



A Robust Case for Merit Lottery

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Executive Summary

Superintendent Scott Brabrand brought a merit lottery proposal for TJ admissions to the FCPS Board on September 15, 2020. The context of this proposal is the stubbornly persistent lack of representative diversity at TJ that started at its founding in 1985 and gotten worse since, despite 35 years of various attempted reforms. Although this is the first time a lottery of qualified applicants is being publicly considered for TJ, such an approach has been discussed by education experts and sociologists for over 20 years, and more recently, by scientists and other STEM professionals concerned with maximizing the innovative impact of limited resources.

TJ admissions has historically been encumbered by both enormous **uncertainty in how merit should be identified** (evidenced by the many iterations in admissions reform) and **systemic bias** (evidenced by the chronic and predictable underrepresentation of certain groups). Even though opponents to lottery view it as replacing “meritocracy” with the luck of the draw, many esteemed professors (including Lani Guinier, Natasha Warikoo, Barry Schwartz, Michael Sandel, and many others) have highlighted the large degree of chance (25–50% in some studies) already in the current “holistic review” process favored at elite institutions. But these professors are concerned for not only the “losers” but also the “winners”

in this zero-sum game. They repeatedly observe that such **high stakes competition for credentials undermines the educational aims of elite schools**. Experts such as Schwartz express in the strongest terms that “it is not a question of working to improve a system that is serving us well. The system we currently use is badly broken, and no amount of minor tinkering will set it right.”

A lottery of the “good enough” would address all three of these problems. It challenges the emphasis on individual merit, to instead **highlight collective merit** embodied in the diversity of the admitted class—especially crucial for a school focused on preparing students for STEM innovation. A lottery proactively **compensates for systemic bias**—even biases we’re not talking much about or aware of. Lastly, acknowledging the role of luck promotes empathy and respect for differences and **empowers positive-sum communities of interdependent learners** to produce compassionate, creative critical thinkers and ethical leaders.

Modest reforms around the margins to admit more underrepresented students have failed for far too long. It’s time for a bold and radical (but carefully considered) approach that challenges the fundamental assumptions underlying “meritocracy.”

The Problem

Persistent and stubborn lack of representative diversity generated by a supposed meritocratic system

Part I: Systemic Bias

The ideal of meritocracy was a progressive response to the indignities under the status quo of aristocracy, racism, sexism, etc. This ideal is exemplified by famous quotes such as:

"I have a dream that my four little children will one day live in a nation where they will not be judged by the color of their skin, but by the content of their character."

—Martin Luther King, Jr., 1963

"I ask no favor for my sex. All I ask of our brethren is that they take their feet off our necks."

—Ruth Bader Ginsburg, 1973, quoting Sarah Moore Grimké

In a perfect meritocracy people's success would come from their merit. But this idea has been perverted: after the obvious barriers were removed without addressing all the underlying systemic issues, the lack of success in this supposed meritocratic system is now used to judge students as devoid of merit. Such a "meritocracy" divides into "deserving" and "undeserving", as Harvard professor Michael Sandel summarizes: "Those at the top deserved their place but so too did those who were left behind. They hadn't striven as effectively."¹ This paradigm interprets the much greater diversity in AAP compared to TJ admittees as the fault of the students who don't get in—they didn't strive enough or in the right ways, their families or cultures didn't value education enough to make sacrifices.

Part II: Spurious Precision

Making exact choices based on inexact information is what data scientists call "spurious precision." That is what traditionally happens at Thomas Jefferson, where only 19 percent of applicants are admitted, leaving out many who would perform at the same or higher levels if given the chance. "When admissions officers are forced to make unreasonably restrictive decisions, their decisions will become arbitrary and unreflective of the community at large."²

To be fair, this is not an issue unique to TJ. It's an issue at all selective schools. Harvard has had its share of "spurious precision" issues; that's why education professor Natasha Warikoo (formerly at Harvard, now at Tufts), an expert on college admissions, advocates for a merit lottery: "Even the extensive analyses by top economists both for and against Harvard in an affirmative action lawsuit against the school could not predict the admissions outcomes of one in four applicants. ... In other words, even when you build a statistical model that includes everything from an applicant's grades and SAT scores to their parents' professions, what state they live in, and many other factors, it's hard to understand admission decisions. This suggests more chance is involved than most people think."³

¹ Michael Sandel. 2020. As quoted in <https://www.theguardian.com/books/2020/sep/06/michael-sandel-the-populist-backlash-has-been-a-revolt-against-the-tyranny-of-merit>

² Brad Swanson. 2020. https://www.washingtonpost.com/opinions/letters-to-the-editor/there-ought-to-be-an-element-of-chance-in-this-elite-schools-admissions/2020/10/16/f247ccc0-0e51-11eb-b404-8d1e675ec701_story.html

³ Natasha Warikoo. 2019. <https://www.businessinsider.com/harvard-professor-schools-should-use-lottery-to-make-admissions-fair-2019-3?amp>

Warikoo and Sandel are far from the only voices advocating for admissions lottery. As early as 1997, Lani Guinier, first woman of color to gain tenure at Harvard Law School, along with her colleague Susan Sturm, suggested that given “the LSAT is only slightly better than random selection at predicting law school achievement”, “[o]ne alternative is for schools to set a minimum . . . as acceptable and then hold what is in effect a lottery for admission among the applicants who meet the minimum standard.”⁴ In 2005, Swarthmore professor Barry Schwartz proposed that top colleges should select randomly from a pool of ‘good enough’⁵, citing among other reasons, even older research that showed that people in decision-making positions “are much more confident of their abilities than the data warrant.”⁶ More recently, political scientist Peter Stone of Trinity College Dublin⁷, sociologists Joseph Soares of Wake Forest, David Karen of Bryn Mawr, Joshua Klugman of Temple, among others, have written in favor of admissions lottery. “We should give up that sociologically invalid meritocratic conceit and accept that from among the many who are qualified, and most of Harvard’s applicants are qualified, a few got lucky,” Soares writes. “It is time to acknowledge that elite college advantages are not earned by our ‘meritocracy,’ and one very powerful way to teach America a lesson about randomness and life chances would be to pick our winners via a lottery drawn from the top 10 percent of each high school.” He concludes, “Warikoo’s proposal to blow up meritocracy with an admissions lottery is to be applauded.”⁸

As Schwartz puts bluntly: “Any honest admissions dean will tell you that the current system already is a lottery. Only now, it’s disguised as a meritocracy.”⁹ Karen concurs: “Even after including the final overall ratings

of the readers of the [Harvard admissions] folders, I still could only explain fifty per cent of the variance in probability of admission. So, yes, different factors mattered but Schwartz is right—we’re talking close to a lottery already!! But it IS disguised as a meritocracy and that’s the problem.”¹⁰ Klugman flatly states that admissions lotteries at selective colleges “is the only just admissions policy.”¹¹

Merit lottery has been advocated beyond college admissions. Such a system has been used to admit medical students in the Netherlands for years.¹² Peer review, the gold standard in measuring merit in the academic science world, has come increasingly under scrutiny for its lack of effectiveness and fairness at identifying merit. Merit is difficult to evaluate even by senior scientists at the top of their fields based on detailed research proposals and history of previous publications, as Shahar Avin reviews and concludes “there is a coherent justification

⁴ Lani Guinier. 1997. http://www.law.harvard.edu/faculty/guinier/racetalks/real_bias.htm

⁵ Barry Schwartz. 2005. <https://www.swarthmore.edu/SocSci/bschwar1/Chronicle%20of%20Higher%20Education%202-25-05.pdf>

⁶ Robyn M. Dawes, David Faust, and Paul E. Meehl. 1989. http://meehl.umn.edu/sites/meehl.dl.umn.edu/files/138cstixdawesfaustmeehl.pdf?source=post_page-----

⁷ Peter Stone. 2013. <https://www.jstor.org/stable/10.1086/670663?seq=1>

⁸ Joseph Soares. 2017. <https://doi.org/10.1080/01419870.2017.1344271>

⁹ Barry Schwartz. 2015. <https://www.nytimes.com/roomfordebate/2015/03/31/how-to-improve-the-college-admissions-process/do-college-admissions-by-lottery>

¹⁰ David Karen. 2017. https://repository.brynmawr.edu/soc_pubs/15/

¹¹ Joshua Klugman. 2017. <https://doi.org/10.1080/01419870.2017.1344268>

¹² RAND Europe. 2007. https://www.rand.org/pubs/working_papers/WR460.html

for encouraging scientific novelty by introducing formal randomness into research funding mechanisms.”¹³

Part III: The Rat Race to Nowhere

Is TJ actually serving students well? In the words of Sandel: “Our credentialing function is beginning to crowd out our educational function ... Students win admission to [exclusive institutions] by converting their [childhood and] teenage years—or their parents converting their [childhood and] teenage years—into a stress-strewn gauntlet of meritocratic striving. That inculcates intense pressure for achievement. So even the winners in the meritocratic competition are wounded by it, because they become so accustomed to accumulating achievements and credentials, so accustomed to jumping through hoops and pleasing their parents and teachers and coaches and admissions committees, that the habit of hoop-jumping becomes difficult to break. By the time they arrive in college, many find it difficult to step back and reflect on what’s worth caring about, on what they truly would love to study and learn.”¹⁴

“[I]ntense competition creates a classroom where only results matter. It makes the stakes so high that students can’t afford to take risks. Everything they do is calculated to produce better credentials—high grades, great SAT scores, impressive extracurricular activities. They choose classes that play to their strengths, rather than those that might correct their weaknesses or nurture new interests,” says Schwartz. “[W]hen extrinsic rewards are provided to people for participating in activities that are interesting enough to sustain engagement for the intrinsic satisfaction they bring, intrinsic motivation is undermined

By making students so competitive, our selective institutions are subverting their own educational aims.” Guinier goes even further, saying that the “rhetoric and religion of merit” have diverted schools away from fulfilling their responsibilities to the public.¹⁵ Schwartz acknowledges that there may be potential unintended consequences: “If it were simply a question of improving a system that isn’t broken, only a fool would undertake the task of anticipating all the difficulties and finding ways around them. But I believe strongly that it is not a question of working to improve a system that is serving us well. The system we currently use is badly broken, and no amount of minor tinkering will set it right.”¹⁶

The Solution

A lottery of the qualified, i.e., a merit lottery

Parts I and II: A Proactively Anti-bias Approach to Collective Merit

The current TJ admissions process has historically been encumbered by both enormous **uncertainty in how merit should be identified** (evidenced by the many iterations in admissions reform) and **systemic bias** (evidenced by the chronic and predictable underrepresentation of certain groups). We simply do not know how to fix either of these problems, otherwise we

¹³ Shahar Avin. 2019. <https://www.sciencedirect.com/science/article/pii/S0039368118300190>

¹⁴ Michael Sandel. 2020. As quoted in https://www.chronicle.com/article/the-insufferable-hubris-of-the-well-credentialed?cid=reg_wall_signup&bc_nonce=wfoej5kgs4pywgpjh77pn

¹⁵ Lani Guinier. 2005. As quoted in <https://news.stanford.edu/news/2005/november9/lani-110905.html>

¹⁶ Barry Schwartz. 2005.

would have done it by now. **A lottery directly addresses both of these key issues** at the heart of the admissions crisis.

A merit lottery is not only defensible, but crucial to the integrity and vitality of TJ as a STEM institution. Scientific merit depends on diversity. Unfortunately, diversity is often used to mean “non-white.” That is not what diversity is about. “Diversity refers to difference. As such, diversity is a property of groups, not individuals.”

Why does diversity matter in science? “When we consider scientific research as group problem-solving, instead of the unveiling of individual brilliance, diversity becomes key to excellence. In his book, *The Difference*, Professor Scott Page lays out a mathematical rationale and logic for diversity. He shows that, when trying to solve complex problems (i.e., the sort of thing scientists are paid to do), progress often results from diverse perspectives. That is, the ability to see the problem differently, not simply ‘being smart,’ often is the key to a breakthrough. As a result, when groups of intelligent individuals are working to solve hard problems, the diversity of the problem solvers matters more than their individual ability. Thus, **diversity is not distinct from enhancing overall quality—it is integral to achieving it.**”

This **collective merit**—not the merit of individual students—is what the TJ admissions process should focus on. Holistic review alone, even with affirmative action, will always be limited to reproducing the same type of student body—limiting in not just racial and gender representation, but intangible characteristics such as temperament and ways of reasoning. **The beauty of a lottery is that it accounts for the biases we’re not even aware of.**

One of TJ’s core beliefs is “learning never ends.” Part of learning is admitting we don’t know something. **It’s time for us to admit that we don’t know how to identify merit reliably**, otherwise we would already have representative diversity. TJ reform must be an iterative and evidence-based process. We don’t currently even have data about how/whether TJ serves any of its students better than base schools, much less “students that truly need TJ”. But we never will if we don’t have the guts to try something new.

Let’s actually be scientific in reforming this beloved STEM institution—let’s choose the students by lottery and follow all semifinalists longitudinally and actually get data about the impact of TJ.

Part III: Positive Sum Environment

For Sandel, the main reason for a merit lottery is “is to emphasize to students and their parents the role of luck in admission, and more broadly in success. **It’s not introducing luck where it doesn’t already exist.** To the contrary, there’s an enormous amount of luck in the present system. **The lottery would highlight what is already the case.**”²⁰ Soares concludes that, ultimately, what he and other lottery proponents are

¹⁷ Kenneth Gibbs, Jr. 2014. <https://blogs.scientificamerican.com/voices/diversity-in-stem-what-it-is-and-why-it-matters/>

¹⁸ Lu Hong and Scott E. Page. 2004. <https://pubmed.ncbi.nlm.nih.gov/15534225/>

¹⁹ Kenneth Gibbs, Jr. 2014. <https://blogs.scientificamerican.com/voices/diversity-in-stem-what-it-is-and-why-it-matters/>

²⁰ Michael Sandel. 2020. As quoted in https://www.chronicle.com/article/the-insufferable-hubris-of-the-well-credentialed?cid=reg_wall_sig-nup&bc_nonce=wfoej5kgs4pywgp77pn

pushing is for honesty about applicants not being that distinguishable at the top level. As Soares notes, this intentional transparency might have another benefit: “If ‘winners’ are thought of as the lucky among the deserving, then perhaps our winner-take-all society would become more equitable and compassionate.”²¹ “[Just desert] is an important value when it comes to college admissions, but it isn’t the only important value. Other values that an admissions process might serve are the nurturing of empathy, community solidarity, care, compassion, and service to those whose dice came out snake eyes. Acknowledging the role of luck may actually help nurture those values in students and in their parents.”²²

Research has repeatedly demonstrated that diverse teams and interdisciplinary approaches integrating the social sciences are key for collaborative STEM problem-solving needed in our world today. While TJ has succeeded in providing college-level STEM educational opportunities for many, its lack of diversity in both students and staff, its very narrow focus on certain STEM disciplines in isolation, and the ultra-competitive rather than collaborative environment it has created and perpetuates all severely undermine the effectiveness of the STEM education it aims to provide. ***TJAAG, as alums of TJ and current STEM and social sciences professionals, have witnessed and can testify first-hand to the gaping holes in the TJ education. A STEM education inattentive to these empirical and social realities is an inadequate education that sets up graduates for failure rather than success.*** Future generations—and ALL of our young people—deserve better.

The United States in general, and Northern VA and TJ in particular, can and should play to our strength of a diverse constituency

and parlay it into a gift for the rest of the country and even the world. TJ does not belong to the alumni and current students and families. It belongs to all of the people in Fairfax County and other TJ feeder counties. So many have given up on the relevance of TJ to their own lives, including families of Black, Latinx, and Indigenous students, twice-exceptional students, low-income students, students from under-represented middle schools, and students who have opted out of an unhealthy TJ environment. Future generations—and ALL of our young people—deserve better.

Some critics of the lottery proposal have wondered why dropping the admissions test, purportedly the biggest barrier to TJ admissions for underrepresented groups, is not enough. Why lottery? Why not a holistic review incorporating affirmative action aspects similar to the admissions process at elite colleges? Guinier argues that racial and economic affirmative action—commonly seen as a deviation from the norm of meritocracy, as “sacrificing a little bit of merit for a little bit of diversity”—“functions just as much to legitimate a system that is flawed as it does to open up that system.” “Correcting for inequities by means of preferences that override, but do not challenge these [commonly accepted] measures of merit

²¹ Joseph Soares. 2017. As quoted in <https://www.insidehighered.com/admissions/article/2017/07/24/article-renews-discussion-about-lottery-ap-proach-elite-college?fbclid=IwAR1qXjdzx1PoSs4PI-J6Fj-M3vpuV2gCD0vTzbfly2pUAGvOl2jzd9r1mmYY>

²² Barry Schwartz. 2019. https://behavioralscientist.org/do-college-admissions-by-lottery/?fbclid=IwAR0ud7AjTD2gsual3ohl-WWa3Q8VT_I9-CWvd-bRKIXpVgZpt8FAMsCEsFDw

²³ Lani Guinier. 2001. As quoted in <https://commonwealthmagazine.org/politics/lani-guinier-on-merit-opportunity-and-redistricting/>

... simply casts their beneficiaries as undeserving and illegitimate.”²³ Instead, she suggests a “bold and radical” approach that rethinks how students gain admission, “not simply tinker around the margins to admit a few more blacks or Latinos.”²⁴

Furthermore, Warikoo is persuaded that once a high-stakes test is eliminated, “elites will simply invent a different measure that serves to reproduce their status, or that they eventually will master the alternative measures better than non-elites.” In other words, the rules of the zero-sum game may change, but the results will return to the prior status quo. “Ultimately we need to place less emphasis on systems of selection, ranking, and meritocracy more broadly,” concludes Warikoo.²⁵

Instead of a zero-sum system, **our admissions policy should encourage a positive-sum system**, where instead of competing to be the best, students compete to be unique—and the pie grows larger as individuals achieve success.²⁶ “[A]dmissions criteria . . . should continuously be reassessed for the degree to which they help the institution and its constituents to make present and future contributions to society . . . [to create] a system that incentivizes individuals who serve the goals and contribute to the conditions of a thriving democracy for both their own good as well as for the collective good.”²⁷ Guinier praises an admissions assessment tool known as the Bial-Dale Adaptability Index that’s designed to identify those students who take initiative, who collaborate well, and who are persistent.²⁸ Such a positive sum system would produce students attending TJ for intrinsic rather than extrinsic reasons. With an admissions lottery, schools could “once again be places for experimentation. Learning could once again be guided by curiosity rather than

competition. Adolescents could once again devote at least some of their time to figuring out what kind of people they are and want to be. And the result of decreased selectivity, I’m convinced, would not be worse students at our most selective institutions, but better ones. We would still have to work on reducing the competition among colleges for students, but at least the students they were competing for would be worth having.”²⁹

TJ was meant to be a laboratory school. In 1991 TJ was a founding member of the National Consortium of Secondary STEM Schools. At its best, TJ tried to provide a model for other nationwide schools to replicate to serve under-served communities. What does it say if the admissions policy of the only STEM-focused Governor’s school in Virginia cannot be guided by science and a spirit of experimentation? Opponents of the merit lottery proposal say that the other secondary schools currently using a lottery system are not like TJ—they are charter schools or much smaller than TJ or serve a very different population of students. That may be so. But **TJ has an opportunity to lead not only other selective high schools but elite selective colleges as well in acting on the ample scholarship.** It’s time for TJ to return to its root commitments to provide effective STEM educational opportunities for underserved communities and lead other

²⁴ Lani Guinier. 2005. As quoted in <https://news.stanford.edu/news/2005/november9/lani-110905.html>

²⁵ Natasha Warikoo. 2017. <https://www.tandfonline.com/doi/abs/10.1080/01419870.2017.1344279>

²⁶ Todd Rose. 2020. As quoted in <https://www.forbes.com/sites/michaelhorn/2020/10/08/creating-a-positive-sum-education-system-could-stop-students-from-running-a-rat-race-to-nowhere/>

²⁷ Lani Guinier. 2005. As quoted in <https://www.inside-highered.com/news/2015/02/03/qa-lani-guinier-about-her-new-book-college-admissions>

²⁸ Ibid.

²⁹ Barry Schwartz. 2005.

schools by example. Because all of our young people—at TJ or at any other school within participating districts, even beyond—deserve better than TJ as it stands today. As Guinier puts it so well, **it's time to “put the ‘mission’ back into ‘admission.’”**³⁰

³⁰ Lani Guinier. 2005. As quoted in <https://news.stanford.edu/news/2005/november9/lani-110905.html>

Professors and thought leaders who have written on this topic:

Lani Guinier, Bennett Boskey Professor of Law, Emerita, Harvard Law School
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Who's Qualified: A New Democracy Forum on Creating Equal Opportunity in School and Jobs. 2001. Co-authored with Susan Sturm.
“The Real Bias in Higher Education.” 1995.
http://www.law.harvard.edu/faculty/guinier/racetalks/real_bias.htm

Natasha Kumar Warikoo, Professor of Sociology at Tufts, formerly Visiting Associate Professor of Education at Harvard Graduate School of Education
“A Research Agenda on Race and Meritocracy.” 2017. *Ethnic and Racial Studies* 40.13: 2308–2315. <https://doi.org/10.1080/01419870.2017.1344279>
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