Resiliency as an Early Career Researcher Understanding and Navigating the Weight of Opportunities and Minority Taxation

Contributors:

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A. *Minority taxation: the additional professional and emotional labor placed on underrepresented individuals in academia and research*

The "minority tax," often referred to as the "cultural tax," describes the additional burdens placed on minority early-career researchers (ECRs) or faculty to support diversity initiatives. These include navigating experiences of racism, isolation, and disparities in crucial academic areas like mentorship, clinical workload, and career advancement. While originally conceptualized to address the challenges faced by racially and ethnically underrepresented faculty, this concept also resonates with the experiences of other marginalized groups in medicine, such as sexual and gender minorities, individuals with disabilities, and women. For those of us who hold multiple underrepresented identities, these challenges can compound, creating an even greater strain. The cumulative weight of these responsibilities contributes to the persistent underrepresentation of marginalized individuals in academic medicine, hindering their ability to thrive in predominantly white institutions and affecting their recruitment, retention, and promotion.

Minority taxation disproportionately impacts ECRs in the biomedical field, where the stakes for establishing a successful career are particularly high. These researchers often carry additional and often invisible burdens, such as mentoring students from underrepresented backgrounds, serving on diversity committees, and acting as ambassadors for inclusion—all while managing the rigorous demands of securing funding, publishing, and building professional networks. This added workload frequently goes unrecognized in formal evaluations, creating barriers to advancement and perpetuating inequities. In the biomedical sciences, where innovation thrives on diverse perspectives, this taxation not only limits individual potential but also hinders the field's ability to address complex health disparities. For ECRs, the compounded stress of minority taxation can lead to burnout, underscoring the urgent need for systemic changes to ensure equity and retain diverse talent in the biomedical workforce.

As a Latina postdoc navigating academia, I have experienced firsthand this minority taxation. An example of a specific situation that I encountered was being approached by a faculty member to help organize an event for Hispanic Heritage Month with less than three weeks' notice. At first, I thought it was a great opportunity, but when the roles were assigned, most of the responsibility was put on my shoulders. I helped organize the event, but after finalizing it, the sense of isolation and lack of recognition was prevalent. My experience is not unique. It is common among minoritized ECRs and captures the added responsibilities placed on underrepresented individuals, like serving as a representative voice for diversity

initiatives while also dealing with systemic barriers. Bianca Islam, MD, PhD, a past Associate Member Council (AMC) member shared her experience: *"As someone deeply invested in diversity, equity, inclusion, and accessibility (DEIA), I often find myself reflecting on how much of this work comes not just from external requests but from my own sense of responsibility. When I was asked to become an ambassador for a cancer prevention study specifically aimed at Black women, I didn't have to say yes. But I felt compelled to take on the role because I knew it aligned with my values and could help address critical health disparities. This decision was deeply rewarding—it allowed me to engage with communities that have historically been overlooked and to use my platform in a meaningful way. However, I couldn't ignore that it also took time and energy away from writing manuscripts, planning experiments, and other professional priorities. These contributions, while voluntary, often carry a hidden cost: They leave less time for activities that are traditionally recognized and rewarded in academia. Balancing these commitments can be difficult, especially when the drive to contribute comes from both internal and external motivations."*

Studies examining the impact of minority taxation on underrepresented groups in Science, Technology, Engineering, and Mathematics (STEM) fields reveal significant structural challenges that exacerbate disparities in retention, career advancement, and overall success. The most common themes among these studies are stereotype threats, identity challenges, disproportionate workloads, microaggressions, and the role of intervention programs. Underrepresented minority (URM) individuals in STEM often face stereotype threats, which negatively affect their performance, domain identification, and career aspirations. These challenges, compounded by microaggressions and systemic inequities, reduce persistence in STEM fields for ECRs. Effective strategies to combat these effects include culturally responsive mentoring and building inclusive networks of mentors and peers with similar identities. Keep in mind that URM students, postdocs, and faculty in STEM fields often enter with weaker academic preparation due to systemic inequities in K-12 education, such as limited access to advanced math and science courses. This disparity influences their persistence in rigorous STEM programs, compounded by financial stress and insufficient institutional support. The importance of structured intervention programs and mentoring networks targeting URM students has been shown to improve persistence by fostering academic and social integration. Such programs also enhance science identity, a key factor in sustaining motivation in STEM pathways.

This extra workload that we refer to as "minority taxation" stems from being frequently sought after for diversity-related committees, mentoring students from similar backgrounds, and engaging in outreach activities, often at the expense of research productivity and career advancement. For instance, women and URMs in STEM spend significantly more time on non-research activities, such as mentoring and service roles. For example, women are expected to perform more "helping" tasks and mentoring, which often lack career advancement benefits, while facing backlash for nonconformity to these expectations. Only about 8.9% of STEM academic faculty are URMs and many lack access to mentors with shared experiences. This underrepresentation exacerbates the mentorship burden on URM faculty, who are often the sole representatives for students seeking relatable role models. Structured

mentoring programs are lacking—only 36% of STEM doctoral programs provide targeted mentoring for URM students. Additionally, few institutions offer mentorship training for faculty, leading to a lack of effective strategies for mentoring diverse students. Addressing these issues requires implementing equitable policies, such as formal mentoring programs, recognizing and compensating service roles, and fostering inclusive academic environments. These changes can reduce the burden on URMs and create more balanced opportunities for success in STEM careers.

B. The effects on publication output, grant funding, and career advancement

The time URM faculty spend on diversity-related initiatives and mentorship often comes at the expense of research output and publication rates. These activities, while valuable, are not typically recognized in promotion and tenure evaluations, creating a disadvantage compared to peers who can focus solely on research and grant acquisition. Studies have shown that URM faculty are less likely to secure NIH research funding compared to non-URM counterparts. This disparity is exacerbated by the reduced time available to prepare competitive grant proposals due to extra service duties. The minority tax can then create a cycle where limited funding opportunities hinder research progress, further impacting career advancement. In addition, URM faculty often experience slower progression through academic ranks. Despite contributing significantly to institutional missions through mentorship and inclusion efforts, these contributions are undervalued in traditional promotion metrics. Structural inequities in how service and scholarship are weighed exacerbate these disparities. Many URM faculty continue these efforts out of a sense of duty and personal commitment, yet these sacrifices often go unrewarded, further perpetuating inequities.

Systemic barriers in academia significantly impact the progression and retention of URMs in STEM, perpetuating inequities across career stages. Key systemic challenges include bias in academic culture, lack of institutional support, and cultural and structural rigidity. URMs frequently face microaggressions, stereotypes, and lower expectations from colleagues, which diminish their sense of belonging and undermine professional relationships. Such biases influence hiring, promotion, and funding decisions, often disadvantaging URMs. Standard metrics for evaluating academic success (e.g., publication count, grant funding, etc.) often fail to account for the extra service and mentorship contributions made by URMs. This perpetuates inequities in promotion and tenure processes. Leadership positions in academia are predominantly held by individuals from majority groups, leading to policies and practices that may inadvertently marginalize URMs. Without diverse leadership, systemic issues are less likely to be prioritized. URM faculty and students often lack access to mentors who share similar backgrounds or experiences, leading to isolation and limited guidance in navigating systemic challenges. Institutions frequently fail to provide formalized mentoring programs tailored to URMs. Diversity-related efforts and mentoring of URM students, often disproportionately shouldered by URM faculty, are undervalued in academic reward systems. This discourages URM faculty from continuing these essential roles while also advancing their careers. Institutions frequently invest insufficiently in initiatives targeting systemic barriers, such as anti-bias training, equity audits, and financial support for URM-focused research or career

development programs. URM students often enter higher education with limited preparation due to systemic inequities in primary and secondary education. Academic institutions are slow to adapt their teaching and support systems to address these disparities. Practices like unpaid internships, lack of transparency in hiring and promotions, and limited funding opportunities disproportionately affect URM scholars, who are more likely to face financial and social barriers.

C. Navigating minority taxation: Challenges and resilience

Balancing service roles with research goals in STEM can be challenging but also rewarding. Here is a practical guide to managing both effectively.

- Prioritize opportunities aligned to your area of expertise. Evaluate the relevance of the service role with your research. For example, if your focus is cancer research, engaging in committees that promote cancer awareness or DEIA initiatives in STEM can enhance your profile. Also, make sure to select roles where your skills can make the most impact without requiring excessive time for new learning curves.
- Set clear boundaries. Dedicate specific days or hours for service tasks, ensuring they don't spill into your research time. As your career progresses, be selective and avoid overcommitting. Aim to take on no more than one or two significant service roles at a time.
- Integrate service into your research. Use service roles to build collaborations that support your research, such as mentoring students who can contribute to your lab. Also, consider service roles that provide visibility for your research, such as participating in public talks or panels.

No person is an island, and we can translate this to our career in science—everyone relies on others. A helpful way to navigate and balance service roles with research is by communicating and seeking guidance from senior mentors and colleagues with higher ranks. These people can become your allies and advocates. Promote and share your service goals with your team or institution to gain support and recognition. When possible, delegate and share responsibilities, especially in group-based service roles. If an opportunity comes to you and you do not feel this is the right time for you or is beyond your current role, be a bridge and suggest someone else for the role. Personally, as someone actively contributing to DEIA initiatives and balancing research on prostate cancer, I am considering and prioritizing service roles that advocate for diversity in cancer research, promoting mentorship programs for underrepresented groups in STEM, and looking for conferences, such as the American Association for Cancer Research (AACR) Annual Meeting and the AACR Conference on The Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved, to highlight both my scientific expertise and commitment to equity.

D. Role of institutions and professional organizations

Institutions can address minority taxation by fostering a culture of equity in service roles and ensuring the fair distribution of responsibilities. One effective approach is to formally recognize and reward the often-undervalued contributions of minority

scholars in areas such as mentorship, DEIA initiatives, and community outreach. For example, incorporating these activities into promotion and tenure criteria can provide tangible incentives and acknowledgment of their impact. Additionally, creating institutional frameworks that distribute service tasks equitably among all faculty and staff, irrespective of their background, can prevent minority scholars from bearing a disproportionate burden. Transparency in committee assignments and workload distribution also empowers individuals to contribute without feeling coerced into roles simply because of their identity.

Another key strategy is the development of robust support systems to mitigate the effects of minority taxation. This includes establishing mentorship networks where underrepresented faculty can share strategies to navigate service expectations and advocate for balanced workloads. Institutions can also provide training for leadership and decision-making committees to recognize and address implicit biases that lead to unequal service assignments. Ensuring that DEIA work is institutionally driven and collectively supported—rather than shouldered predominantly by minority scholars—can alleviate the pressure on individuals while advancing inclusive goals. Finally, funding and resources for DEIA initiatives, such as compensated time for service or dedicated administrative support, further validate and sustain these efforts while fostering a more equitable academic environment.

At the AACR, we have initiatives to support minority researchers. An example of one of these initiatives is the Minorities in Cancer Research (MICR) membership group, committed to preventing and curing cancer while meeting the professional needs and advancing the careers of minority scientists. The AMC has also established initiatives such as the AACR Beginning Investigator Grant for Catalytic Research and The Breast Cancer Research Foundation-AACR Career Development Awards to Promote Diversity and Inclusion to support minoritized researchers.

E. Conclusion

The voices of URMs in science are not just essential—they are transformative. Science thrives on diversity, as innovation stems from a convergence of perspectives, experiences, and ideas. Minority scientists often bring unique insights shaped by their backgrounds, driving research that addresses critical, often overlooked societal challenges. From pioneering breakthroughs in medicine to advocating for equity in STEM education, URMs have historically enriched the scientific landscape. Figures like Marie Maynard Daly, PhD, the first Black woman to earn a PhD in chemistry, and Carlos Finlay, MD, a Cuban physician who theorized the connection between mosquitoes and yellow fever, exemplify how diverse voices propel humanity forward. But the value of minority voices extends beyond achievements. URM scientists inspire the next generation, proving that representation matters. They remind us that excellence has no single narrative, and their work often bridges science and society, fostering trust and accessibility in marginalized communities. To nurture this value, academia, and industry must actively dismantle systemic barriers, promote equity, and amplify the contributions of minority scientists. By doing so, we ensure that science reflects the full spectrum of human potential, creating a future where every voice

matters and every discovery benefits all. We call upon institutions and organizations to take actionable steps in dismantling systemic barriers, promoting equity, and fostering inclusion in STEM. Establish programs that provide mentorship and funding tailored for URMs, create policies that ensure diverse representation at all levels, and celebrate the achievements of minority scientists to inspire future generations. The innovation and progress we seek in science require the collaborative effort of academia, industry, and policy-makers to ease the burden on individuals. By actively investing in equitable systems and amplifying minority voices, we can pave the way for a scientific community that fully reflects the richness of humanity. Together, let us ensure a future where discovery knows no boundaries, and every voice has the opportunity to drive change. Now is the time to act.

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