

# Are PhD Students Irrational?

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By Aaron R. Hanlon

THE MOST RECENT National Science Foundation (NSF) “[Survey of Earned Doctorates](#)” [raises eyebrows](#), not because it paints a predictably bleak picture for the job prospects of humanities PhD students, but because people are surprised that prospects for engineering and science PhDs aren’t looking so good either.

In a fascinating way, the NSF data challenges a long-standing narrative about job opportunities by field of study. We’re used to thinking of — [more accurately, maligning](#) — humanities students as idealistic, unsystematic dreamers prone to “Peter Pan syndrome,” irrationality, and reality avoidance. Humanities PhDs struggling to find sustainable employment don’t garner much societal sympathy, largely because it’s considered axiomatic that a person with a humanities PhD has no business thinking she possesses economic value. But when the scientists and engineers — the ones confirmation bias demands we view as rational and pragmatic — are caught in a rough job market flirting with something that looks like quixotic delusion, we’re forced to rethink our assumptions. Once it appears that it’s not just humanities students making unadvisable career choices, it suddenly becomes more difficult to victim-blame unemployed doctors (of philosophy) as a whole.



Indeed, when it comes to explaining the seeming contradiction of increases in earned doctorates alongside diminishing job prospects for PhDs, we’re still wedded to the irrationality narrative we’ve unfoundedly ascribed to humanities PhDs. This is the case even though 75 percent of earned doctorates in 2014 were awarded in science and engineering.

The irrationality narrative has accompanied even some of the best analyses of PhD job prospects. As a follow-up on an [earlier attempt to explain why people keep pursuing humanities PhDs](#), Jordan Weissmann [provided a telling compilation](#) of *Atlantic* readers’ responses in 2013. Weissmann’s own conclusions include, per the familiar narrative, the idea that “arts and humanities students aren’t necessarily the most career-minded or pragmatic individuals,” and PhD seekers “aren’t aware of how much debt they might take on in the process of earning their Ph.D.”; readers responded along similar lines. In fact, of the 11 categories Weissmann’s roundup uses to organize reader responses, three deal with suggestions about asymmetric information (people do PhDs based on some form of ignorance or misunderstanding), three deal with suggestions about student irrationality (people do PhDs because love of subject, or of being a top student, blinds them to harsh economic realities), and two are corrective points of information that don’t offer a theory.

If we compare the tenor of Weissmann’s findings in 2013 with that of Laura McKenna’s [2016 Atlantic piece on “The Ever-Tightening Job Market for Ph.D.s,”](#) we see a common premise in spite of the new data: there must be something lacking or irrational about the choice to pursue a PhD. McKenna’s concluding set of questions, simultaneously genuine and rhetorical, suggests as much:

Why hasn’t all this [employment] information helped winnow down the ranks of aspiring professors — why hasn’t it proved to be an effective Ph.D. prophylactic? Are people risking so much in the hopes of getting a cushy job with a six-figure salary [...] ? Is it because academia is a cult that makes otherwise sane people believe that there is no life outside the university?

McKenna is right to note that the NSF data doesn’t provide us with answers to these questions, but we should also

acknowledge that this is a tired line of questioning to begin with, one that forecloses any consideration of agency or sound judgment in PhD students themselves. If we limit our investigation to incredulosity about the awareness and rationality of PhD students, we're setting ourselves up for the same old anecdotal answers, followed by fresh rounds of the same old leading questions. What if, instead, we replace the assumption that PhD students are irrational idealists or naïve victims of asymmetric information with the recognition that PhD students — by definition highly achieving individuals — can choose doctoral study for sound reasons?

After all, the rational choice economic model that underwrites the “contradiction” of choosing a course of action that doesn't lead to economic gain requires precisely that we don't assume the irrationality of PhD students. The very way of thinking that generates this “puzzling” contradiction, in other words, also reveals its limitations (hence the “puzzling” reaction to outcomes that seem beyond the realm of possibility in rational choice theory). For this reason we have to think more capaciously about why people want to earn PhDs.

One logical place to start is with the fact that people outside of academia — not only within “the cult” — have been giving prospective PhD students convincing reasons to do PhDs. This is perhaps most visible in STEM fields, routinely sold by state and national governments as the surest paths to both personal and national prosperity. The White House alone has [scores of initiatives](#) aimed at [funding and furthering STEM research](#) and [teaching](#), to say nothing of the [Department of Education's STEM objectives](#), and the [governors](#) and [state legislatures](#) working concertedly to defund humanities programs and reallocate money to STEM fields. It's not unthinkable, then, that promises of ample funding and opportunities in STEM careers could also increase the pool of people interested in studying STEM and pursuing STEM careers. It follows that greater interest (labor supply) could lead to a glut of similarly qualified applicants for even a theoretically expanded pool of opportunities for STEM PhD graduates. It's also possible — even likely — that over the time it takes to complete a PhD, economic grounds can shift, making sound judgments at the start of the degree look less sound by the end of it.

Though one might claim that, unlike STEM, students have never had sound economic reasons to pursue a humanities PhD, that's not quite true. In fact, studies like the [1989 Prospects for Faculty in the Arts and Sciences](#), which made predictions for academic job markets through 2012, predicted faculty *shortages*, [especially in the social sciences and humanities](#). Though the fabled mass exodus of baby boomer faculty into retirement hasn't happened, and [won't produce a flood of faculty jobs anyway](#), we do have solid evidence that college [enrollments](#) have been increasing [dramatically](#) for decades (until 2012). To put it bluntly, if it's worth asking conspiratorial questions about whether academia is a cult that short-circuits the rational powers of highly capable PhD students, then it's certainly also worth turning to the elephant in the room and asking the obvious question: Why haven't dramatic increases in undergraduate enrollment translated into increased employment opportunity for PhDs?

Indeed, when Stephen Milder urges us to take note of the “elephant in the seminar room” in a [provocative assessment](#) of what's wrong with graduate education in the humanities, he's addressing the wrong elephant. Milder makes not one mention of the “demand side” problem of low employment opportunities for PhDs, focusing instead on the familiar issue of PhD “overproduction.”

The PhD “overproduction” narrative is where conventional investigations of PhD student irrationality run up against the explanatory limitations of rational choice theory. We have evidence of demand for teaching and research — to meet the needs of increased undergraduate enrollment — but instead of hiring regular faculty, universities and research institutes that would employ PhDs have [pivoted toward labor casualization](#). That is, what used to be the stable, middle-class job of the tenured or tenure-track professor became a series of “part-time” semi-jobs that pay by the course and offer no insurance or retirement benefits, and no expectation of tenure.

We've presupposed a scenario in which there really is a massive oversupply of PhDs, and thus PhD students must be irrational for treading into an oversupplied labor market. But that's simply not true. PhD “oversupply” is just a euphemistic way of talking about the fact that colleges and universities haven't met student-generated demand with a commensurate supply of full-time, tenure-track faculty. Instead, we've rendered [the majority of faculty contingent](#), increased administrators and administrative staff by [85 and 240 percent, respectively, over the past 40 years](#), and

created a [massive holding pen](#) of temporary postdoctoral positions in STEM. If we look outside of academia for good measure, we see similar evidence of [increased dependency on contingent labor](#), [decades of stagnant wages](#), and [no increase in leisure time to accompany increases in economic productivity](#). In this light it becomes harder to claim that PhD students are especially irrational or shortsighted, since so much of the broader US workforce is facing similar problems.

So why do people pursue PhDs despite grim job prospects? For one, because job prospects elsewhere haven't been great either. Though PhDs are a skewed sample for all kinds of reasons, they also have a [lower unemployment rate](#) than master's, bachelor's, associate's, and high school diploma holders. Accepting the five to seven years of employment and insurance benefits that come with a PhD is hardly an easy decision, but in light of deteriorating stability in nonacademic jobs, and the low unemployment rates of PhD holders, it's hardly an irrational one either. In fact, it's reasonable to think that a society continually touting the value of STEM research, a college education, and the "knowledge economy" does value PhDs. It would be irrational to think otherwise.

Perhaps the most compelling reason one pursues a PhD, however, is what it means beyond the immediately commodifiable. When we say it's irrational — and worthy of ridicule — to pursue any kind of education that doesn't maximize earnings, we're effectively pathologizing healthy desires to learn and teach, and to pursue a course of research with long-term benefits. In fact, prestigious funding schemes like the [MacArthur Fellowship](#) offer no-strings-attached funding precisely because they get better results by untethering fellows from immediate financial pressures. This is also the idea behind no-strings and open-access funding developments in biomedical science: if you want results, you have to think long-term in ways that markets don't always support. The PhD is hard work, typically with day-to-day teaching, grading, or lab responsibilities, but it's also a rare opportunity to pursue research that you care about but the market doesn't, all while keeping the lights on.

The point, then, is that a rational choice theory of PhD pursuit is self-sealing: by allowing the job market, and the job market only, to police our understanding of what's rational, we're ignoring that doctoral study is a way of accomplishing what the market typically cannot — a long-term, self-directed research project.

Besides, when we examine the job market for PhDs more closely, we find incomplete and inconclusive data. In biology, for example, the data on postdocs is so bad that "[many institutions can't estimate the number of postdocs they have within an order of magnitude](#)." In studies of PhD graduates in the data-driven fields of biology, physics, and chemistry, it's also clear that "[there is little systematic data on scientists' career preferences and thus on the degree to which there is a mismatch between observed career paths and scientists' preferences](#)." In my field of English literature, program data on what PhD graduates are up to is getting better, but it is nowhere near systematic. In short, we have prejudicial hunches about what PhD students want at the end of their degrees versus what they get, but we don't actually know much about the alleged mismatch that underwrites the irrationality narrative.

Instead of scrutinizing the choices of people who answer the call to doctoral study, or assuming they have some kind of cognitive or personality defect, we should be asking why the abundant promises of opportunity haven't materialized as stable, middle-class jobs for highly skilled individuals. Instead of talking about PhD "oversupply," we should be wondering what's happened to all that theoretical demand for PhD labor, and who's been benefitting instead from the demand created by increased college enrollment and ramped-up STEM support. We can put these questions to the managerial apparatus that now runs research and teaching like business and finance. But perhaps the best way to get answers is to talk to the parents of college students, the ones footing the bill. Ask whether they'd rather pay that [ballooning college tuition](#) for [lazy rivers on campus](#), for [fruit baskets and housekeepers for executive staff](#), and for other [rising non-classroom costs](#); or for more top PhD talent, smaller classrooms, more one-on-one attention from faculty, more independent studies and research opportunities with faculty, and a stable faculty who won't have to leave halfway through their student's college career. Then you'll get a sense of the real, unmet demand for PhDs, and the irrationality of a market that isn't delivering.

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