

Episode 38 – The Diminution of Graduate Education in the United States

Welcome to Grad-post! I'm your host, Brian S. Mitchell and we're here to talk about life before, during, and after graduate school, and whether an advanced degree is right for you. I'll draw upon my experiences as a graduate dean and research mentor, as well as my network of students, colleagues, and experts to bring you the most complete information on graduate education that I can.

The United States conferred [nearly 58,000 research doctorates](#) and over [933,000 master's degrees](#) in 2023, second only to China in the number of advanced degrees awarded. Not only has China gone screaming past the U.S. in the production of advanced degrees, but there are converging forces indicating that we are in for a precipitous drop in the number of degrees awarded in the United States in the coming years as China continues to climb. The U.S. may see a rollercoaster ride in these number in the next few years and eventually an all-time high in 2027 or so, but after that the influences on graduate enrollment are geared towards a steep decline in the number of advanced degrees being awarded. Let's examine what those effects are. They are all related to governmental policies and are exacerbated by societal and economic trends.

Let's start by lumping doctoral and master's education into one bucket, although the effects could be different. According to the most recent IPEDS student census from Fall 2023, there are 3.3 million students enrolled in advanced degree programs in the United States. Though financial aid information for Fall 2023 is not yet available, in 2019-20, 42% of them took out loans to finance their degrees. 39% took out unsubsidized government loans, and 11% had government-subsidized loans, called DIRECT Plus or Grad Plus loans. [According to a 2018 General Accountability Office report](#) – which is no longer available from GAO but findable through a Google search – virtually all Grad Plus loan borrowers also had some additional form of federal student loan. Borrowers were almost equally split between those pursuing a master's degree and those pursuing professional doctorates, with less than 5% pursuing a research doctorate. Nevertheless, over half of the loans went to students in master's and research doctorate programs. Nearly half of the domestic students enrolled - 46% - were non-white, and 17% were non-citizens, what I will term "international students." So, an estimated 1 million students of color and over 0.5 million international students took out some form of federal financial assistance to go to graduate school – an estimate which is still applicable today. Let's look at these three categories of students separately: domestic students of color; international students; and financial aid borrowers as a whole and see how shifts in governmental policies might impact their populations. Together, these three groups account for not only the vast majority of graduate students, but primary growth areas over the past decade.

First, anti-DEI movements will decrease the number of graduate students of color in graduate programs. There is no comprehensive study on the effects of previous DEI efforts on graduate admissions or master's and doctoral completion, but there are some anecdotal studies showing that it matters. For example, the joint Biomedical Engineering program at Virginia Tech/Wake Forest revised their graduate program recruitment and admissions practices in 2018 to include more holistic review elements and found that [the percentage of African American applicants jumped from an average of 3% in 2016-2018 to 10% in 2019-2021](#), and that the overall percentage of URM applicants increased significantly over the same time periods. They report that "*networking with diverse student populations has the strong potential to improve the diversity of BME graduate programs.*" Much of the evidence on the effectiveness of DEI efforts on improving representation in the workplace focuses on this aspect of graduate education: admissions. In her seminal publication "Inside Graduate Admissions: Merit, Diversity, and Faculty Gatekeeping," Julie Posselt delves deeply into graduate admissions processes and takes on misconceptions regarding merit and diversity, including implicit bias and outright racism. I won't do this book a disservice by trying to summarize its findings in one or two sentences but suffice to say that it lays the groundwork for much of today's holistic admissions review practices in graduate programs, only to be undone by recent Supreme

Court decisions and unwarranted extrapolations of that decision into all aspects of graduate student life. It's really difficult to assess the impact of the anti-DEI movement on the production of workforce-ready scholars, but if pro-DEI efforts improved the applicant pool, then anti-DEI efforts will likely negatively impact those gains. As the authors of [one publication on increasing diversity in medicinal chemistry graduate programs](#) put it, "...it does not matter how many [DEI] initiatives are in place if the initial pool of applicants is not diverse." The issues of equity and inclusion still remain, but the graduate school applicant pools will be decidedly less diverse in the coming years, and not just because of the anti-DEI movement.

Second, for international graduate students the revocation and limitation of F-1 visas will decrease their numbers. The F-1 visa is the primary mechanism by which degree-seeking students come from abroad to study in the United States. In [Episode 36](#), I discussed the relationship between year-over-year changes in the number of F-1 visas granted and the percentage of doctorates awarded to international students. In short, there have been three substantial drops in the number of F-1 visas awarded since 2000: a 20% decline in 2002 as a result of the September 11, 2001 terrorist attacks; a 3% decline in 2009 from the global financial crisis; and a cumulative 44% decline from 2015 through 2018 due in part to immigration policy uncertainties associated with the first Trump administration. In each case, there was a corresponding decline in the percentage of doctorates awarded to international students six years later – the average time to degree for the PhD. What is most disturbing is that as of 2024, we were still 38% below the all-time high of F-1 visas in 2015, due to the combined effects of the COVID pandemic and the impending second Trump administration. We won't know the full impact of COVID on international doctorate production until 2026 at the earliest, and the recent revocation of F-1 visas won't hit hard until 2030 or so, [even though some have recently had their visa status reinstated](#). But the damage has been done, and coupled with other anti-immigration efforts like [revocation of optional practical training \(OPT\)](#) as a pathway to a green card for highly qualified immigrant workers, the cumulative effects on international student sentiment toward U.S. graduate programs will be devastating. But, there's more.

Third, the proposed revisions to or discontinuation of Grad Plus loans will decrease the number of students who can afford graduate school, including white students. Grad Plus loans – formally called "Direct PLUS Loans for Graduate and Professional Students" and still currently offered through the Department of Education at [studentaid.gov](#). These are the primary government-sponsored loans for students getting advanced degrees. I won't go into all the eligibility requirements, but basically you can borrow up to the full cost of attendance for graduate school each year you are enrolled. Although the interest rates are high on these loans compared to private lenders, they are attractive because in addition to being flexible with the maximum amount of the loan and no lifetime limits, there are provisions for repayment deferment and forbearance that are available in limited cases such as unemployment, military service, or cancer treatment. The eligibility requirements and details of the program are subject to change and with the proposed move from the Department of Education to the Small Business Administration, it's not clear which government agency will end up with this hot potato or if it will even be privatized. But that's not the primary concern. The biggest concern is that the entire program is on the federal budget chopping block.

[There are proposals being floated in congress](#) to eliminate the Grad PLUS program for a reported savings of \$40 billion. Elimination of ALL graduate and professional student loan programs including Stafford Loans and Pell Grants would reportedly save \$90 billion. That's over ten years mind you, so we're looking at somewhere less than \$10B per year for elimination of all grad student loan programs if you do simple math. As with other purported savings through elimination of departments and programs, it's a drop in the bucket compared to the federal deficit. What these proposals to eliminate loan programs don't account for is the loss in tax revenue from fewer higher-wage earners as a result of their advanced degrees. That's not a wash, to be sure, but there are economic implications to repressing educational opportunities for the

citizenry, not to mention elimination of the concomitant benefits of improved health and longevity, reduced crime, and a more civil society that go along with advanced degree holders. What impact elimination of graduate student loans will have on enrollment is difficult to estimate without some modeling. But there is anecdotal evidence that these loans are important. I'm not a huge fan of Reddit which tends to be dominated by trolls, but here are just a few genuine comments from a [recent string on the topic](#):

"Without Grad Plus loans I would never have been able to afford medical school as a middle class [Person of Color], as federal student loan protections and income based repayment plans with paths towards forgiveness with [Public Service Loan Forgiveness] were key to my financial future."

"I would never have been able to get my masters and further open doors for my social work career if I wasn't able to use the grad plus loans."

"I'm starting law school in the fall and I'm petrified. I've worked so hard to get here. I don't want to miss my chance because I'm not born rich."

As if those three factors weren't enough, there's the kicker. If you are then relying on only rich, white, domestic students to fill our graduate labs, studios and classrooms, there is the impending demographic cliff that will impact even the most privileged groups. The [demographic cliff is a pretty well-known phenomenon](#) that has been predicted for over a decade and has to do with the decline in the number of 18-year olds who will graduate from high school each year starting in 2026. The primary reason is again the global economic crisis of 2008 – 18 years ago – when Americans started having fewer babies. If traditional yields hold, fewer U.S. citizens – so-called "domestic" students – will enter graduate schools starting in 2030, and the effects of the demographic cliff onset will be felt six years later in 2036 as those students would have completed their PhDs. That trend will continue indefinitely since the birth rate has mostly not recovered since 2008. It is projected that the number of high school students entering college will [decrease by 13% by 2041 according to one source](#). Again, if everything else stays the same – which it won't – there also will be 13% fewer domestic PhDs awarded by 2050 due to the demographic cliff alone.

You can see the compounding effect these four factors will have on graduate enrollments: fewer students of color due to anti-DEI efforts; fewer international students due to anti-immigrant policies and practices; fewer students from non-privileged socioeconomic groups due to elimination of federal loans; and even fewer privileged, white students due to the demographic cliff. It's hard to put a number on it, but we could see PhD production cut in half over the next two decades, if not sooner. If only there were government funds available to study these effects on research productivity, but with the elimination of the Department of Education and even the [National Science Foundation terminating grants for anything with "diversity" somewhere in its abstract](#), the chances of shining light on this problem much less fixing it are slim.

Why not just cut graduate programs and/or lower admissions standards, you say? Well, graduate programs WILL be cut, but I'm saving the topic of college and university mergers for another day. But keep in mind that these decreases come on the heels of major expansions of graduate programs at many second-tier universities in order to achieve Carnegie Classification "Research-1" status, as I described in [Episode 14](#). The provosts and presidents who hung their professional hats on achieving R-1 status by ramping up research infrastructure and PhD production will be long gone, but the faculty and staff who have to suffer through the downsizing won't be. It's easy enough to say "just cut graduate programs." It's harder if you have to find all those people equivalent jobs. As for lowering admission standards, would you want our nuclear programs run by sub-standard doctorate holders or your high-tech communications equipment designed by somebody who really only has the equivalent of an associate's degree? Don't get me wrong, we need people with associate degrees, but they don't have the necessary training to design circuits, or integrate new technologies like improved antennae, cameras, or touch screens into next generation cell

phones and EVs. And I shudder to think about our libraries, museums, art galleries, and archives being run by people who can't read. OK, I'm being alarmist, but you get the point. It's like telling the military to lower its standards for fighter pilots because of policy-induced personnel shortages – [like prohibiting women from combat](#). The end result will not be what you want.

But it's not just the individuals that will be impacted by the reduction in advanced degree holders. What will this mean for employers? A lack of skilled, independent thinkers. [I recently upgraded my website with some reports on the careers of doctorate holders from around the world](#). The impact of doctorate holders is economically broad and geographically global. Employers need advanced degree holders. Try as we might to isolate ourselves from the rest of the world, the workforce is now global and mobility will continue to dominate the careers of researchers. Just ask all the government servants, military veterans, and university faculty leaving for better positions abroad.

Numbers aren't everything, and just because you award the most degrees doesn't mean you're the best. I would argue that a master's or doctorate degree from the United States is and will be for the foreseeable future far superior to any equivalent degree in China. But numbers do matter. Fewer graduates mean fewer individuals with the necessary skills for a global workforce. Fewer graduates mean fewer instructional faculty will be needed in what is already a stressed professoriate, dominated by underpaid and overworked adjunct faculty, even at the graduate level in some disciplines. Fewer graduates mean a diminished economic impact, both in the short term as they earn their degrees and long term as they take lower paying jobs and the infrastructure they needed for both stages of their careers is disassembled. Diminution of graduate student numbers will be devastating.

Thank you for staying with me for what has been surely the longest non-interview podcast of Grad-post to date. I try to keep my episodes light and airy, but this topic is too dark and stormy to sugar coat. I wanted to add "temporary diminution" to the title of this podcast instead of the absolute and fatalistic "diminution," but honesty compels me to report what is the more likely outcome. I consider myself a realistic optimist – or optimistic realist if you prefer – so I still believe that the graduate education community can find its way out the looming enrollment shortage crisis. The tide will turn, new leadership will see the value in the United States returning to its leadership position in higher education, and every degree will once again count.

Links

<https://www.ncses.nsf.gov/pubs/nsf25300>

<https://nces.ed.gov/ipeds/>

<https://files.eric.ed.gov/fulltext/ED590802.pdf>

<https://link.springer.com/article/10.1007/s43683-022-00080-5>

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<https://studentaid.gov/understand-aid/types/loans/plus/grad>

https://www.reddit.com/r/StudentLoans/comments/1j1v0pe/the_future_of_gradplus_loans_after_july_1st/

<https://www.npr.org/2025/01/08/nx-s1-5246200/demographic-cliff-fewer-college-students-mean-fewer-graduates>

<https://www.wiche.edu/knocking/>

<https://www.science.org/content/article/nsf-starts-kill-grants-violate-trump-s-war-diversity-efforts>

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<https://gosar.house.gov/news/documentsingle.aspx?DocumentID=8784>

<https://www.npr.org/2025/01/22/nx-s1-5269824/pete-hegseths-views-about-women-and-military-standards>

<https://www.nytimes.com/2025/04/26/us/politics/trump-student-visas.html>