com/dc-md-va/2022/11/20/club-q-shooting-lgbtq-harassment>, accessed 2022-12-27.
- 586 P. Bump, *The Proud Boys keep popping up at LGBTQ events*, Washington Post, November 22, 2022, <https://www.washingtonpost.com/politics/2022/11/22/proud-boys-keeping-popping-up-anti-lgbtq-events>, accessed 2022-11-22.



- 587 *Protestors—some armed—attempt to disrupt a (canceled) drag queen story hour [GALLERY]*, The Buckeye Flame, December 3, 2022, <https://thebuckeyeflame.com/2022/12/03/protestors-attempt-to-disrupt-a-canceled-drag-queen-story-hour-gallery>, accessed 2023-01-22.
- 588 C. Friedersdorf, *That's not what grooming means*, The Atlantic, April 6, 2022, <https://www.theatlantic.com/newsletters/archive/2022/04/thats-not-what-grooming-means/629501>, accessed 2022-12-21.
- 589 A. Romano, *The right's moral panic over "grooming" invokes age-old homophobia*, Vox, April 21, 2022, <https://www.vox.com/culture/23025505/leftist-groomers-homophobia-satanic-panic-explained>, accessed 2022-12-21.
- 590 N. Berlatsky, *To defend democracy, you need to defend trans people*, Public Notice, June 30, 2022, <https://aaronrupar.substack.com/p/democrats-trans-rights-rufo>, accessed 2023-01-02.
- 591 S. Whittle, L. Turner, and M. Al-Alami, *Engendered penalties: Transgender and transsexual people's experiences of inequality and discrimination*, Press for Change, February, 2007, <http://www.pfc.org.uk/Research.html>, accessed 2023-01-21.
- 592 N. J. Adams and B. Vincent, *Suicidal thoughts and behaviors among transgender adults in relation to education, ethnicity, and income: A systematic review*, *Transgend. Health*, 2019, 4, 226–246.
- 593 J. L. Herman, T. N. T. Brown, and A. P. Haas, *Suicide thoughts and attempts among transgender adults: Findings from the 2015 U.S. transgender survey*, Williams Institute, UCLA School of Law, September, 2019, <https://williamsinstitute.law.ucla.edu/publications/suicidality-transgender-adults>, accessed 2023-01-21.
- 594 *Dismantling a culture of violence: Understanding violence against transgender and non-binary people and ending the crisis*, Human Rights Campaign Foundation, October, 2021, <https://www.hrc.org/resources/dismantling-a-culture-of-violence>, accessed 2023-01-21.
- 595 A. Austin, S. L. Craig, S. D'Souza and L. B. McInroy, *Suicidality among transgender youth: Elucidating the role of interpersonal risk factors*, *J. Interpers. Violence*, 2022, 37, NP2696–NP2718.
- 596 B. C. Thoma, R. H. Salk, S. Choukas-Bradley, T. R. Goldstein, M. D. Levine and M. P. Marshal, *Suicidality disparities between transgender and cisgender adolescents*, *Pediatrics*, 2019, 144, e20191183.
- 597 R. Thoreson, *"Like walking through a hailstorm": Discrimination against LGBT youth in US schools*, Human Rights Watch, December 7, 2016, <https://www.hrw.org/report/2016/12/08/walking-through-hailstorm/discrimination-against-lgbt-youth-us-schools>, accessed 2022-09-25.
- 598 J. Weaver, *New poll illustrates the impacts of social & political issues on LGBTQ youth*, The Trevor Project, January 10, 2022, <https://www.thetrevorproject.org/blog/new-poll-illustrates-the-impacts-of-social-political-issues-on-lgbtq-youth>, accessed 2022-07-19.
- 599 M. M. Johns, R. Lowry, L. T. Haderxhanaj, C. N. Rasberry, L. Robin, L. Scales, D. Stone and N. A. Suarez, *Trends in violence victimization and suicide risk by sexual identity among high school students—Youth risk behavior study, United States, 2015–2019*, *Morb. Mortal. Wkly. Rep. Suppl.*, 2020, 69, 19–27.
- 600 S. K. Choi, B. D. M. Wilson, J. Shelton, and G. Gates, *Serving our youth 2015: The needs and experiences of lesbian, gay, bisexual, transgender, and questioning youth experiencing homelessness*, June 2015, <https://williamsinstitute.law.ucla.edu/publications/serving-our-youth-lgbtq>, accessed 2022-12-22.
- 601 J. Seaton, *Homeless rates for LGBTQ teens are alarming, but parents can make a difference*, Washington Post, March 29, 2017, <https://www.washingtonpost.com/news/parenting/wp/2017/03/29/homeless-rates-for-lgbt-teens-are-alarming-heres-how-parents-can-change-that>, accessed 2022-12-22.
- 602 M. Murphy, *How have we let scientific study become hate speech?*, UnHerd, December 28, 2018, <https://unherd.com/2018/12/let-scientific-study-become-trans-speech-2>, accessed 2022-12-22.
- 603 A. Sullivan and J. Suissa, *The gender wars, academic freedom and education*, British Educational Research Association, January 25, 2019, <https://www.bera.ac.uk/blog/the-gender-wars-academic-freedom-and-education>, accessed 2022-12-22.
- 604 A. Sullivan, J. Suissa, and H. S. L. Gourlay, *UCU must stand up for academic freedom on sex and gender*, The Times Higher Education, April 19, 2019, <https://www.timeshighereducation.com/blog/ucu-must-stand-academic-freedom-sex-and-gender>, accessed 2023-01-21.
- 605 H. Smith, J. Suissa and A. Sullivan, *Should feminists be no-platformed?*, The Morning Star, 2019, <https://morningstaronline.co.uk/article/f/should-feminists-be-no-platformed>, accessed 2022-12-22.
- 606 K. Stock, *Are academics freely able to criticise the idea of 'gender identity' in UK universities?*, Medium, July 3, 2019, <https://medium.com/@kathleenstock/are-academics-freely-able-to-criticise-the-idea-of-gender-identity-in-uk-universities-67b97c6e04be>, accessed 2022-12-20.
- 607 J. Grove, *Kathleen Stock: Life on the front line of transgender rights debate*, Times Higher Education, January 7, 2020, <https://www.timeshighereducation.com/news/kathleen-stock-life-front-line-transgender-rights-debate>, accessed 2022-12-22.
- 608 A. Fazackerley, *Sacked or silenced: Academics say they are blocked from exploring trans issues*, The Guardian, January 14, 2020, <https://www.theguardian.com/education/2020/jan/14/sacked-silenced-academics-say-they-are-blocked-from-exploring-trans-issues>, accessed 2022-12-22.
- 609 A. Fazackerley, *UK universities struggle to deal with 'toxic' trans rights row*, The Guardian, October 30, 2018, <https://www.theguardian.com/education/2018/oct/30/uk-universities-struggle-to-deal-with-toxic-trans-rights-row>, accessed 2023-01-19.
- 610 J. Suissa and A. Sullivan, *The gender wars, academic freedom and education*, *J. Philos. Educ.*, 2021, 55–82.



- 611 A backlash against gender ideology is starting in universities, *The Economist*, June 5, 2021, <https://www.economist.com/international/2021/06/05/a-backlash-against-gender-ideology-is-starting-in-universities>, accessed 2022-12-22.
- 612 J. Moorhead, *Kathleen Stock: Taboo around gender identity has a chilling effect on academics*, *The Guardian*, May 22, 2021, <https://www.theguardian.com/education/2021/may/22/kathleen-stock-taboo-around-gender-identity-chilling-effect-on-academics>, accessed 2022-12-23.
- 613 L. Littman, Parent reports of adolescents and young adults perceived to show signs of a rapid onset of gender dysphoria, *PLoS One*, 2018, **13**, e0202330.
- 614 F. Ashley, A critical commentary on 'rapid-onset gender dysphoria', *Soc. Rev. Mon.*, 2020, **68**, 779–799.
- 615 J. Gill-Peterson, *From gender critical to QAnon: Anti-trans politics and the laundering of conspiracy*, *The New Inquiry*, September 13, 2021, <https://thenewinquiry.com/from-gender-critical-to-qanon-anti-trans-politics-and-the-laundering-of-conspiracy>, accessed 2023-01-02.
- 616 L. Littman, Correction: Parent reports of adolescents and young adults perceived to show signs of a rapid onset of gender dysphoria, *PLoS One*, 2019, **14**, e0214157.
- 617 A. B. Costa, Formal comment on: Parent reports of adolescents and young adults perceived to show signs of a rapid onset of gender dysphoria, *PLoS One*, 2019, **14**, e0212578.
- 618 J. Heber, *Correcting the scientific record on gender incongruence—and an apology*, *EveryONE*, March 19, 2019, <https://everyone.plos.org/2019/03/19/correcting-the-scientific-record-and-an-apology>, accessed 2022-12-22.
- 619 M. Bey, J. Gill-Peterson, and G. Lavery, *Clayman conversations: Three scholars examine the TERF industrial complex*, *The Clayman Institute for Gender Research*, Stanford University, October 5, 2020, <https://gender.stanford.edu/news/clayman-conversations-three-scholars-examine-terf-industrial-complex>, accessed 2023-01-02.
- 620 J. A. M. Evang, Is “gender ideology” Western Colonialism?: Anti-gender rhetoric and the misappropriation of postcolonial language, *Transgender Stud. Q.*, 2022, **9**, 365–386.
- 621 C. Libby, Sympathy, fear, hate: Trans-exclusionary radical feminism and evangelical Christianity, *Transgender Stud. Q.*, 2022, **9**, 425–442.
- 622 A. Tudor, Decolonizing trans/gender studies?: Teaching gender, races, and sexuality in times of the rise of the global right, *Transgender Stud. Q.*, 2021, **8**, 238–256.
- 623 J. Butler, *Why is the idea of 'gender' provoking backlash the world over?*, *The Guardian*, October 23, 2021, <https://www.theguardian.com/us-news/commentisfree/2021/oct/23/judith-butler-gender-ideology-backlash>, accessed 2023-01-02.
- 624 K. Burns, *The rise of anti-trans “radical” feminists, explained*, *Vox*, September 5, 2019, <https://www.vox.com/identities/2019/9/5/20840101/terfs-radical-feminists-gender-critical>, accessed 2023-01-02.
- 625 S. Perry, *Gender critical activist quotes Adolf Hitler in speech against trans rights at Posie Parker rally*, *Pink News*, January 16, 2023, <https://www.thepinknews.com/2023/01/16/newcastle-let-women-speak-rally-adolt-hitler-trans-speech>, accessed 2023-01-18.
- 626 E. Koyama, Whose feminism is it anyway? The unspoken racism of the trans inclusion debate, *Soc. Rev. Mon.*, 2020, **68**, 735–744.
- 627 L. Finlayson, K. Jenkins, and R. Worsdale, *“I’m not transphobic but...”: A feminist case against the feminist case against trans inclusivity*, *Verso Books*, October 17, 2018, <https://www.versobooks.com/blogs/4090-i-m-not-transphobic-but-a-feminist-case-against-the-feminist-case-against-trans-inclusivity>, accessed 2023-01-02.
- 628 T. M. Bettcher, *“When tables speak”: On the existence of trans philosophy*, *Daily Nous*, May 30, 2018, <https://dailynous.com/2018/05/30/tables-speak-existence-trans-philosophy-guest-talia-mae-bettcher>, accessed 2023-01-02.
- 629 A. Zanghellini, Philosophical problems with the gender-critical feminist argument against trans inclusion, *SAGE Open*, 2020, **10**, 215824402092702.
- 630 V. Parsons, *‘Gender-critical’ academic accepts OBE with lengthy diatribe branding Stonewall a ‘threat to free speech’*, *Pink News*, December 31, 2020, <https://www.thepinknews.com/2020/12/31/kathleen-stock-obe-stonewall-twitter-trans-gender-critical-new-year-honours>, accessed 2022-12-23.
- 631 B. S. Barnett, A. E. Nesbit and R. M. Sorrentino, The transgender bathroom debate at the intersection of politics, law, ethics, and science, *J. Am. Acad. Psychiatry Law*, 2018, **46**, 232–241.
- 632 B. Barnett, *Anti-trans ‘bathroom bills’ are based on lies. Here’s the research to show it*, *Huffington Post*, September 11, 2018, https://www.huffpost.com/entry/opinion-transgender-bathroom-crime_n_5b96c5b0e4b0511db3e52825, accessed 2022-12-24.
- 633 A. Hasenbush, A. R. Flores and J. L. Herman, Gender identity nondiscrimination laws in public accommodations: A review of evidence regarding safety and privacy in public restrooms, locker rooms, and changing rooms, *Sex. Res. Soc. Policy*, 2019, **16**, 70–83.
- 634 V. Parsons, *Outraged academics condemn government for handing anti-trans professor Kathleen Stock an OBE*, *Pink News*, January 6, 2021, <https://www.thepinknews.com/2021/01/06/kathleen-stock-obe-transphobia-open-letter>, accessed 2022-12-23.
- 635 R. Adams, *Professor says career effectively ended by union’s transphobia claims*, *The Guardian*, October 12, 2021, <https://www.theguardian.com/education/2021/oct/12/professor-says-career-effectively-ended-by-unions-transphobia-claims>, accessed 2022-12-25.
- 636 N. Badshah, *University defends ‘academic freedoms’ after calls to sack professor*, *The Guardian*, October 7, 2021, <https://www.theguardian.com/education/2021/oct/07/university-defends-academic-freedoms-after-calls-to-sack-professor>, accessed 2022-12-22.



- 637 B. Jeffreys, *University of Sussex backs professor in free speech row*, BBC, October 8, 2021, <https://www.bbc.com/news/education-58841887>, accessed 2022-12-23.
- 638 E. Lawrie, *Free speech row prof Kathleen Stock: Protests like anxiety dream*, BBC, November 3, 2021, <https://www.bbc.com/news/education-59148324>, accessed 2022-12-22.
- 639 S. Griffiths, *Kathleen Stock, the Sussex University professor in trans row, urged to get bodyguards*, The Sunday Times, October 10, 2021, <https://www.thetimes.co.uk/article/kathleen-stock-the-sussex-university-professor-in-trans-row-urged-to-get-bodyguards-2khmgzk98>, accessed 2022-12-23.
- 640 T. M. Bettcher, Appearance, reality and gender deception: Reflections on transphobic violence and the politics of pretence, in *Violence, Victims, Justifications: Philosophical Approaches*, ed. F. Ó. Murchadha, Peter Lang, Oxford, 2006, pp. 175–200.
- 641 E. Stanley, Near life, queer death: Overkill and ontological capture, *Social Text*, 2011, **29**, 1–19.
- 642 R. Pearce, A methodology for the marginalised: Surviving oppression and traumatic fieldwork in the neoliberal academy, *Sociology*, 2020, **54**, 806–824.
- 643 *National LGBT survey: Summary report*, U.K. Government Equalities Office, July 3, 2018, <https://www.gov.uk/government/publications/national-lgbt-survey-summary-report>, accessed 2023-01-21.
- 644 *An epidemic of violence 2022: Fatal violence against transgender and gender non-conforming people in the United States in 2022*, Human Rights Campaign Foundation, December 5, 2022, <https://reports.hrc.org/an-epidemic-of-violence-2022>, accessed 2023-01-21.
- 645 T. M. Bettcher, Through the looking glass: Trans theory meets feminist philosophy, in *The Routledge Companion to Feminist Philosophy*, ed. A. Garry, S. J. Khader, and A. Stone, Routledge, New York, 1st edn, 2017, ch. 3, pp. 393–405.
- 646 T. M. Bettcher, Trans feminism: Recent philosophical developments, *Philos. Compass*, 2017, **121**, e12438.
- 647 M. Elster, Insidious concern: Trans panic and the limits of care, *Transgender Stud. Q.*, 2022, **9**, 407–424.
- 648 G. Gill, *COVID-19 conspiricism and the four Ds of stochastic terrorism*, Global Network on Extremism & Technology, November 25, 2021, <https://gnet-research.org/2021/11/25/covid-19-conspiricism-and-the-four-ds-of-stochastic-terrorism>, accessed 2022-12-25.
- 649 J. Burchill, *Stochastic terrorism: Why this is a worrying trend and who bears responsibility to curb this phenomenon*, European Eye on Radicalization, January 12, 2022, <https://eeradicalization.com/stochastic-terrorism-why-this-is-a-worrying-trend-and-who-bears-responsibility-to-curb-this-phenomenon>, accessed 2022-07-17.
- 650 D. Froomkin, *The phrase you're looking for is "stochastic terrorism"*, Press Watch, August 12, 2022, <https://presswatchers.org/2022/08/the-phrase-youre-looking-for-is-stochastic-terrorism>, accessed 2022-10-01.
- 651 C. Wiggins, *Attacks on the LGBTQ+ community amount to stochastic terrorism*, Advocate, August 16, 2022, <https://www.advocate.com/politics/2022/8/16/attacks-lgbtq-community-amount-stochastic-terrorism>, accessed 2022-10-01.
- 652 C. Parks, *Anti-LGBTQ rhetoric brought violence, shooting survivors tell House panel*, Washington Post, December 14, 2022, <https://www.washingtonpost.com/dc-md-va/2022/12/14/lgbtq-club-q-pulse-shooting>, accessed 2022-12-27.
- 653 *Summary of terrorism threats to the United States*, United States Department of Homeland Security, November 30, 2022, <https://www.dhs.gov/ntas/advisory/national-terrorism-advisory-system-bulletin-november-30-2022>, accessed 2023-01-21.
- 654 *FBI reports an increase in hate crimes in 2019: Hate-based murders more than doubled*, Southern Poverty Law Center, November 16, 2020, <https://www.splcenter.org/news/2020/11/16/fbi-reports-increase-hate-crimes-2019-hate-based-murders-more-doubled>, accessed 2022-07-27.
- 655 *Murder & extremism in the United States 2021*, ADL Center on Extremism, March 5, 2022, <https://www.adl.org/murder-and-extremism-2021>, accessed 2022-10-09.
- 656 R. Janik and K. Hankes, *The year in hate and extremism 2020*, Southern Poverty Law Center, February 1, 2021, <https://www.splcenter.org/news/2021/02/01/year-hate-2020>, accessed 2022-07-27.
- 657 M. Farivar, *US big city hate crimes spiked by 39% in 2021, report finds*, Voice of America, May 14, 2022, <https://www.voanews.com/a/us-big-city-hate-crimes-spiked-by-39-in-2021-report-finds-6571116.html>, accessed 2022-07-27.
- 658 C. L. Bachmann and B. Gooch, *LGBT in Britain—Trans report*, Stonewall, 2018, <https://www.stonewall.org.uk/lgbt-britain-trans-report>, accessed 2023-01-21.
- 659 M. Greathouse, A. BrckaLorenz, M. Hoban, R. Huesman Jr, S. Rankin, and E. B. Stolzenberg, *Queer-spectrum and trans-spectrum student experiences in American higher education: The analyses of national survey findings*, Rutgers University, August 2018, <https://rucore.libraries.rutgers.edu/rutgers-lib/60802>, accessed 2023-01-21.
- 660 C. Stanton, *LGBTQ students consider quitting college at an alarming rate. Why mental health help is hard to find*, USA Today, June 9, 2022, <https://www.usatoday.com/story/news/nation/2022/06/09/lgbtq-college-student-dropout-rates/7545375001>, accessed 2022-12-17.
- 661 W. A. Smith, *Black faculty coping with racial battle fatigue: The campus racial climate in a post-civil rights era*, in *A Long Way to Go: Conversations about Race by African American Faculty and Graduate Students at Traditionally White Institutions*, ed. D. Cleveland, Peter Lang, New York, 2004, pp. 171–190.
- 662 J. D. Franklin, *Coping with racial battle fatigue: Differences and similarities for African American and Mexican American college students*, *Race Ethn. Educ.*, 2019, **22**, 589–609.
- 663 S. Weissman, *An assault on many fronts*, Inside Higher Ed, April 8, 2022, <https://www.insidehighered.com/news/2022/04/08/hbcu-bomb-threats-take-toll-mental-health>, accessed 2022-11-20.
- 664 X. Sivels, *Fear of a Black–Brown planet: Pushing 'Replacement Theory' and banning CRT to save White supremacy*,



- Mississippi Free Press, August 18, 2021, <https://www.mississippifreepress.org/14990/fear-of-a-black-brown-planet-pushing-replacement-theory-banning-crt-to-save-white-supremacy>, accessed 2023-01-21.
- 665 K. Parker and R. Igielnik, *On the cusp of adulthood and facing an uncertain future: What we know about Gen Z so far*, Pew Research Center, May 14, 2020, <https://www.pewresearch.org/social-trends/2020/05/14/on-the-cusp-of-adulthood-and-facing-an-uncertain-future-what-we-know-about-gen-z-so-far-2>, accessed 2022-10-08.
- 666 P. Vincent-Ruiz, *Confronting the privilege of professorship*, Chemical & Engineering News, December 16, 2022, <https://cen.acs.org/education/undergraduate-education/Opinion-Confronting-privilege-professorship/100/i44>, accessed 2023-01-19.
- 667 A. Fuentes, *What the 'anti-woke' crowd gets wrong about the calls for diversity in science*, The Daily Princetonian, September 7, 2022, <https://www.dailyprincetonian.com/article/2022/09/science-anti-woke-journal-unheard-racism>, accessed 2022-09-10.
- 668 *The alt-right on campus: What students need to know*, Southern Poverty Law Center, August 10, 2017, <https://www.splcenter.org/20170810/alt-right-campus-what-students-need-know>, accessed 2023-01-15.
- 669 A. Morantz, *How social media trolls turned U.C. Berkeley into a free speech circus*, The New Yorker, July 2, 2018, <https://www.newyorker.com/magazine/2018/07/02/how-social-media-trolls-turned-uc-berkeley-into-a-free-speech-circus>, accessed 2023-01-15.
- 670 Innuendo Studios, *The alt-right playbook: The cost of doing business*, YouTube, October, 2022, <https://youtu.be/wCl33v5969M>, accessed 2023-01-21.
- 671 J. J. Asenas and B. Hubble, *Trolling free speech rallies: Social media practices and the (un)democratic spectacle of dissent*, *Taboo: J. Cult. Educ.*, 2018, 17, 6.
- 672 J. Rose, *A majority of Americans see an 'invasion' at the southern border, NPR poll finds*, NPR, August 18, 2022, <https://www.npr.org/2022/08/18/1117953720/a-majority-of-americans-see-an-invasion-at-the-southern-border-npr-poll-finds>, accessed 2022-08-18.
- 673 M. Potok, *The year in hate and extremism*, Intelligence Report, Southern Poverty Law Center, February 15, 2017, <https://www.splcenter.org/fighting-hate/intelligence-report/2017/year-hate-and-extremism>, accessed 2022-07-17.
- 674 O. O. Fadeyi, M. C. Heffern, S. S. Johnson and S. D. Townsend, *What comes next? Simple practices to improve diversity in science*, *ACS Cent. Sci.*, 2020, 6, 1231–1240.
- 675 N. L. Thompson and A. G. Campbell, *Addressing the challenge of diversity in the graduate ranks: Good practices yield good outcomes*, *CBE Life Sci. Educ.*, 2013, 12, 19–29.
- 676 S. L. Laursen and T. J. Weston, *Trends in Ph.D. productivity and diversity in top-50 U.S. chemistry departments: An institutional analysis*, *J. Chem. Educ.*, 2014, 91, 1762–1776.
- 677 B. J. Casad, J. E. Franks, C. E. Garasky, M. M. Kittleman, A. C. Roesler, D. Y. Hall and Z. W. Petzel, *Gender inequality in academia: Problems and solutions for women faculty in STEM*, *J. Neurosci. Res.*, 2021, 99, 13–23.
- 678 J. S. Collins and S. V. Olesik, *The important role of chemistry department chairs and recommendations for actions they can enact to advance black student success*, *J. Chem. Educ.*, 2021, 98, 2209–2220.
- 679 A. A. Berhe, M. Hastings, B. Schneider, and E. Marín-Spiotta, *Changing academic cultures to respond to hostile climates*, in *Addressing Gender Bias in Science & Technology*, ed. S. Azad, American Chemical Society, Washington, D.C., 2020, ch. 7, vol. 1354 of ACS Symposium Series, pp. 109–125.
- 680 S. Arif, M. D. B. Massey, N. Klinard, J. Charbonneau, L. Jabre, A. B. Martins, D. Gaitor, R. Kirton, C. Albury and K. Nanglu, *Ten simple rules for supporting historically underrepresented students in science*, *PLoS Comput. Biol.*, 2021, 17, e1009313.
- 681 J. Wade, *How you can change gender stereotypes about physicists*, *Nat. Rev. Phys.*, 2022, 4, 690–691.
- 682 B. Blonder, T. Bowles, K. De Master, R. Z. Fanshel, M. Giroto, A. Kahn, T. Keenan, M. Mascarenhas, W. Mgbara, S. Pickett, M. Potts, and M. Rodriguez, *Advancing inclusion and anti-racism in the college classroom: A rubric and resource guide for instructors*, Zenodo, January 18, 2022, <https://zenodo.org/record/5874656#.Y8bxaHbMKUL>, accessed 2023-01-17.
- 683 O. K. Uleanya, C. E. H. Dessent, S. Furfari, L. C. Jones, K. P. Selwe, and A. B. Milner, *A resource to support decolonization of the undergraduate chemistry curriculum*, *ChemRxiv*, 2022, preprint, DOI: [10.26434/chemrxiv-2022-t3srw-v2](https://doi.org/10.26434/chemrxiv-2022-t3srw-v2).
- 684 B. Supiano, *Grades can hinder learning. What should professors use instead?*, Chronicle of Higher Education, July 19, 2019, <https://www.chronicle.com/article/grades-can-hinder-learning-what-should-professors-use-instead>, accessed 2022-11-11.
- 685 C. L. Jarvis, *Testing an 'ungrading' approach*, Chemical & Engineering News, April 27, 2020, vol. 98, pp. 20–23, DOI: [10.1021/cen-09816-feature1](https://doi.org/10.1021/cen-09816-feature1), accessed 2022-11-11.
- 686 R. S. Bowen and M. M. Cooper, *Grading on a curve as a systemic issue of equity in chemistry education*, *J. Chem. Educ.*, 2022, 99, 185–194.
- 687 R. Talbert, *What I've learned from ungrading*, Inside Higher Ed, April 27, 2022, <https://www.insidehighered.com/advice/2022/04/27/professor-shares-benefits-and-drawbacks-ungrading-opinion>, accessed 2022-11-11.
- 688 M. N. Miriti, *The elephant in the room: Race and STEM diversity*, *BioScience*, 2020, 70, 237–242.
- 689 E. O. McGee, *Ready to be an ally for black academics? Here's a start*, Chronicle of Higher Education, November 11, 2020, <https://www.chronicle.com/article/ready-to-be-an-ally-for-black-academics-heres-a-start>, accessed 2022-11-11.
- 690 G. C. N. Hall and G. G. Maramba, *In search of cultural diversity: Recent literature in cross-cultural and ethnic minority psychology*, *Cult. Divers. Ethn. Minor. Psych.*, 2001, 7, 12–26.
- 691 V. Patel, *Race on campus: How a science department diversified its applicant pool*, Chronicle of Higher Education, July 13, 2021, <https://www.chronicle.com/newsletter/race-on-campus/2021-07-13>, accessed 2022-09-07.



- 692 M. Blair-Loy, O. V. Mayorova, P. C. Osman and S. I. Fraley, Can rubrics combat gender bias in faculty hiring?, *Science*, 2022, **377**, 35–37.
- 693 C. Flaherty, *Mitigating bias through rubrics*, Inside Higher Ed, July 12, 2022, <https://www.insidehighered.com/news/2022/07/12/study-rubrics-mitigate-gender-bias-faculty-hiring>, accessed 2022-09-04.
- 694 A. M. Armani, C. Jackson, T. A. Searles and J. Wade, The need to recognize and reward academic service, *Nat. Rev. Mater.*, 2022, **6**, 960–962.
- 695 A. J. Stewart and V. Valian, *Recruiting diverse and excellent new faculty*, Inside Higher Ed, July 19, 2018, <https://www.insidehighered.com/advice/2018/07/19/advice-deans-department-heads-and-search-committees-recruiting-diverse-faculty>, accessed 2022-09-07.
- 696 L. Leske and C. Pendleton, *How a search committee can be the arbiter of diversity*, Chronicle of Higher Education, November 2, 2020, <https://www.chronicle.com/article/how-a-search-committee-can-be-the-arbiter-of-diversity>, accessed 2022-09-07.
- 697 Although this type of *positive discrimination*⁷¹² has been attempted in the Netherlands,⁷¹³ it would be illegal in some countries.
- 698 J. Poff, *UC Santa Cruz prescreens faculty job applications based on mandatory diversity statements*, Washington Examiner, November 23, 2021, <https://www.washingtonexaminer.com/policy/uc-santa-cruz-prescreens-faculty-job-applications-based-on-mandatory-diversity-statements>, accessed 2022-09-06.
- 699 T. A. Reese, T. A. Harris-Tryon, J. G. Gill and L. A. Banaszynski, Supporting women in academia during and after a global pandemic, *Sci. Adv.*, 2021, **7**, eabg9310.
- 700 D. Bell, *Faces at the Bottom of the Well: The Permanence of Racism*, Basic Books, New York, 1992.
- 701 S. Morales, Locating the “white” in critical whiteness studies: Considerations for white scholars seeking to dismantle whiteness within educational research, *Int. J. Qual. Stud. Educ.*, 2022, **35**, 703–710.
- 702 H. H. Thorp, Time to look in the mirror, *Science*, 2020, **368**, 1161.
- 703 A. L. Coker, P. G. Cook-Craig, C. M. Williams, B. S. Fisher, E. R. Clear, L. S. Garcia and L. M. Hegge, Evaluation of Green Dot: An active bystander intervention to reduce sexual violence on college campuses, *Violence Against Women*, 2011, **17**, 777–796.
- 704 A. L. Coker, H. M. Bush, B. S. Fisher, S. C. Swan, C. M. Williams, E. R. Clear and S. DeGue, Multi-college bystander intervention evaluation for violence prevention, *Am. J. Prev. Med.*, 2016, **50**, 295–302.
- 705 P. A. Johnson, S. E. Widnall, and F. F. Benya, *Sexual harassment of women: Climate, culture, and consequences in academic sciences, engineering, and medicine*, National Academies of Sciences, Engineering, and Medicine, Washington, D.C., 2018, DOI: **10.17226/24994**.
- 706 G. N. Mujal, M. E. Taylor, J. L. Fry, T. H. Gochez-Kerr and N. L. Weaver, A systematic review of bystander interventions for the prevention of sexual violence, *Trauma Viol. Abuse*, 2021, **22**, 381–396.
- 707 E. Harrison and T. B. Taylor, *Breaking barriers for women: Enough talking, time for action*, Times Higher Education, September 2, 2022, <https://www.timeshighereducation.com/campus/breaking-barriers-women-enough-talking-time-action>, accessed 2022-09-07.
- 708 500 Women Scientists Leadership, *Silence is never neutral; neither is science*, Scientific American, June 6, 2020, <https://blogs.scientificamerican.com/voices/silence-is-never-neutral-neither-is-science>, accessed 2022-12-17.
- 709 J. Sanders, A. Amorelli, T. Brown, R. Catlow, R. Highfield, N. Karodia, A. Ridley, K. Turner, E. Viding, and H. Wennemers, *Re-thinking recognition: Science prizes for the modern world*, Royal Society of Chemistry, 2019, <https://www.rsc.org/new-perspectives/talent/re-thinking-recognition>, accessed 2023-01-21.
- 710 *Righting science's recognition wrongs*, Chemistry World, 2020, <https://www.chemistryworld.com/rsc/righting-sciences-recognition-wrongs/4011143.article>, accessed 2022-10-09.
- 711 I. S. Okhremtchouk and A. T. Clark, The politics of despair enabled by dysconscious xenophobia: A call to action on behalf of immigrants and their children, *Taboo: J. Cult. Educ.*, 2018, **17**, 10.
- 712 *Positive action and positive discrimination: What can your company do to lawfully encourage more female applicants?*, STEM Women, September 18, 2019, <https://www.stemwomen.com/positive-action-vs-positive-discrimination-what-can-your-company-do-to-lawfully-encourage-more-female-applicants>, accessed 2022-12-19.
- 713 T. Rabesandratana, *Men need not apply: University set to open jobs just to women*, Science, June 18, 2019, <https://www.science.org/content/article/men-need-not-apply-university-set-open-jobs-just-women>, accessed 2023-02-11.

