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DEMOCRACY AND “ELITE” EDUCATION:  
LESSONS FROM ANOTHER CORNER OF THE WORLD

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**DEMOCRACY AND “ELITE” EDUCATION:  
LESSONS FROM ANOTHER CORNER OF THE WORLD**

J. MARK RAMSEYER & YOSHITAKA FUKUI\*

*Abstract*

*Adjacent to the recent (and ongoing) legal disputes over admissions to elite university programs, parallel disputes over admission to the most selective high schools continue. New York City operates the best known of these high schools and chooses its students through blindly graded exams. Critics—including prominent scholars like Stanford’s Richard Banks and Yale’s Daniel Markovitz—argue that the exams favor the wealthy. The Obama administration urged the high schools to replace their blind exams with a random selection mechanism for all applicants who met a minimum competency standard.*

*For decades, the Tokyo Board of Education had similarly maintained an elite high school and had similarly selected its students through a blind exam. Under similar egalitarian pressure, it replaced the exam with what would in time become the Obama administration template: the combination of a minimum competency exam with random selection. Almost immediately, the most promising students abandoned public high schools entirely. They shifted to what had previously been inferior private schools. The best of these private schools raised their standards in response, and public education in Tokyo never recovered.*

*Students learn best when taught at their level. The brightest students learn best when taught at a level that challenges them, and with which other students could never keep up. Bright Tokyo students wanted that challenge. When the public schools denied it to them, they left the public schools en masse.*

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## INTRODUCTION

In its recent decision about Harvard's affirmative action program, *Students for Fair Admissions, Inc. v. President & Fellows of Harvard College*, the Supreme Court did not question the school's claim—implicit, perhaps, but there all the same—that it conferred a benefit on the students it admitted. Writing for the Court, Justice Roberts referred to the “beneficiaries” of the admissions preferences and spoke of a racial “preference.”<sup>1</sup> Justice Gorsuch described Harvard's and UNC's acceptance letter as “a ticket to a brighter future.”<sup>2</sup> Plenty of high school students wanted to attend Harvard. If the College admitted a student, it must have benefited him (or her).

The Court took this claim by Harvard College, to be providing a benefit, as given. It asked whether the school could choose the students to whom it offered this benefit differently according to race. Speaking for the Court, Justice Roberts said no.

Call us naive, but we wish the Court had called Harvard's bluff. Graduates of Harvard College do not have the *entre* that they do because Harvard has a \$53 billion endowment. They do not have that *entre* because some (only some) Harvard professors have international scholarly reputations. And they certainly do not have the *entre* because Harvard instructors have astounding pedagogical skills.

Instead, graduates from Harvard College have the *entre* that they do because people see them as smart and hard-working. They did not learn to be smart and hard-working from Harvard. They were smart and hard-working before, and Harvard admitted them, in part, because of that. Largely, in other words, Harvard does not confer prestige on its students. Rather, the students confer prestige on Harvard.

Focusing on the intellectual ability that students bring to Harvard would let us explore how best to teach them. Elsewhere in the educational environment (say, middle school), students and teachers both realize that most students learn best when surrounded by other students of roughly equal intellectual ability. We know of no reason anything would differ at age eighteen.

Indeed, the debate over university admissions does recur over the selection of students for the fastest paced junior and senior high schools. Yale professor Daniel Markovitz and Stanford professor Richard Banks both strongly urge these schools to change the way they select their students. The Obama Justice and Education Departments did so as well.

None of this is peculiar to the U.S. Half a century ago, the Tokyo Board of Education adopted almost exactly the proposal that the Obama administration advocated. In this article, we describe what happened.

We begin with the fights over U.S. high school exam schools (Section I). We describe the Japanese high school market (Section II). Tokyo went through the same fights in the 1960s that are currently buffeting American high schools (Section III). The Tokyo Board of Education eliminated the blind admissions exam to its top high school (known as “Hibiya”), and the brightest students disappeared. Rather than stay with a school that no longer limited admission to the very talented, the top students moved immediately to private and national high schools. The market for private high-school education boomed and has dominated Tokyo education ever since. Hibiya tried to return to its earlier selective policy, but only recently has it even

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<sup>1</sup> *Id.* at 212 (Roberts, J.).

<sup>2</sup> *Id.* at 287 (Gorsuch, J., concurring).

started to recover (Section IV). We retrace this history, explaining the lessons from modern cognitive science (Section V).

## I. THE AMERICAN CRISIS

### A. *THE COMPLAINTS*

#### 1. *The New York Schools*

A dynamic similar to the dispute over Harvard college admissions currently plagues debates about elite high school education in large American cities. The most prominent of the disputes have taken place in New York. For decades, New York City showcased a series of public high schools for the most talented of its students.

For several years now, critics have protested the blind entrance exams by which the city chose the students for these schools. They raise claims similar to those at stake in the Harvard college litigation. Yet, note the differences. New York City does not hold a \$53 billion endowment for these schools. It does not provide lavish facilities, squash and crew teams, or gourmet meals. It does not supply instructors with forty-page bibliographies for CVs.

Instead, New York provides its exam high schools with classrooms and reasonably talented teachers. At root, that is all it offers. Through the exams themselves, it fills its classes with extremely talented students. Admission to the city's exam schools is not about facilities, endowments, or Nobel laureates on staff. It is about—it is only about—learning in a classroom with other students just as talented, and with teachers teaching to their particular talent level.

For decades, New York City operated Stuyvesant, Bronx Science, and six other high schools as part of a “specialized high schools” network.<sup>3</sup> For these schools, it picked students exclusively through a blindly graded exam written specifically for the New York schools by a private firm. The city chose by intellectual ability, and nothing else. In addition, the city also offered a ninth school for talented students: Hunter College High School, administered by Hunter College rather than the New York Department of Education. The Hunter school also selected its students through a blindly graded exam.

#### 2. *The Logic*

Students vied for admission to these exam schools because they wanted to study among other equally talented students, and at a pace keyed to their strengths. At the U.S. college level, Harvard's \$53 billion endowment obscures the straightforward pedagogical logic involved. Endowment or no endowment, students vary in what they can learn and how quickly they can learn it. Some people will never learn calculus, no matter how it is taught. Others can learn calculus, but only if taught slowly. Still others can learn calculus rigorously and quickly, and would be bored to death if taught in any other way. Some people cannot discuss the Bronte sisters; some can discuss the Brontës but not Shakespeare; some fall in love with the bard.

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<sup>3</sup> See, e.g., Joyce Li, *The Stuyvesant Controversy and the Lose-Lose Fight over Educational Access*, MERCER STREET (2022-2023), <https://wp.nyu.edu/mercerstreet/2022-2023/the-stuyvesant-controversy-and-the-lose-lose-fight-over-educational-access/> [<https://perma.cc/8ARS-VWPF>].

At a most basic level, all this is obvious: when we talk to our children, we instinctively talk and explain at a level that they can understand. It does students who can learn if taught slowly no favor to place them in classes where they cannot keep pace. It does the most talented students no favor to place them in classes that move so slowly that they have trouble paying attention. Placing students in classes that teach to their distinctive level facilitates learning by everyone.

The students who pass through the New York exam schools are extraordinarily bright, and upon graduation many go on to prominent positions. Virtually all proceed to college, and a substantial fraction proceed to very selective colleges. Yale law professor Daniel Markovitz writes that “25 percent of the [Hunter] school’s graduates are admitted to Ivy League colleges.”<sup>4</sup> Joyce Li writes that “in 2017, 17.8% of the Stuyvesant graduating class—a total of 146 students—were accepted into either Stanford, MIT, UChicago, or an Ivy League university[.]”<sup>5</sup> Over the years, eight Bronx High alumni have earned Nobel prizes (seven of these in physics), and nine have won Pulitzers. At Stuyvesant, “only” four have earned a Nobel. Hunter College is smaller, but even it can count two Nobel laureates and five Pulitzer Prize winners.

### 3. *Income*

Modern critics criticize the implications that (they believe) these schools pose for economic equality. Widely, they complain that the exam schools favor the rich. Yale law professor Markovitz again:

Simply tallying the colleges attended by graduates of one hundred or perhaps two hundred well-known and named elite high schools accounts for a third of the student bodies at the most prestigious colleges in the country. These high schools . . . overwhelmingly graduate children of very rich parents—perhaps two-thirds of their graduates come from households in the top 5 percent of the income distribution.<sup>6</sup>

The exams reward tutoring, argues Markovitz, and tutoring is expensive:

Rich parents . . . pay for academic tutoring and test preparation programs . . . . Once again, the families that hire tutors skew overwhelmingly toward wealth. The poor and even the middle class cannot afford extensive tutoring, while it is difficult to find a child of elite professions who has not spent substantial time in the care of a tutor, and usually of multiple specialist tutors.<sup>7</sup>

Stanford professor Richard Banks makes a similar claim:

Affluent, well-educated parents are able to make investments that include both direct financial investments (e.g., paying for

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<sup>4</sup> DANIEL MARKOVITZ, *THE MERITOCRACY TRAP: HOW AMERICA’S FOUNDATIONAL MYTH FEEDS INEQUALITIES, DISMANTLES THE MIDDLE CLASS, AND DEVOURS THE ELITE* 151 (Penguin Press 2020).

<sup>5</sup> Li, *supra* note 3.

<sup>6</sup> MARKOVITZ, *supra* note 4, at 135.

<sup>7</sup> *Id.* at 128–29.

good schools, hiring tutors, enrolling their children in summer camp, and so forth) and also in-kind investments in the form of parental know-how, advice, and help with coursework.<sup>8</sup>

Given these criticisms, some selective public high schools in the U.S. that once chose their students through blind exams have recently dropped them. Most prominently, Thomas Jefferson High School in suburban Washington D.C.—sometimes ranked the best public high school in the U.S.<sup>9</sup>—replaced its exam with a “holistic review” in 2022.<sup>10</sup> San Francisco changed the entry requirements for Lowell High School in 2020 from an entrance exam to a lottery.<sup>11</sup>

### B. *TROUBLING INCONGRUITIES*

Focus on this connection between exams and income. The logic—articulated by Markovitz and Banks—might seem straightforward: exams reward tutoring; tutoring is expensive; ergo, exams reward the rich.

In fact, the logic is anything but straightforward. In 2023, Stuyvesant admitted 762 students. Only seven were Black, but the rest were not Caucasians. Instead, 489 were Asian-Americans.<sup>12</sup> What is more, the Asian-American students who attend Stuyvesant are not wealthy. Wealthy New Yorkers do not send their children to Stuyvesant; they send them to private schools. The students who attend Stuyvesant are talented students without money.

Commentator Joyce Li writes:

The truth is that Asian Americans in New York City have the highest poverty rate out of all ethnic groups, and most students from Asian American communities are able to prepare for the SHSAT not through private tutoring afforded by family wealth but through the group test prep centers concentrated in the Asian enclaves of neighborhoods like Flushing and Sunset Park, usually held in cramped, repurposed offices above souvenir shops and bubble tea stores.<sup>13</sup>

<sup>8</sup> Ralph Richard Banks, *The New Racial Segregation in Education*, 96 N.Y.U. L. REV. ONLINE 144, 150 (2021).

<sup>9</sup> *Thomas Jefferson High School for Science and Technology*, U.S. NEWS, <https://www.usnews.com/education/best-high-schools/virginia/districts/fairfax-county-public-schools/thomas-jefferson-high-school-for-science-and-technology-20461>.

<sup>10</sup> Emily Leayman, *TJ Admissions Applications to Open with New Policy Continuing*, PATCH, Oct. 21, 2022, <https://patch.com/virginia/greateralexandria/tj-admissions-applications-open-new-policy-continuing> [https://perma.cc/QT84-VAYA]. The new policy was upheld in *Coalition for TJ v. Fairfax Cnty. School Board*, 68 F.4th 864 (4th Cir. 2022).

<sup>11</sup> Banks, *supra* note 8, at 153.

<sup>12</sup> Troy Closson, *Stuyvesant High School Admitted 762 New Students. Only 7 Are Black.*, N.Y. TIMES (June 2, 2023), <https://www.nytimes.com/2023/06/02/nyregion/stuyvesant-high-school-black-students.html> [https://perma.cc/TTZ5-NJS6].

<sup>13</sup> Li, *supra* note 3.



Of the students at Stuyvesant during 2022-23, 48% qualified for free or reduced-price lunches (i.e., they came from families with incomes below 185% of the poverty line).<sup>14</sup>

As New York City mayor, Bill de Blasio led an effort to drop the blind exams for the city's specialized high schools. He wanted to award high school seats to the top students at each of the city's middle schools instead. Given that the best students do not distribute themselves randomly across the middle schools, this would not have selected for talent. Parents of high-achieving children organized the opposition. They campaigned hard. And they won. The authority over the entrance exam lay with the state. In 2019, the state legislature adjourned without acting on de Blasio's reform bill, and it died in Albany.<sup>15</sup>

The benefit that students obtain from these exam schools does not come from the resources invested. Obviously, American private schools sometimes provide lavish resources. Perhaps some public exam schools do as well. Yet schools like Stuyvesant do not. The student: teacher ratio at Stuyvesant is 22:1.<sup>16</sup> At Bronx Science it is 21:1.<sup>17</sup> Among New York high schools more generally, the ratio is 13.7:1.<sup>18</sup>

Instead, the benefit from the New York exam schools comes from—comes only from—the pace of instruction and the challenges and support from similarly talented peers and families. For all the talk about the resources and facilities and faculty at Harvard, the New York exam schools provide none of that. They provide only the most basic facilities, and other students who learn at the same pace.

### C. TEACHING TO THE ABILITY LEVEL

Lost in the American debate over affirmative action at Harvard and elsewhere is some (perhaps more than some) educational common sense: people learn best when taught to their level. Not everyone can learn everything, and even those who can learn something differ in how quickly they can master it. Those who can learn something quickly will learn the subject more deeply and enjoyably, and develop more rigorous habits of the mind, if taught at an appropriately quick pace. Those who require more time and deliberation will learn better if taught more slowly.

Return to calculus. Students cannot study college-level physics, chemistry, or engineering without calculus, and a student who cannot hit 600 on the SAT cannot handle serious calculus. The 550 student will not learn it no matter how carefully an instructor might try to teach it. Yet a 550 is roughly 60th percentile, and a 650 is the 85th percentile. The implication is

<sup>14</sup> *Stuyvesant High School*, U.S. NEWS, <https://www.usnews.com/education/best-high-schools/new-york/districts/new-york-city-public-schools/stuyvesant-high-school-13092>; *The National School Lunch Program (NSLP)*, in Feeding America (accessed Mar. 30, 2024) (eligibility standards for lunch), <https://www.feedingamerica.org/take-action/advocate/federal-hunger-relief-programs/national-school-lunch-program> [<https://perma.cc/32FQ-J7UD>].

<sup>15</sup> Closson, *supra* note 12; Eliza Shapiro & Vivian Wang, *Amid Racial Divisions, Mayor's Plan to Scrap Elite School Exam Fails*, N.Y. TIMES (June 24, 2019), <https://www.nytimes.com/2019/06/24/nyregion/specialized-schools-nyc-deblasio.html> [<https://perma.cc/TTZ5-NJS6>]; Banks, *supra* note 8, at 153.

<sup>16</sup> *Stuyvesant High School*, U.S. NEWS, <https://www.usnews.com/education/best-high-schools/new-york/districts/new-york-city-public-schools/stuyvesant-high-school-13092>.

<sup>17</sup> *Bronx High School of Science*, U.S. NEWS, <https://www.usnews.com/education/best-high-schools/new-york/districts/new-york-city-public-schools/bronx-high-school-of-science-13207> [<https://perma.cc/39GP-YKW4>].

<sup>18</sup> *New York City Class Size 2022-23 Report (Updated)*, NYC DEP'T OF EDUC., <https://infohub.nyced.org/docs/default-source/default-document-library/2022-23-updated-class-size-report.pdf>.

this: roughly 3/4 of the American population—of the world population—cannot learn serious calculus, no matter how well taught. We do no one a favor by trying to pretend otherwise.

What is more, the SAT 650 students cannot keep pace with the 700+ students. Taking calculus as taught to SAT 650 students, the 750 student will be bored. Taking calculus as taught to the 750 students, the 650 student will fail to keep up. Had they taken calculus taught to their level, the 650 students could indeed have learned the material and become engineers. Taking it at too high a level, some will fall out of STEM entirely. Peter Arcidiacono and Richard Sander have studied this phenomenon extensively.<sup>19</sup> Justice Thomas alluded to it in his own *Students for Fair Admissions* concurrence.<sup>20</sup>

Entrance exams sort young people by this ability to learn. Contrary to Banks, they are not “achievement” exams. And contrary to Markovitz, there are serious limits to what tutoring can do. Imperfectly to be sure, these exams (including the now-widely despised SAT) measure a student’s ability to learn. Scholars outside of cognitive science have yet to come to terms with the tests, but those in the field understand that the tests capture (with error to be sure) exactly what they purport to capture: cognitive ability.

In large part, the “prestige” to attending an exam school is not a function of the school itself; instead, it reflects the cognitive ability of the students. The prestige, in other words, is “endogenous” to the students. The graduates do well in life because they are bright: they solve difficult questions quickly and correctly. That is a valuable trait in modern society, and one for which profit-maximizing employers happily pay a premium. The prestige of the school reflects this attribute common to most of the students who attend it.

## II. SPOTTING ACADEMIC TALENT IN JAPAN

### A. SPOTTING TALENT AT AGE 18

#### 1. Introduction

When American scholars begin to learn about Japan, they find it hard to believe that the University of Tokyo could enroll the bulk of the most talented students in nearly every field. They hear the claim from their peers in Japan, but discount it. After all, bias is bias, and those peers themselves attended the University of Tokyo. American scholars instinctively think of ten to fifteen top schools, each with a (purportedly) different character and set of strengths. To this, they add another twenty to thirty second-tier schools that regularly graduate some exceptionally talented students.

Asked instead where a bright student in the U.S. should go, American scholars reflexively reply that “it all depends.” Asked whether a student should choose Harvard over MIT over Chicago, or any of these over Swarthmore and Williams, they reply that each has top faculty and students. Each has its own character and strengths. No one school suits all students. The choice depends on a student’s own preferences, strengths, and interests.

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<sup>19</sup> See, e.g., Peter Arcidiacono & Michael Lovenheim, *Affirmative Action and the Quality-Fit Trade-off*, 54 J. ECON. LIT. 3, 7 (2016) (“there is consistent evidence that the fit between the student and the university matters, at least across some dimensions”); Richard H. Sander, *A Systematic Analysis of Affirmative Action in American Law Schools*, 57 STAN. L. REV. 367 (2004).

<sup>20</sup> 600 U.S. at 231 (Thomas, J., concurring).

## 2. *The University of Tokyo*

### a. Tokyo

Yet the University of Tokyo does indeed enroll a large fraction of the top students in most fields. In large part, on this dimension the difference between the U.S. and Japan follows from simple size: relative to the high school population, the top American universities are far smaller than the University of Tokyo. As a result, they purport to make much finer distinctions than Tokyo ever tries to make. Most of top American schools each enrolls fewer than 2,000 first-year students a year.<sup>21</sup> Cal Tech enrolls fewer than 300.<sup>22</sup> Out of the 3.77 million high school graduates in the U.S., 2,000 is 0.05%.<sup>23</sup> By contrast, the University of Tokyo enrolls 3,000 per year.<sup>24</sup> Out of the 1.1 million Japanese high school graduates, this is 0.3%.<sup>25</sup> Add all the first-year students at Princeton, MIT, Harvard, Stanford, Yale, University of Chicago, and Cal Tech, and the total is still a smaller fraction of U.S. high school graduates than the University of Tokyo class is of all Japanese graduates.<sup>26</sup>

### b. The US

And in part, the talent overlap among the top American schools follows from the heavily random character of U.S. undergraduate admissions. Whatever the ultimate reason, American admissions officers at the top schools lack the metrics they need to compare students from the nearly 27,000 high schools across the country, private and public, metropolitan and rural. They even lack the means to discriminate among the top high schools: whether the 5th best student at Bronx High is stronger or weaker than the 3rd best at New Trier or the 6th best at Phillips Exeter. After all, students take different courses. Teachers grade by different curves. And counselors download their recommendation letters from different websites.

### c. A caveat

In fact, we do exaggerate a bit the contrast between the University of Tokyo and several of the other top schools. If the University of Tokyo tends to take the most talented of the high school graduates, Kyoto University draws from an overlapping population. In general, the University of Tokyo recruits from eastern Japan, while Kyoto University recruits from the west. Even if the average quality of the Tokyo students may exceed the average quality of Kyoto students, the overlap is large.

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<sup>21</sup> Incoming class sizes for colleges are available at U.S. NEWS.

<sup>22</sup> *California Institute of Technology*, U.S. NEWS, <https://www.usnews.com/best-colleges/california-institute-of-technology-1131>.

<sup>23</sup> *Table 219.10*, NAT'L CTR. FOR EDUC. STAT., [https://nces.ed.gov/programs/digest/d17/tables/dt17\\_219.10.asp](https://nces.ed.gov/programs/digest/d17/tables/dt17_219.10.asp) (accessed Mar. 30, 2024).

<sup>24</sup> Total enrollment for first two years of college was 6647, see *About UTokyo: Enrollment*, UTOKYO, <https://www.u-tokyo.ac.jp/en/about/enrollment.html> [<https://perma.cc/YF2W-YCKE>] (accessed Mar. 30, 2024).

<sup>25</sup> *Japan in Terms of Statistics, Search for 2022 Population Estimate as of October 1st of Each Year*, ESTAT, <https://www.e-stat.go.jp/stat-search/files?page=1&layout=datalist&toukei=00200524&tstat=000000090001&cycle=7&year=20220&month=0&tclass1=000001011679&tclass2val=0> [<https://perma.cc/8QKZ-88XN>].

<sup>26</sup> *Best National University Rankings*, U.S. NEWS, <https://www.usnews.com/best-colleges/rankings/national-universities>.

The difficulty of an entrance exam also varies by department. By one recent estimate, the University of Tokyo medical department (medical school is a six-year undergraduate curriculum in Japan) is more selective than Kyoto University medicine. Yet the latter is still more selective than the physics, chemistry, or biology departments at the University of Tokyo.<sup>27</sup> Similar caveats about ability overlap apply to several of the top schools, for example, Hitotsubashi University in Tokyo, and the Tokyo Institute of Technology.

### 3. *The SAT*

For American schools at the top level, the SAT is just too easy, and its “subject tests” are not much harder. The College Board writes the test to let admissions officers compare students across different high schools. But it sells the test into the entire national market. Within that market, most schools merely try to distinguish those applicants who can handle basic college material from those who cannot. Students cannot study college-level physics and chemistry without calculus, and a student who cannot score 600 on the SAT cannot handle serious calculus. A student who cannot hit 600 on the verbal section cannot thoughtfully read Thomas Hardy or Jane Austen, and cannot read Proust (in English, much less in French) or James Joyce at all.

As a result, most admissions officers will use the test to sort students in the 550 to 650 range. A 550 is roughly the 60th percentile, and a 650 is the 85th percentile. Given that 1.7 million students take the SAT, approximately 425,000 students will fall in this range.<sup>28</sup> Given that this is the range that will concern most admissions officers, the College Board loads the questions to sort this group. For that task, the questions do exceptionally well.

The top U.S. universities, however, are together trying to locate the brightest 10,000 to 20,000 students. Out of a high school graduating class of 3.77 million students, the top 10,000 constitute 0.27%, close to the 0.3% at the University of Tokyo. The SAT will let admissions officers identify most of the students in the top 15%. It may even identify those in the top 5%. But to identify the brightest 0.3%—or even the top 1%—it offers no questions hard enough. Anyone bright enough to fall within the top 2% of the high school population can answer all of the SAT math questions. If such a student misses two or three questions, he (or she) misses them by the random stroke of bad luck that occasionally hits everyone.

### 4. *The Japanese Exams*

#### a. The exam itself

By contrast, to select their undergraduate class, the University of Tokyo faculty write and grade their own exams. They spend an enormous amount of time on this, but by doing so ensure that the school poses the questions that let them select the students that they want. Asked whom they look for,

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<sup>27</sup> Selectivity measures for public universities, as given on website, MANABI BENESSE, [https://manabi.benesse.ne.jp/hensachi/kokkoritsudai\\_index.html](https://manabi.benesse.ne.jp/hensachi/kokkoritsudai_index.html) [<https://perma.cc/VWF3-9TU9>].

<sup>28</sup> For percentile ranges *see, e.g.*, Halle Edwards, *SAT Percentiles and Score Rankings (Updated 2023)*, PREPSCHOLAR, <https://blog.prepscholar.com/sat-percentiles-and-score-rankings> [<https://perma.cc/WHR2-GWHN>] (accessed Mar 30, 2024); for total SAT population, *see* College Board, *SAT Program Results for the Class of 2023 Show Continued Growth in SAT Participation* (Sept. 26, 2023), <https://newsroom.collegeboard.org/sat-program-results-class-2023-show-continued-growth-sat-participation> [<https://perma.cc/6FVB-NRVM>] (1.7 million in 2022 class)

the faculty are upfront: they want students who are extremely smart and curious. They do not want students who can recite endless lists of dates and names. They do not want students who have memorized dozens of solutions to differential equations. They want basic—but extraordinary—cognitive ability.<sup>29</sup>

By all appearances, the University of Tokyo faculty write exams that reward exactly that characteristic. Many of the other schools use exams that do test for lists of names and dates. Many of them let applicants avoid tests in math altogether. The University of Tokyo requires all applicants to take a math test, and gives a brutally hard test. See Figure 1: a recent math question (for aspiring STEM and medical students, to be sure) from the university's undergraduate entrance exam. The closest American equivalent might be the questions students face in the elite high school math team competitions. To be sure, those math team members do prepare for the competitions by reviewing similar questions together. Largely, however, the ability to solve these questions is an ability that most students do not have and cannot learn.

Define the sequence  $\{a_n\}$  as follows:

$$a_1 = 1, a_{n+1} = a_n^2 + 1 \quad (n=1,2,3 \dots)$$

(1) When positive integer  $n$  is a multiple of 3, show that  $a_n$  is a multiple of 5.

(2) Let  $k, n$  be positive integers. Using  $k$  and  $n$ , show the necessary conditions under which  $a_n$  will be a multiple of  $a_k$ .

(3) Find the greatest common divisor of  $a_{2022}$  and  $(a_{8091})^2$ .

<sup>29</sup> As this discussion should make clear, prominent scholars in the field routinely misdescribe Japanese entrance exams. Yoko Yamamoto & Mary Brinton, *Cultural Capital in East Asian Educational Systems: The Case of Japan*, 83 SOCIO. EDUC. 67, 69 (2010), for example, characterize the Japanese university entrance exams as “standardized written exams based on a nationally determined curriculum[.]” The description is wrong on several levels. First, the tests are not “standardized[.]” From time to time, top Japanese universities have experimented with standardized preliminary tests. The crucial exam, however, remains the one taken after a student passes the preliminary tests: the exam written by faculty at the school itself. Often, this test is not even standardized to the school. It is specific to the department or to more basic segments of the university (for example, humanities or STEM).

Second, Yamamoto & Brinton write that “the standardized examinations center on basic skills in mathematics, language, and history[.]” *Id.* at 69. On the one hand, ordinary high school math classes do not use questions even remotely close to the University of Tokyo test given in Figure 1. On the other, some prominent departments (for example, many law departments and even some economics departments) of respectable private universities do not test math at all. For students who decide to focus on those departments in 10th grade, the entire high school math curriculum is effectively optional.

By contrast, Takehiko Kariya, *From Credential Society to “Learning Capital” Society*, in SOCIAL CLASS IN CONTEMPORARY JAPAN 87, 89, writes that “the curricular content that constitutes the vast majority of entrance exams is generally acknowledged to have virtually no bearing on any part of students’ lives besides the exam-taking itself.” What is more, “the relationship between intellectual ability and exam scores remains quite obscure[.]”

Kariya is tendentious, and—like Yamamoto and Brinton—tendentiously wrong. One cannot study modern physics without an extraordinarily high level of mathematics. The University of Tokyo physics department tests for that high level. One cannot work as an engineer without facility in calculus. Engineering departments routinely test facility in calculus. And one cannot enter the world of serious academic research in any field of science or technology without an ability to read sophisticated English prose. The University of Tokyo tests for that ability. Kariya’s claims notwithstanding, a student cannot solve the math problems in Figure 1 without extraordinarily high levels of “intellectual ability[.]” Neither can the student read Figure 2 without those high levels of ability.

**Figure 1:** Sample Question from 2022 University of Tokyo Entrance Exam, *Reiwa 4 nendo dai 2ji gakuryoku shiken shiken mondai* [*Exam Questions for Part 2 of the 2022 Academic Exam*], TOKYO DAIGAKU (SUGAKU EXAM FOR RIKKA), available at [https://www.u-tokyo.ac.jp/ja/admissions/undergraduate/e01\\_04\\_22.html](https://www.u-tokyo.ac.jp/ja/admissions/undergraduate/e01_04_22.html).

We spare readers the often similarly hard verbal questions (since they are not available in English), but in Figure 2, we reproduce one of the questions on the English language segment of the exam. Note that this question is from a university entrance exam. Obviously, the University of Tokyo selects for students who already command an extraordinarily sophisticated reading ability. The university also tests students on both modern and classical Japanese, on both Japanese and world history, on geography, and physics, chemistry, biology, and geology.

Summarize the following English-language into 100-120 characters in Japanese:

The notion of “imagined family” helps us to understand how group feelings can be extended beyond real family. Because humans evolved in small groups whose members were closely related, evolution favored a psychology designed to help out members of our close families. However, as human societies developed, cooperation between different groups became more important. By extending the language and sentiments of family to non-family, humans were able to create “imagined families”—political and social communities able to undertake large-scale projects such as trade, self-government, and defense.

By itself, though, this concept still can't explain why we consider all members of such a community to be equal. Imagined family differs from real family not only by the lack of genetic ties, but also by the lack of distinction between near and distant relatives. In general, all members of a brotherhood or motherland have equal status, at least in terms of group membership, whereas real family members have different degrees of relatedness and there is no fixed or firm way of defining family membership or boundaries. We need to search for a more fundamental factor that unites people and creates a strong bond among them.

At a deeper level, human communities are united by a well-known psychological bias which is believed to be universal. Studies of childhood development across cultures indicate that people everywhere tend to attribute certain essential qualities to human social categories such as race, ethnicity, or dress. This mental attitude has been used to generate notions of “in-group” versus “out-group,” and to give coherence to a group where initially there was none, dramatically enhancing the group's chance of survival. However, this can also lead us to see an “out-group” as a different biological species, increasing the risk of hostility and conflict. Throughout history, and likely through human prehistory, people have routinely organized themselves to fight or dominate others by seeing them as belonging to a different species.

**Figure 2:** Sample Question from 2016 University of Tokyo Entrance Exam, 2016 Exam, available at [https://toudainyuushi.com/core\\_sys/images/main/2016/q2016eiigo.pdf](https://toudainyuushi.com/core_sys/images/main/2016/q2016eiigo.pdf).\*

Precisely because most students could never answer questions like these—regardless of preparation—the questions would not work on the SAT. Given that most students would simply draw a zero, the questions will not sort the students who score in the 550 to 650 range. Test writers need questions that sort students near the boundaries of the line they hope to draw. At the University of Tokyo, faculty try to write exams that sort students along that 0.3 percentile line. They write questions that students above that line can sometimes solve (the passing score is typically about 50% to 60%), but those below cannot.

The University of Tokyo faculty do not care about distinguishing the 50th percentile student from the 60th, from the 70th. They do not want to admit any of them. For the SAT, however, the College Board uses questions that distinguish among exactly the half-million students at the 50th, 60th, and 70th percentiles. After all, the universities that need those distinctions are the ones that keep the College Board in business.

### 5. Student Satisfaction

As scholars, we do not give bright Japanese students (or American students, for that matter) their due. American scholars of Japan stress the entre that a University of Tokyo degree gives its graduates.<sup>30</sup> Other scholars make the same claim about Harvard, of course. They attribute the desire among high school students to attend the University of Tokyo (or Harvard) to this job-market premium.<sup>31</sup> The premium is there, and students will pursue it. But we should remember that the most able students enjoy environments that present the hardest challenges for their own sake.

Bright students do well in hard courses, and many of them (whether in Japan, in the U.S., or anywhere else) choose those courses precisely because they are hard. They understand—properly—that the greatest satisfaction comes from tackling and succeeding at the hardest challenges. One can see this in the fact that talented students major in math at the top universities, and within the department take the most difficult courses.

Employers (whether in New York or in Tokyo) are not likely to pay a premium to students just because they took Real Analysis (or simply Analysis) and Theoretical Algebra (or Commutative Algebra, General Algebra, Abstract Algebra, or simply Algebra). At most employers (again, whether in Japan or in the U.S.), the hiring personnel would not realize that “Analysis” and “Algebra” are among the very hardest courses taught at modern universities. During his years on the admissions committee at Harvard Law School, Ramseyer had to intervene when one admissions officer wanted to reject a student because he had chosen “obviously easy” courses in college. Her example: the upper-level “Algebra” course at a top-

\* 2022 English exam is not publicly available.

<sup>30</sup> E.g., CHALMERS JOHNSON, *MITI AND THE JAPANESE MIRACLE* 59 (Stanford Univ. Press 1982).

<sup>31</sup> Kei Ikeda, *Todai sei dakega shitteiru ... [Only U Tokyo Students Know ...]*, PRESIDENT ONLINE (Oct. 13, 2020), <https://president.jp/articles/-/39387?page=1> [<https://perma.cc/V9PJ-TCEC>] (suggesting widespread perception that U Tokyo students find jobs at top firms); see also *Why do so many people want to go to Harvard? What can Harvard offer that other universities cannot?*, QUORA, <https://www.quora.com/Why-do-so-many-people-want-to-go-to-Harvard-What-can-Harvard-offer-that-other-universities-cannot> [<https://perma.cc/R8MZ-6S5K>].

tier math department. Courses like Analysis and Algebra are the excruciatingly difficult courses that only serious math students even realize are hard. Yet the very best students everywhere volunteer for these courses. They take them because they want the satisfaction that comes from tackling the hardest challenges.

### C. AT AGE 15 (AND 12)

At roughly the same time that it created its national universities, the Japanese government began their preparatory programs. Under these programs as originally implemented, the most talented students would study six years at elementary school (mandatory), five in a “middle school,” three in a “higher school,” and three in a university.<sup>32</sup> The Japanese government created the Tokyo Imperial University in 1877. In time it would create a network of eight other “imperial universities.”<sup>33</sup> The government created the second of these universities as the Kyoto Imperial University in 1897, and the last as Nagoya Imperial University in 1939.

After the war, the government merged what had been the principal feeder school to the University of Tokyo, the First Higher School, into the university itself. Undergraduates now spent two years on the campus of the former First Higher School taking the University’s general education requirements. They then proceeded to their relevant departments on what had been the pre-war campus of the Tokyo Imperial University.<sup>34</sup>

Modern Japanese high schools inherited the position that the so-called “middle schools” had held before the war. Pre-war, the “middle schools” had provided five years of education. Under the post war reorganization, the government followed the six-year elementary school education with a (compulsory) three years in an institution called a “middle school,” and three more years in what it called a “high school.” The last two years of the pre-war five-year middle schools, in other words, became the first two years of the post-war three-year high schools.

As of 2020, Japan had 3,500 public (prefectural or municipal) high schools, fifteen laboratory high schools attached to national universities, and 1,300 private high schools. About one quarter of the public high schools were technical schools. In 1950, 43% of Japanese middle-school students proceeded to high school. By 1965 the fraction had climbed to 71%, and by 1974 to 91%.<sup>35</sup>

At the university level, students select into the most intensive high schools through an exam. During the early post-war years, they sorted themselves among public high schools through competitive exams that functioned much like those used by the New York City exam schools. Alternatively, Japanese students can choose to attend private schools. Some private schools offer a three-year high school curriculum. Others offer a six-year combined middle and high school program. For the former, students take an exam at the end of middle school. For the latter, they take an exam at the end of sixth grade.

<sup>32</sup> E.g., THOMAS P. ROHLEN, JAPAN'S HIGH SCHOOLS Ch. 2 (Univ. Cal. Press 1983).

<sup>33</sup> Kazuo Yawata, *Zenkoku ni 7tsu aru ... [The Seven within the Country ...]*, PRESIDENT ONLINE (Feb. 24, 2024), <https://president.jp/articles/-/78847?page=1> [<https://perma.cc/V9PJ-TCEC>].

<sup>34</sup> See the website of the first higher school, available at <http://museum.c.u-tokyo.ac.jp/ICHIKOH/home.html> [<https://perma.cc/D9FT-W72J>].

<sup>35</sup> Monbu kagaku sho, *Koto gakko kyoiku no genjo ni tsuite [Regarding the Status of High School Education]*, (Mar. 2022), [https://www.next.go.jp/a\\_menu/shotou/kaikaku/20210315-mxt\\_kouhou02-1.pdf](https://www.next.go.jp/a_menu/shotou/kaikaku/20210315-mxt_kouhou02-1.pdf).



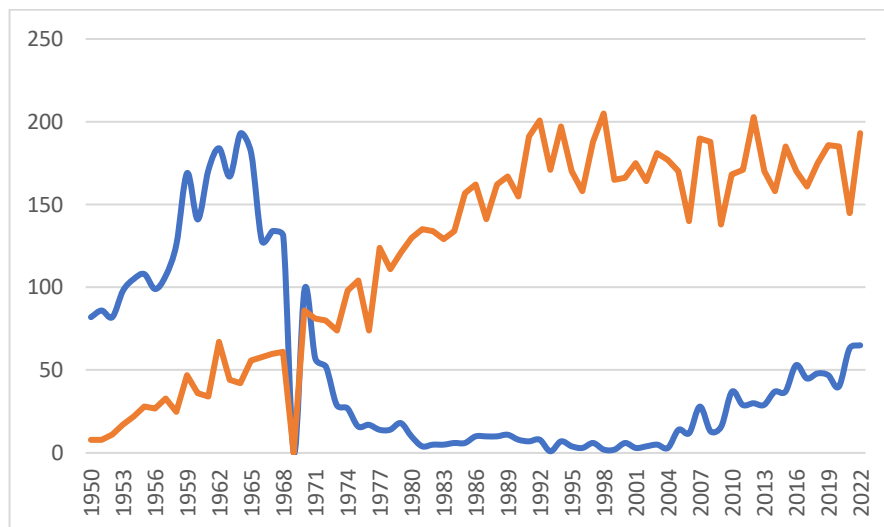
### III. THE FALL OF HIBIYA

#### A. WHAT HIBIYA HAD BEEN

##### 1. The Performance

During the early post-war years, the Hibiya High School in Tokyo functioned as the preeminent high school in the country.<sup>36</sup> The Tokyo prefectural government had created it in 1878 as the “First Middle School.”<sup>37</sup> After the war, it became the Hibiya High School. Until the mid-1960s, it selected its students by competitive examination.<sup>38</sup>

For years, Hibiya High School placed more graduates at the University of Tokyo than any other high school (see Figure 3). In 1950, 82 Hibiya graduates went on to the University of Tokyo, in 1955 108 graduates, in 1960 141 graduates, and in 1964, 193.



<sup>36</sup> Hibiya students did not necessarily pass the University of Tokyo entrance exam on their first try. Especially during the early post-war years, some students passed only after spending an extra year (or more) preparing for the exam. To help them pass, Hibiya teachers provided (gratis, on their own) special seminars for graduates studying for an extra year.

Of the students admitted to the University of Tokyo in 1958, only 542 were still enrolled in high school; 1,533 (73.9%) had graduated a year or two earlier. From this peak, the fraction of University of Tokyo who passed the exam only after at least an extra year (or more) gradually fell. By 1965, the fraction had fallen below half: that year, 56.7% of those admitted had passed while still in high school. This fraction rose to 65% in 1996, and to 69.5% by 2006. See TETSUO KOBAYASHI, *TODAI GOKAKU KOKO SEISUI SHI [THE VICISSITUDES OF THE HIGH SCHOOLS THAT PLACED GRADUATES IN THE UNIVERSITY OF TOKYO]* (Kaitei ban) 36, 52, 136, 158 (Kobunsha 2023) [hereinafter *THE VICISSITUDES OF THE HIGH SCHOOLS*].

For reasons not obvious, these numbers vary modestly from source to source. Within the University of Tokyo, the fraction who pass while still enrolled in high school is highest in the most difficult department—the medical school. See *2022 University of Tokyo entrance examination status*, UNIV. OF TOKYO LABORATORY, <https://juken.y-sapix.com/articles/24215.html> [<https://perma.cc/3HV8-6EPU>].

For another description of the fall of Hibiya, see Takehiko Kariya & James E. Rosenbaum, *Bright Flight: Unintended Consequences of Detracking Policy in Japan*, 107 AM. J. EDUC. 210 (1999).

<sup>37</sup> E.g., *Hibiya koko no rekishi [The History of Hibiya High School]*, TOKYO METROPOLITAN HIBIYA HIGH SCHOOL, <https://hibiya-h.metro.ed.jp/Introduction/History.html> [<https://perma.cc/KWZ8-RPAA>].

<sup>38</sup> E.g., *id.*

**Figure 3:** Hibiya and Kaisei Graduates Admitted to the University of Tokyo, AKIRA TAKEUCHI, HIBIYA KOKO NO KISEKI [THE LEGACY OF HIBIYA HIGH SCHOOL] 42–43 (SHODEN SHA 2017); Ikutaro Tanaka, *Hibiya koko no Todai gokakusha su “fukkatsu” ... [The Recovery of the Number of Hibiya High School Graduates Entering University of Tokyo ...]*, NIKKAN GENDAI, Nov. 10, 2019; Tetsuo Kobayashi, *Todai gokakusha ha 193 nin - 1 nin ni gekigen ... [University of Tokyo Passers Plummet from 193 to 1 ...]*, PRESIDENT ONLINE (Jan. 31, 2022); *Shingakko deeta meikan [Directory of Data on Feeder Schools]*, SHINDEME, <https://www.shindeme.com/school/pass/13234K/>.\*

Predictably given its selectivity, over the course of its history Hibiya graduated many students who went on to become prominent in their fields. Obviously, they included scholars and scientists. They also included writers, government officials, and senior business executives.<sup>39</sup>

Post-war, the Tokyo prefectural Board of Education had divided the prefecture into several high school districts. Hibiya's district covered the downtown areas (Chiyoda, Minato, Shinagawa, and Ota districts). Under the post-war system, students took the exam for their favored high school in their district. Different schools had different passing scores, and students went to their top choice among the schools whose exam score cut-off they had exceeded.

In fact, given Hibiya's reputation, students outside the school's nominal district attended it as well. They came to Hibiya from across Tokyo and in fact across the country. How they did so seems to have varied over time, but giving a nominal address within the district seems to have worked.<sup>40</sup> Hibiya faculty wanted the best students they could find, and during the early post-war years seem not to have enforced the district rules very strictly.

Within Hibiya's catchment area, parents with the most talented children eventually converged on the Kioi-cho middle school. Within the Kioi catchment, they converged on the Ban-cho elementary school. To proceed through what became the favored route, many parents with talented children either rented (or pretended to rent) an apartment within the Ban-cho district. They then moved their official residency there. By some accounts, in 1965 60% of the 1700 students at Ban-cho commuted to the school from outside the district.<sup>41</sup>

From 1950, Hibiya admitted girls as well as boys. That year, it admitted 400 students per class. In 1963, it increased the class size to 470.<sup>42</sup>

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\* Blue—number of Hibiya graduates admitted to the University of Tokyo; orange—number of Kaisei graduates admitted to the University of Tokyo. University of Tokyo did not hold entrance exams in 1969.

<sup>39</sup> AKIRA TAKEUCHI, HIBIYA KOKO NO KISEKI [THE LEGACY OF HIBIYA HIGH SCHOOL] 38–39 (Tokyo: Shodensha 2017).

<sup>40</sup> KOBAYASHI, THE VICISSITUDES OF THE HIGH SCHOOLS, *supra* note 36, at 6, 139–40.

<sup>41</sup> Tetsuo Kobayashi, *Katsute wa Todai sotsu yorimo kachi ga atta [It Used to Have More Value than Having Graduated from the U Tokyo]*, PRESIDENT ONLINE, Jan. 29, 2022, <https://president.jp/articles/-/61241?page=1>; Tetsuo Kobayashi, *Todai gokakusha wa 193 nin - hitori ni gekigen [U Tokyo Passers Plummet from 193 to 1]*, PRESIDENT ONLINE (Jan. 31, 2022), <https://president.jp/articles/-/54184?page=1> [hereinafter *U Tokyo Passers Plummet from 193 to 1*].

<sup>42</sup> *Hibiya koko no rekishi [The History of Hibiya High School]*, in TOKYOTORITSU HIBIYA KOTO GAKKO, <https://www.hibiya-h.metro.tokyo.jp/Introduction/History.html>.

## 2. Exam Preparation

Hibiya teachers made it a point of pride not to structure their classes around university entrance examinations. Some private schools did—most notably Nada (located in Kobe city)—which finished the high school curriculum by grade eleven and devoted the entire grade twelve to entrance exam preparation.<sup>43</sup> In 1966, Hibiya provided students with no exam preparation except three practice exams during the second semester of their last years.<sup>44</sup>

One teacher explained: “high school is where we teach the foundations. What house to build on them is up to the student.”<sup>45</sup> Hibiya teachers focused on the foundations. In fact, said the teacher in charge of university counseling in 1963, Hibiya was trying hard to reduce the number of tests. “To have regular tests tends to get in the way of self-directed learning,” he explained, and Hibiya was trying to train students to educate themselves.<sup>46</sup>

### B. THE PSYCHOLOGY

Its alumni do not describe Hibiya as having been a grind populated by hyper-competitive professionally ambitious students. Even less do they describe it as a school for the children of Amy Chua’s famously brand-obsessed “tiger moms.”<sup>47</sup> Take published alumni recollections with a grain of salt, of course. But Hibiya alumni describe the school as having been a haven for (those who 21st century children in the U.S. call) “geeks” and “nerds.” Hibiya attracted, in other words, the relatively more intellectually inclined, thoughtful adolescents. Necessarily, it was a sanctuary for boys and girls who would not have weathered an ordinary high school well.

Hibiya teachers taught at a high level.<sup>48</sup> By almost all accounts, they taught at a rigorous level significantly beyond that of the official textbooks. Students studied five to six hours a day outside of class,<sup>49</sup> but they tended to enjoy the classes, and to enjoy them precisely because they were hard.<sup>50</sup>

Naokatsu Sudo, class of 1923 at Hibiya (then still called the Tokyo First Middle School), describes the students as having had non-aristocratic, decidedly middle-class roots.<sup>51</sup> In 1994, he traced his class: they had gone on to jobs, and done extremely well. Of the 158 graduates in his class, he located ninety-six. Of this group, forty-eight—half—had gone into business. Twenty of the forty-eight had become directors or senior officers of exchange-listed companies. Of the remainder of the class, twenty-four—a quarter of the ninety-six classmates—became university professors. Eight became physicians, seven went into the government bureaucracy, four became writers, three went into law, and three became architects.<sup>52</sup>

<sup>43</sup> THOMAS P. ROHLEN, *JAPAN’S HIGH SCHOOLS* 20 (Univ. Cal. Press 1983).

<sup>44</sup> *Seito wa subete shinshi atsukai* [*Students Treated as Gentlemen*], ASAHI SHIMBUN, Mar. 24, 1966.

<sup>45</sup> *Id.*

<sup>46</sup> Tetsuo Kobayashi, *Katsute wa Todai sotsu yorimo kachi ga atta* [*It Used to Have More Value than Having Graduated from the U Tokyo*], PRESIDENT ONLINE, Jan. 29, 2022.

<sup>47</sup> AMY CHUA, *BATTLE HYMN OF THE TIGER MOTHER* (2011).

<sup>48</sup> Juntaro Kawakami, *Higoho datta yakubuu* [*The Illegal Baseball Team*], ASAHI SHIMBUN, July 1, 1963.

<sup>49</sup> *Students Treated as Gentlemen*, *supra* note 44.

<sup>50</sup> Kawakami, *supra* note 48.

<sup>51</sup> NAOKATSU SUDO, *TOKYO FURITSU DAIICHI CHUGAKKO* [TOKYO PREFECTURAL FIRST MIDDLE SCHOOL] 140 (Kindai bungei sha 1994); *See HIBIYA KOKO HYAKUNENSHI* [A 100-YEAR HISTORY OF HIBIYA HIGH SCHOOL] 161 (Hibiya koko hakunenshi kanko iinkai ed., 1979).

<sup>52</sup> SUDO, *supra* note 51, at 260–62.

Not all pre-war First Middle School students had middle-class roots. One alumnus recalled studying at night by sneaking outside to read under a street lamp.<sup>53</sup> He had come from a rural farm village, he explained, and his father had forbidden him from going to middle school. When he begged, his father had relented and told him he could attend middle-school if he could pass the exam to the preeminent First Middle. Most of the students who passed that exam had come from elementary schools in comfortable urban areas, he noted. His local teacher discouraged him from even trying. But he took the exam, and passed. He remembered how he had enjoyed reading physics, math, and classics books in the library. And he remembered how shocked he had been when he stayed overnight with a friend from school and woke up to a breakfast that included an egg and dried fish.<sup>54</sup>

Shoji Fukuda was Hibiya class of 1956.<sup>55</sup> In 1969, he wrote a novel (*Akazukinchan ki wo tsukete* [*Be Careful Little Red Riding Hood*]) about a Hibiya student, a novel often described as “*Catcher in the Rye* set in 1969 Tokyo.”<sup>56</sup> In a collection of alumni essays, Fukuda describes what it had been like to study at Hibiya. He himself identified with the self-consciously Bohemian students who regularly tried to intimidate their more strait-laced and hardworking classmates. He had edited the student literary magazine, he said. The magazine, as he put it, specialized in stories and poems so obscure that no one could understand them. To the student editors and authors—of course—the fact that no one could understand them simply reinforced their sense of their own brilliance.<sup>57</sup>

Fukuda had also served on a committee to choose a new school song. The school had given the committee a budget, he recalled, so they met often—and met at coffee shops. The members of the committee had composed pieces with (they said) more notes than Richard Strauss, and symphonies (always in progress) that would (they were sure) be longer than Mahler's. Dissatisfied with Schoenberg's 12-tone atonality, one committee member had created a 60-tone composition. Another had written a sonata he called *Opus 21-13*.<sup>58</sup>

Fukuda himself had been part of an especially militant Schoenberg faction. They debated relentlessly, Fukuda said. But they never did decide anything about a new school song.

### C. THE COLLAPSE

#### 1. The Pressure to Restructure

The 1960s were a time of change in the U.S. and Western Europe, and they were a time of change in Japan. In this world, some political leaders pushed for measures that would—they argued—eliminate hierarchical institutions and restructure society upon more egalitarian, “democratic” foundations.<sup>59</sup> For some activists, this democratization entailed the elimination of educational hierarchies. For over half a century, the prefectural First Middle Schools had served as the gateway to elite social

<sup>53</sup> Shigeru Fukuzawa, *Ichju jidai no omoide* [*Memories of First Middle School*], in HIBIYA (1979).

<sup>54</sup> *Id.* at 301–02.

<sup>55</sup> Shoji Fukuda (aka Kaoru Shoji), “*Tensai*” *ga ippai datta koro* [*When There Were Many “Geniuses”*], in HIBIYA (1979).

<sup>56</sup> KAORU SHOJI, *AKAZUKINCHAN KI WO TSUKET* [*BE CAREFUL LITTLE RED RIDING HOOD*] (Shinchosha, reprint 2012).

<sup>57</sup> Fukuda, *supra* note 55.

<sup>58</sup> *Id.*

<sup>59</sup> *E.g.*, MICHAEL J. HEALE, *THE SIXTIES IN AMERICA* (Edinburgh Univ. Press 2001).

circles. Necessarily, for some, democratization entailed eliminating their elite status.

## 2. *The Hibiya "Reform"*

### a. Introduction

Ryotaro Azuma had served as Tokyo prefectural governor from 1959 to 1967.<sup>60</sup> He brought little experience to the job. By some accounts, he focused on the 1964 Olympics and left governing to his lieutenant governor. In 1967, Ryokichi Minobe would succeed Azuma.<sup>61</sup> Son of a well-known liberal professor, Minobe himself taught Marxist economics for several years before losing his job in an anti-communist purge in 1938. He returned to the academy after the war and taught until 1967, when he successfully ran for office as governor of Tokyo under a combined Communist-Socialist ticket.<sup>62</sup>

It was to a public that would soon elect this Marxist professor that the Tokyo Board of Education offered the changes that would drive the most talented students away from public high schools. Heading the Board was Torao Obi. He was not a particularly effective board chair, and is not known for much else besides destroying Hibiya.<sup>63</sup> Writers describe him as a man without obvious principles who followed popular opinion.<sup>64</sup> In the mid-1960s, that meant eliminating elite education.

For Obi and the Tokyo Board of Education, democratization required two changes. The first (in 1963) entailed enforcing the high-school district lines more strictly than before. The second (in 1967) entailed the Obama administration's random assignment. The Board imposed both at about the same time. The result was a disaster for Hibiya specifically, and for public high schools more generally.

### b. Cross-district registration

In the mid-1960s, the Tokyo Board of Education began to enforce the high-school district lines more strictly. Hibiya was convenient to multiple subway lines and had for years enrolled students from areas outside their districts. In some cases, the school seems to have permitted outsiders to register forthrightly. In some cases, parents had rented apartments they did not use.<sup>65</sup>

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<sup>60</sup> E.g., Azuma Ryotaro [Azuma Ryotaro], in *Kindai Nihon jin no shozo* [Images of Modern Japanese], NAT. DIET LIBRARY, <https://www.ndl.go.jp/portrait/datas/4095/>.

<sup>61</sup> E.g., Minobe Ryokichi [Minobe Ryokichi], obituary available at TAMA REIEN, [http://www6.plala.or.jp/guti/cemetery/PERSON/M/minobe\\_r.html](http://www6.plala.or.jp/guti/cemetery/PERSON/M/minobe_r.html).

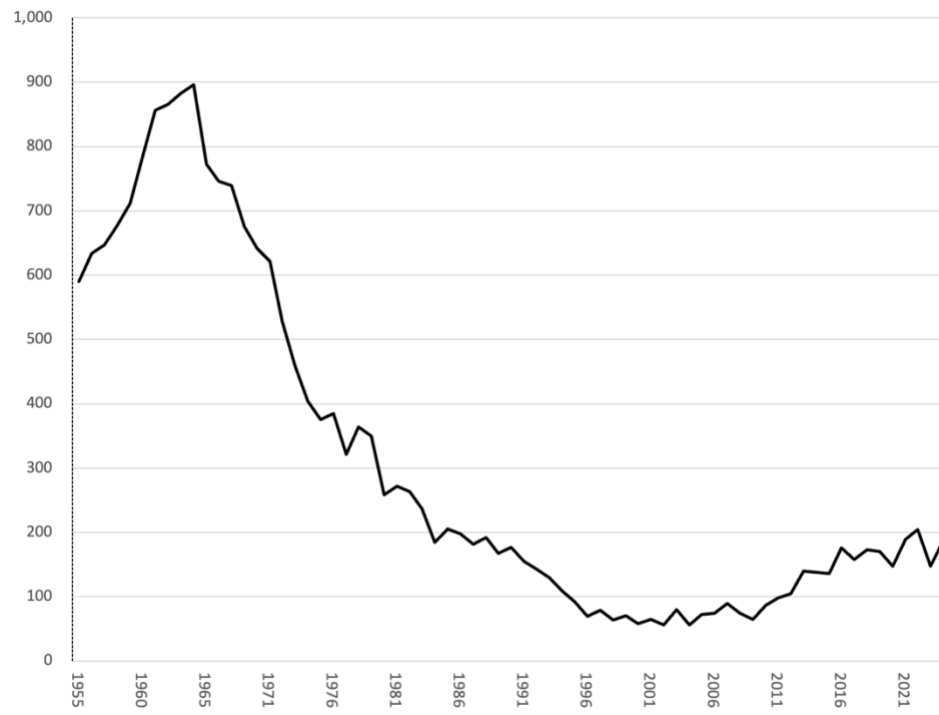
<sup>62</sup> E.g., *id.*

<sup>63</sup> For background, see generally Tomohiro Makino, "Toritsu shingakko" ga kono 30 nen de gekihen shita wake [Why "Public Prep Schools" Have so Radically Changed Over the Past 30 Years], PRESIDENT ONLINE (Jan. 26, 2019), <https://president.jp/articles/-/27311>; NAOOMI NAGASAWA & RYUSUKE SUZUKI, MEIMON FUKKATSU: HIBIYA KOKO [THE REBIRTH OF THE FAMED SCHOOL: HIBIYA HIGH SCHOOL] Prologue (Gakken shinsho 2009).

<sup>64</sup> NAOOMI NAGASAWA, HIBIYA FUKKEN NO SHINJITSU [THE TRUTH OF THE HIBIYA REBIRTH] 26, 32 (Gakuji shuppan 2010); NAGASAWA & SUZUKI, *supra* note 63, at Prologue.

<sup>65</sup> E.g., Tetsuo Kobayashi, *Jimoto dewa Todai sotsu yori meiho datta ...* [In the Provinces They Were More Prestigious than Graduation from the University of Tokyo ...], NEWSWEEK (Feb. 5, 2022), [https://www.newsweekjapan.jp/stories/lifestyle/2022/02/47-6\\_4.php](https://www.newsweekjapan.jp/stories/lifestyle/2022/02/47-6_4.php) [hereinafter *In the Provinces*]

As part of its efforts to democratize, Tokyo schools now began to enforce the district lines.<sup>66</sup> As they did, the most promising students left. In Figure 4, we give the number of students from (any) Tokyo-area public high schools admitted to the University of Tokyo. Note that the number begins to fall in 1964. The traditionally second-ranked Nishi High School was not conveniently located for train or subway commutes. As a result, the ban on cross-district registration had little effect. For Hibiya, however, the effect was major. The first class affected by the cross-district restrictions graduated in 1966, and the drop in University of Tokyo admits followed. If the board did not permit students to cross district lines to attend the school they preferred, the affected students simply enrolled in private schools.



**Figure 4:** Tokyo Public School Students Admitted to the University of Tokyo, based on TETSUO KOBAYASHI, *TODAI GOKAKU KOKO SEISUI SHI* [THE VICISSITUDES OF THE HIGH SCHOOLS THAT PLACED GRADUATES IN

<sup>66</sup> See generally, e.g., *To no "ekkyo nyugaku" boshi saku kimaru* [Prefecture's "Cross Border Entrance" Prevention Plan Decided], ASAHI SHIMBUN, Dec. 17, 1955; *Bancho sho wa hansu ijo* [Over Half at Bancho Elementary], ASAHI SHIMBUN, Feb. 16, 1958; "Ekkyo nyugaku" de kyokuchō tsutatsu [Bureau Chief Circular on "Cross Border Entrance"], ASAHI SHIMBUN, Mar. 13, 1958; *Hyaku sanju yo nin ni tenko kankoku* [134 Students Ordered to Transfer Schools], ASAHI SHIMBUN, Aug. 9, 1958; *Kyomyoka su "ekkyo nyugaku"* [Increasingly Clever "Cross Border Entrance"], ASAHI SHIMBUN, Nov. 18, 1958; *Yumei ko niha 2-4 wari* [20-40 Percent at the Well-known Schools], ASAHI SHIMBUN, Jan. 13, 1959; *Ekkyo nyugaku* [Cross Border Entrance], ASAHI SHIMBUN, Oct. 15, 1959; *Ekkyo nyugaku okotowari* [Cross Border Entrance Declined], ASAHI SHIMBUN, Aug. 5, 1960; "Ekkyo nyugaku" wo do kangaeru ka [How to Think About "Cross Border Entrance"], ASAHI SHIMBUN, Feb. 24, 1961; *Kyu icchu monogatari* [Tales of the Former First Middle], ASAHI SHIMBUN, Nov. 7, 1961; "Ekkyo nyugaku" matta! [Hold It, "Cross Border Entrance"!], ASAHI SHIMBUN, Oct. 25, 1962; *Jogai tokurei wo sebameru* [Special Exceptions Narrowed], YOMIURI SHIMBUN, Oct. 22, 1962; *Shinsei kyoka wazuka 25 ken* [Only 25 Petitions for Permission Granted], YOMIURI SHIMBUN, Jan. 29, 1963.

THE UNIVERSITY OF TOKYO] (Kaitei ban) (Kobunsha 2023) and reports in the Tokyo daigaku shimbun and the Sandee mainichi.\*

### c. The “gun” structure

The second change came in 1967. Under this new system, Tokyo students applied to a set (called a “gun”) of two or three grouped high schools. If they passed the threshold for the set, the board assigned them to one of the high schools at random. The Tokyo Board of Education grouped Hibiya with two much less selective high schools—Kudan and Mita.<sup>67</sup>

Eventual Nobel Prize winner Oe Kenzaburo apparently spoke for many intellectuals when he praised these 1967 reforms: “For as long as possible, children should go to university after spending time with and learning together with many different kinds of people. That’s a more effective way of raising a person who is not like everyone else. So I’m in favor of the gun system.”<sup>68</sup>

Under Obi’s “gun” structure, a student who wanted to attend Hibiya applied to the set that included Hibiya, Kudan, and Mita.<sup>69</sup> If he passed, the school board decided which of the three he would attend.

Recall the Obama administration recommendation discussed earlier: specify a set of “minimum academic qualifications and talent” and then choose students to admit by “lottery.”<sup>70</sup> This is effectively what the Tokyo government did in 1967.

The student exodus that begun with the ban on cross-border enrollments now accelerated. One Hibiya alumnus recalled: “A lot of students in my class had wanted to go to Hibiya. They passed the exam, but then got shunted to Kudan or Mita. They didn’t want that, so they left for a private high school.”<sup>71</sup> More precisely, in 1967 120 students admitted to the gun that included Hibiya turned down their admission offer.<sup>72</sup> Prior to Obi’s reform, schools like the private Kaisei and the university-lab school Tsuku-Koma had served as “safeties” for students intent on Hibiya. Now, Hibiya would become (at best) the “safety” for students aiming for those schools.

In 1964, 193 of the roughly 470 Hibiya graduates passed the University of Tokyo entrance exam. By 1973, only twenty-nine could, by 1981 only four, and by 1993 only one.<sup>73</sup> Obi would later, in 1976, explain that he thought that “through the gun system I would increase the number of schools” that could prepare students for university.<sup>74</sup> In fact, he simply pushed the most talented students out of public schools entirely.

### 3. *The Hibiya That Remained*

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\* 1969 omitted because University of Tokyo did not hold entrance exams that year.

<sup>67</sup> Kobayashi, *In the Provinces*, *supra* note 65.

<sup>68</sup> Kobayashi, *U Tokyo Passers Plummet from 193 to 1*, *supra* note 41.

<sup>69</sup> *Id.*

<sup>70</sup> Mike Petrilli, *The Obama Administration’s War on Stuyvesant and Thomas Jefferson*, EDUC. NEXT (Dec. 9, 2011), <https://www.educationnext.org/the-obama-administrations-war-on-stuyvesant-and-thomas-jefferson/>.

<sup>71</sup> Ikutaro Tanaka, *Hibiya koko no Todai gokakusha su* [*The U Tokyo Passers from Hibiya High School*], NIKKAN GENDAI, Nov. 10, 2019.

<sup>72</sup> *Hibiya mo taiin ika* [*Even Hibiya Falls Below Allotted Number*], ASAHI SHIMBUN, Mar. 10, 1967.

<sup>73</sup> Kobayashi, *U Tokyo Passers Plummet from 193 to 1*, *supra* note 41; KOBAYASHI, *THE VICISSITUDES OF THE HIGH SCHOOLS*, *supra* note 36.

<sup>74</sup> Kobayashi, *U Tokyo Passers Plummet from 193 to 1*, *supra* note 41.

As the talented students left, the atmosphere within Hibiya changed. Hibiya had been a school for the extraordinarily bright students who wanted a demanding education. Adolescents to be sure, they were students who (usually) enjoyed learning and (often) wanted to study. As a result, by tradition dating back to the pre-war years, Hibiya had operated within a pedagogically liberal atmosphere. On many dimensions, the faculty had let students govern themselves.<sup>75</sup>

After 1967, all this began to change. Increasingly, Hibiya started enrolling very mundane students.<sup>76</sup> Ordinary high school students do not show the curiosity and drive that many extraordinarily bright students bring. Being good at solving hard problems, many bright students enjoy the challenge. More ordinary high school students are not (by definition) good at solving these problems, and (consequently) do not enjoy trying. Most do not want to study. Even the number of books borrowed from the school library fell.<sup>77</sup>

Faced with a large cohort of ordinary high school students, Hibiya teachers found that they could no longer trust student self-governance. To the teachers, nothing was the same. Commenting in 1977, one teacher tried to forget what it had been like: “There’s no point in counting how old your dead child would be.”<sup>78</sup> “When I started teaching” in 1950, said another, “it was a place for geniuses. Lots of students were stronger [i.e., brighter] than the teachers. Now? It’s no use saying anything.”<sup>79</sup>

The bright students who remained resented the change. The teachers resented the change. And the ordinary students resented the contempt that the teachers and bright students could barely conceal.<sup>80</sup>

During the 1950s and early 1960s, Hibiya teachers had fought reassignment. After the 1967 reforms, they began to leave.<sup>81</sup> In 1994, one alumnus recalled: “After the gun system went into effect, it seemed like a different school. And the teachers took the chance to move to universities. It’s hard for me to care [anymore]. If someone wants to be there, let him.”<sup>82</sup>

Note the central observation: when Tokyo eliminated the Hibiya-specific entrance exam in 1967, talented students left the public school system in droves. In 1960, of the twenty schools sending the most students to the University of Tokyo, all were public schools except for the two Tsukuba University lab schools and Azabu (forty-eight students), Nada (thirty-eight students), and Kaisei (thirty-six students).<sup>83</sup> By 1970, six of the top twenty schools were private, and four were university affiliated (two of them the Tsukuba schools). The six were Nada (151 students), Kaisei (eighty-six students), La Salle (fifty-nine students), Musashi (fifty-three students), Eiko gakuen (forty-eight students), and Aiko (thirty-four students).<sup>84</sup>

In a given year, the University of Tokyo now admits about 3,000 undergraduates.<sup>85</sup> Of these, in 2022, 892 came from one of ten high schools;

<sup>75</sup> EIJI OGUMA, 1968 (GE) [1968, PART 2] 29–30, 58 (Shin’yo sha 2009).

<sup>76</sup> NAGASAWA, *supra* note 64, at 9.

<sup>77</sup> *Gun no tanima ni “meimon” kieru* [Famous School Disappears in Valley of the Districts], ASAHI SHIMBUN, May 31, 1977.

<sup>78</sup> *Id.*

<sup>79</sup> *Hibiya koko* [Hibiya High School], ASAHI SHIMBUN, Oct. 14, 1978.

<sup>80</sup> OGUMA, *supra* note 75, at 29–30, 58–60.

<sup>81</sup> Kobayashi, *U Tokyo Passers Plummet from 193 to 1*, *supra* note 41.

<sup>82</sup> *Id.*

<sup>83</sup> *Id.* at 41.

<sup>84</sup> KOBAYASHI, THE VICISSITUDES OF THE HIGH SCHOOLS, *supra* note 36 at 73.

<sup>85</sup> Nyūgaku-sha-sū shigan shasū, THE UNIV. OF TOKYO (May 1, 2023), [https://www.u-tokyo.ac.jp/ja/about/overview/e08\\_01.html](https://www.u-tokyo.ac.jp/ja/about/overview/e08_01.html), translation at: [https://www.u-tokyo.ac.jp/en/about/applications\\_admissions.html](https://www.u-tokyo.ac.jp/en/about/applications_admissions.html).



1,317 came from one of twenty high schools.<sup>86</sup> By 2022, the revitalized Hibiya High School (discussed below) ranked eighth among the schools sending graduates to the University of Tokyo—sixty-five students. The Yokohama Suiran High School (former Yokohama Second Middle School) came in thirteenth with fifty-two students, and Asahigaoka High School in Nagoya—founded in 1871 and with roots in the First Middle School for Aichi prefecture during the pre-war period—came in 19th with thirty-one students.<sup>87</sup> Other than those three schools, none of the 2022 top twenty schools were local public high schools. Other than the two Tsukuba affiliated high schools, all fifteen were private.<sup>88</sup>

#### D. *THE PRIVATE SCHOOLS*

##### 1. *The Transition*

Like Stuyvesant in New York, the pre-1967 Hibiya had been a school that wealthy students largely skipped. Instead, rich students had gone to private high schools like Azabu and Musashi. Hibiya students had been decidedly middle-class.

It took several years for the best Tokyo-area middle-class students to converge on a set of favored private schools. Necessarily, talented students who want a rigorous education will look for schools with other similarly motivated students. After 1967, the talented students and their parents played something of a coordination game. Within the greater Tokyo area, some talented boys looked to the more aristocratic Azabu and Musashi.<sup>89</sup> Girls looked to Oin, Joshi gakuin, and Futaba.<sup>90</sup>

Consider again the simple metric: how many graduates pass the University of Tokyo exam. From 1961 to 1967, Kaisei, Azabu, and the Tsukuba University Laboratory School in Otsuka placed among the top fifteen high schools every year.<sup>91</sup> The Tsukuba University Laboratory School in Komaba (Tsuku-Koma) placed in that group six times, and Musashi three.

Nada is a school in suburban Kobe. Given its location in western Japan, many of its students focus on the University of Kyoto. Many also focus on medical schools. Nonetheless, Nada dominated the University of Tokyo admissions race for most of the 1970s, taking the lead for eight of the years from 1970 to 1981.

##### 2. *Kaisei and Tsuku-Koma*

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<sup>86</sup> Kobayashi, *U Tokyo Passers Plummet from 193 to 1*, *supra* note 41, at 201.

<sup>87</sup> *Id.*

<sup>88</sup> *Id.*

<sup>89</sup> See, e.g., KOHEI YANO, DANSHI GOSANKE [THE TOP THREE BOYS' HOUSES], (Bungei shunju 2019).

<sup>90</sup> See, e.g., KOHEI YANO, JOSHI GOSANKE [THE TOP THREE GIRLS' HOUSES], (Bungei shunju 2020).

<sup>91</sup> Kobayashi, *U Tokyo Passers Plummet from 193 to 1*, *supra* note 41.

Eventually, exceptionally talented middle-class Tokyo boys converged on two schools: Kaisei and Tsuku-Koma.<sup>92</sup> Both schools (boys only) offer a consolidated six-year junior and senior-high-school experience. Both schools also accept junior-high grads for three-year high-school only education. And both schools focus on exceptionally bright students. Indeed, in 1982 Kaisei took first place among high schools for placing the most graduates at the University of Tokyo, and has held that first place ever since.<sup>93</sup> In 1998, 205 of its graduates passed the exam—a record that still stands.<sup>94</sup>

Located in a working class neighborhood north of central Tokyo, Kaisei dates from 1871.<sup>95</sup> Before the 1967 rule changes, it was good but not great. It regularly placed a respectable number of graduates with the University of Tokyo. It did not dominate the market in the way it has since.<sup>96</sup>

Kaisei teachers claim not to teach to any test, and alumni often confirm their claim. The instructors instead teach broadly and deeply, recalled one graduate. Sometimes they teach at a graduate school level.<sup>97</sup> What matters, one teacher told a journalist, was to teach students to learn to fail, to teach them to teach themselves, and to teach them to look for an answer different from everyone else's.<sup>98</sup>

Tsuku-Koma is a different beast. Tsukuba University is a national university. It had been the Tokyo University of Education and was located in central Tokyo (Bunkyo ward). In 1973, it relocated to suburban Tsukuba and changed its name.<sup>99</sup>

In fact, Tsuku-Koma more successfully places its graduates at the University of Tokyo than even Kaisei.<sup>100</sup> Kaisei consistently places more graduates there, but Kaisei is more than twice as big. With 400 students a year, Kaisei dwarfs Tsuku-Koma's 160.<sup>101</sup> Kaisei sends more total students to the University of Tokyo, but Tsuku-Koma places a higher fraction. For many students that makes Kaisei a "safety."<sup>102</sup>

Both Kaisei and Tsuku-Koma have spartan physical plants with a surfeit of reinforced concrete, and charge very little. They do not resemble Harvard; they resemble Stuyvesant. Upon entry, new Kaisei students pay an entry fee of 320,000 yen (\$2,207, at the 145 yen/dollar exchange rate at the end of the summer 2023) and a facilities fee of 120,000 yen (\$828). Annually, they pay tuition and fees of 676,200 yen (\$4,663).<sup>103</sup> As befits a laboratory school attached to a national university, Tsukuba-Komaba charges even less. New

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<sup>92</sup> *Kako 52 nen no Todai gokakusha rankingu besuto 10* [Best 10 Ranking of University of Tokyo Exam Passers Over Past 52 Years], CHUGAKU KOKO SAGASHI NABI, available at [https://www.univpress.co.jp/wp-content/uploads/2021/todai\\_ranking.pdf](https://www.univpress.co.jp/wp-content/uploads/2021/todai_ranking.pdf) [hereinafter *Best 10 Ranking of University of Tokyo Exam Passers Over Past 52 Years*].

<sup>93</sup> *Id.*

<sup>94</sup> *Id.*

<sup>95</sup> See Kaisei school website, available at [https://kaiseigakuen.jp/about/history/150th\\_celebration/](https://kaiseigakuen.jp/about/history/150th_celebration/).

<sup>96</sup> *Best 10 Ranking of University of Tokyo Exam Passers Over Past 52 Years*, *supra* note 92.

<sup>97</sup> YANO, THE TOP THREE BOYS' HOUSES, *supra* note 89, at 104–06, 148.

<sup>98</sup> TOSHIMASA OTA, KAISEI, NADA, AZABU, TODAIJI, MUSASHI WA KOROBASETE NOBASU [KAIEI, AZABU, TODAIJI, AZABU AND TODAIJI KNOCK THEM OVER AND MAKE THEM GROW 52–54, 70–72 (Shodensha 2018).

<sup>99</sup> See, e.g., websites for the university: <https://www.tsukuba.ac.jp/about/outline-history/>; and for Tsuku-koma: <https://www.komaba-s.tsukuba.ac.jp/about/principal/>.

<sup>100</sup> *Best 10 Ranking of University of Tokyo Exam Passers Over Past 52 Years*, *supra* note 92.

<sup>101</sup> See Kaisei school website, available at [https://kaiseigakuen.jp/about/history/150th\\_celebration/](https://kaiseigakuen.jp/about/history/150th_celebration/); Tsuku-koma school website, available at <https://www.komaba-s.tsukuba.ac.jp/about/principal/>.

<sup>102</sup> YANO, THE TOP THREE BOYS' HOUSES, *supra* note 89, at 139–40; Kobayashi, *U Tokyo Passers Plummet from 193 to 1*, *supra* note 41, at 7, 80.

<sup>103</sup> *Gakuhi*, KAISEI JUNIOR & SENIOR HIGH SCH. (2022), <https://kaiseigakuen.jp/about/expenses/>.

high school students pay an entry fee of 56,400 yen (\$389) and annual tuition and fees of 115,200 yen (\$794); the middle school is free.<sup>104</sup>

These prices are not out of line for private Tokyo high schools. Bear in mind that Phillips Exeter charges \$65,000 per year (2023-24).<sup>105</sup> Tsukuba-Komaba's fees are lower than average for Tokyo, and Kaisei is higher than average. In 2017, the Tokyo city government surveyed private high school fees. It found that the private high schools charged a mean entry fee of 250,026 yen (\$1,724, at 145 yen/dollar), a facilities fee of 47,822 yen (\$330), and mean annual tuition of 448,862 yen (\$3,096).<sup>106</sup> The most expensive school was the relatively low-performing Tamagawa gakuen high school, with an entry fee of 1.886 million yen (\$13,007), and annual tuition of 1.332 million yen (\$9,186).<sup>107</sup>

Like Hibiya in the 1960s, the top modern private high schools pride themselves on enrolling eccentric geniuses. "There were lots of obsessives,"<sup>108</sup> recalled one Kaisei alumnus. "There were lots of people who stuck out in some field like sports or music. There weren't any people who were obsessive about studying. You took it for granted that everyone was good at school work."<sup>109</sup> "What I thought when I first showed up at the school," said another Kaisei alumnus, "was boy, there're a lot of weirdos at this school."<sup>110</sup>

### 3. *The Others*

The other elite high schools at least describe themselves similarly. "It didn't seem like a university prep school at all," said one Musashi alumnus.<sup>111</sup> "It was more like a zoo. Everyone was in-your-face about his eccentricities."<sup>112</sup>

Like those at the old Hibiya, the teachers at these elite schools ignore university exams. Musashi has fallen in the rankings and no longer competes in the Kaisei league,<sup>113</sup> but another alumnus of Musashi recalled that "the teachers completely ignored college entrance exams."<sup>114</sup> When one student requested permission to use a classroom for an entrance exam study group, the teacher said no: "You don't study for entrance exams at school. This is a place for scholarship. If you want to study for entrance exams, do it on your own."<sup>115</sup> Another Musashi alumnus recalled: "I still remember what a teacher told me when I started school here. It was, 'don't believe what a teacher tells you.' That wasn't all. Don't believe what you see on television or in the newspapers either. Gather your own information, and figure it out

<sup>104</sup> *Junior & Senior High School at Komaba, University of Tsukuba*, <https://www.komaba-s.tsukuba.ac.jp>.

<sup>105</sup> *Tuition & Payment Options*, PHILLIPS EXETER ACAD. (2023),

<https://www.exeter.edu/admissions-and-financial-aid/tuition-financial-aid/payment-options>.

<sup>106</sup> *Regarding the Status of tuition fees for private high schools in Tokyo (full-time) in 2020*, TOKYO METRO. GOV'T, <https://www.metro.tokyo.lg.jp/tosei/hodohappyo/press/2023/12/22/16.html>.

<sup>107</sup> *Kaigai daigaku gōkaku jisseki ga takaku, IB kyōiku ga tsuyoi Tamagawagakuen chūgaku te don'na gakkō?*, TCK EDUC. COMMC'N (2021), <https://www.tckwshop.com/tckblog/schoolinfo-tamagawa-jhs/#:~:text=玉川学園は玉川大学,顯著に見られます%E3%80%82>.

<sup>108</sup> YANO, *THE TOP THREE BOYS' HOUSES*, *supra* note 89, at 106-09.

<sup>109</sup> *Id.* at 106.

<sup>110</sup> *Id.* at 107.

<sup>111</sup> *Id.* at 182.

<sup>112</sup> *Id.* at 182.

<sup>113</sup> *Best 10 Ranking of University of Tokyo Exam Passers Over Past 52 Years*, *supra* note 92.

<sup>114</sup> YANO, *THE TOP THREE BOYS' HOUSES*, *supra* note 89, at 168.

<sup>115</sup> *Id.* at 168.

yourself.”<sup>116</sup> Relentlessly, the teachers at these schools claim to encourage their students to learn to think for themselves, to teach themselves, and to question what they hear.<sup>117</sup>

That the high schools themselves do not focus on university entrance exams does not mean the students ignore them; it means that exam preparation is not what the schools are about. They are about teaching students to think. Exam preparation is something students do on their own. By one estimate, Azabu students begin attending private after-school review sessions by the time they enter high school. By the second or third year, ninety percent of the students attend these review sessions.<sup>118</sup>

#### IV. THE PARTIAL REBIRTH

It took several years, but Tokyo eventually recognized the disaster it had caused. In 1982, it formally abolished the 1967 gun system, and by 1994 had returned to the earlier regime: students chose the school to which to apply.<sup>119</sup> Since 2003 they have been able to apply to Hibiya from all across Tokyo.<sup>120</sup>

In 2001, the Tokyo Board of Education assigned Naoomi Nagasawa to Hibiya with a mission to return it to its earlier glory.<sup>121</sup> Nagasawa did not operate by consensus, or by quiet and slow politics. He understood that consensus is not a way to instigate radical change, and he wanted radical change.<sup>122</sup> He did not try to make friends among his reluctant faculty. He ordered them about, and if they left—so much the better.<sup>123</sup>

Nagasawa claimed not to want hard-studying conformist students.<sup>124</sup> He wanted individualists, smart students who wanted to think. Toward that end, he did not admit on the basis of recommendations, extra-curricular activities, essays, or any of the other American measures. Instead, he simply admitted by what was (at least in aspiration) an I.Q. exam.

Under Nagasawa, in 2001 Hibiya introduced its own entrance exams.<sup>125</sup> It continued to use the standard municipal exams for science and social studies, but wrote its own for math, Japanese, and English.<sup>126</sup> The standard exams were good tests, noted Nagasawa, and many people (including many Hibiya teachers) opposed the change.<sup>127</sup>

But Nagasawa insisted. For one thing, the task of writing the exam forced Hibiya teachers to study the extant middle school texts to determine what the students had been learning before they arrived. For another, it then required them to work together as a team. They had to discuss with each other the kind of students they wanted, and how they might measure those attributes.<sup>128</sup>

In other words, the test let Hibiya select for the qualities it wanted in its students. For Nagasawa, that meant students who were smart, creative, and expressive. He did not want students who had simply learned a large amount

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<sup>116</sup> *Id.*

<sup>117</sup> *Id.* at 17–19, 77–78.

<sup>118</sup> *Id.* at 85.

<sup>119</sup> NAGASAWA & SUZUKI, *supra* note 63, at 137.

<sup>120</sup> Kobayashi, *U Tokyo Passers Plummet from 193 to 1*, *supra* note 41; Nagasawa, *supra* note 64, at 20, 23.

<sup>121</sup> NAGASAWA, *supra* note 64, at 9.

<sup>122</sup> *Id.* at chs. 1, 3.

<sup>123</sup> *Id.*

<sup>124</sup> *Id.* at ch. 2.

<sup>125</sup> NAGASAWA & SUZUKI, *supra* note 63, at ch. 4; NAGASAWA, *supra* note 64, at 31.

<sup>126</sup> NAGASAWA, *supra* note 64, at 31.

<sup>127</sup> *Id.* at 31–32.

<sup>128</sup> NAGASAWA, *supra* note 64, at 34–35.

of material. Toward that end, Hibiya teachers wrote questions where the process mattered more than the final answer. Rather than multiple-choice math questions, for example, they required students to show their work.<sup>129</sup>

What is more, the test let Hibiya invest in questions at the ability line it wanted to impose. Like any school, Hibiya wanted to know whether an applicant was above the minimum admission level, or below it. It did not care how far above the line a student was, provided he was above it. If an applicant was below the minimum line, it did not care how far below he was. By writing its own exam, Hibiya could use an exam that placed all its questions at that minimum ability line.<sup>130</sup>

And Hibiya seems to have succeeded. In 2022, sixty-five of its graduates passed the University of Tokyo entrance exam.<sup>131</sup> But this focus on the University of Tokyo obscures the broader way it has helped prepare students for selective universities. In 2010, thirty-seven Hibiya graduates were admitted to the University of Tokyo. Seventy-five graduates were admitted to one of the four most selective national universities (or a public medical school): the University of Tokyo, Kyoto University, Hitotsubashi University, and the Tokyo Institute of Technology. 158 graduates were admitted to a public university. And 363 graduates were admitted to one of the top three private universities: Keio University, Waseda University, and Jochi (Sophia) University.<sup>132</sup>

## V. THE SCIENCE AT STAKE

### A. INTRODUCTION

Stuyvesant offers no lavish lunches, facilities, or buildings. Neither did Hibiya. Neither does Kaisei. Yet talented New York students have fought hard for the right to study at Stuyvesant, just as Tokyo students fought hard for the right to attend Hibiya in the 1950s and early 1960s. In 1967, the Tokyo Board of Education replaced Hibiya's blind entrance exam with a variant on the randomized process often suggested for Stuyvesant—and talented students disappeared. Rather than learn at a school where the teachers went too slow and did not challenge them, they turned to private schools. Eventually, they converged on Kaisei. Half a century later, the most talented Tokyo students remain at Kaisei.

Consider why talented students found the blind exam so important.

### B. THE EMPIRICAL EVIDENCE

#### 1. Egalitarian Origins?

During the first decades after the war, scholars observing Japan often celebrated the equality they saw. Japan had become, they wrote, a place where people faced equal opportunities. Schools admitted students on the basis of blindly graded examinations. Employers hired graduates on the

<sup>129</sup> *Id.* at 32–33.

<sup>130</sup> *Id.* at 33.

<sup>131</sup> *Sokuho: 2023nen Todai Kyodai ... [News Flash: 2023 U Tokyo UKyoto ...]*, available at <https://www.inter-edu.com/univ/2023/schools/431/jisseki/>.

<sup>132</sup> *Id.* at 99–100. Note that the numbers of Hibiya graduates will include graduates from prior years. Note also that because private universities offer department-based exams, many students take several departmental exams and are accepted by several departments. In addition, many departments offer several types of exams on different days. It is not rare that one student passes not just all three universities but several different departments of each school.

basis of the schools they attended. What a student achieved counted. Who bore and raised the student did not.

Sociologist Ronald Dore found this education-based egalitarianism already in place by the last decades of the 19th century.<sup>133</sup> He would turn more cynical later in life,<sup>134</sup> but in 1965 he still wrote: “Education seems to have become the major mechanism of social selection at an earlier stage of industrialization in Japan than in Western countries. Learning was the royal road not only to the professions and to government, but also to business success as well . . .”<sup>135</sup>

Harvard historian (and one-time U.S. ambassador to Japan) Edwin Reischauer was famous for the way he celebrated Japanese achievements. In 1978, he found in Japan a “steadily growing social mobility ever since the Meiji Restoration” of 1868.<sup>136</sup> By the mid-1970s, he declared that “the shift from a hereditary to an educational system for determining hierarchical status is now virtually complete.”<sup>137</sup> He explained: “The Japanese achieve their various functions in society and find their respective status levels, not chiefly through inheritance or class and family considerations, but through formal educational achievements, followed by rigorously equal qualifying examinations for most of the positions of greatest prestige.”<sup>138</sup>

## 2. *The Shift to SES*

By the end of the twentieth century, Western scholars of Japan were describing early post-war Japan in nearly elegiac tones. During those first years after the war, they wrote, Japan had been egalitarian. Northwestern sociologist James Rosenbaum and Oxford sociologist Takehiko Kariya declared that the educational system in the early post-war years had been “ruthlessly severe but also unwaveringly fair.”<sup>139</sup> As Kariya would later explain it:

From its very inception then, the secondary education system in post-war Japan has been characterised by a lack of obstacles to the expansion of access to higher education: if students could score well on the entrance exams and their families could pay there was, in theory, no limit to the number of students who could gain access.<sup>140</sup>

Yet if they described Japan as egalitarian in years past, late-twentieth century scholars thought Japan was so no longer. “[A]mong all OECD countries,” wrote Takehiko Kariya, “Japan [had been] one of the most equal societies in terms of income-distribution in 1970s and 1980s[.]”<sup>141</sup> But by the 1990s, its “unique feat had started to unravel, in particular in its

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<sup>133</sup> RONALD P. DORE, *EDUCATION IN TOKUGAWA JAPAN* (Berkeley Univ. of Cal. Press 1965).

<sup>134</sup> See generally, Takehiko Kariya & Ronald P. Dore, *Japan at the Meritocracy Frontier: From Here, Where?*, 77 POL. Q. 134–56 (2006).

<sup>135</sup> DORE, *supra* note 133, at 293.

<sup>136</sup> EDWIN O. REISCHAUER, *THE JAPANESE 161* (Harvard Univ. Press 1978).

<sup>137</sup> *Id.* at 61.

<sup>138</sup> *Id.* at 161.

<sup>139</sup> Takehiko Kariya & James E. Rosenbaum, *Stratified Incentives and Life Course Behaviors*, in *HANDBOOK OF THE LIFE COURSE* 51, 56 (Jeylan T. Mortimer & Michael J. Shanahan eds., 2003).

<sup>140</sup> Takehiko Kariya, *Japanese Solutions to the Equity and Efficiency Dilemma? Secondary Schools, Inequity and the Arrival of ‘Universal’ Higher Education*, 37 OXFORD REV. EDUC. 241, 247 (2011).

<sup>141</sup> Takehiko Kariya, *Education and Social Disparities in Japan*, in OXFORD RSCH. ENCYC. EDUC. (2018).

egalitarian dimensions.” Harvard sociologist Mary Brinton concurred: “Despite the widespread perception both inside and outside Japan that it is a ‘credential society’ where education is the key to socioeconomic success . . . Japan is actually quite *unexceptional*: opportunities for intergenerational mobility via educational attainment in Japan are no more open than in other societies.”<sup>142</sup>

This putative shift should leave readers puzzled. The institutional structure of Japanese education and recruitment had not changed. Schools continued to select (mostly) by exam, and firms continued to hire by school. But scholars like Kariya and Brinton now claimed that the egalitarian institutions merely reproduced inherited privilege. The students who won the tournaments were those raised by privileged parents. Through the nominally egalitarian mechanisms, students replicated the class in which their parents had raised them.

### 3. *The SES Empirics*

#### a. In the West

This shift in the academic consensus (if that is what it is) reflects at most a shift in research design. It does not reflect anything on the ground in Japan. Modern scholars of Japanese education regress a variety of measures of academic achievement on a variety of measures of “socio-economic status” (SES). They obtain statistically significant positive coefficients: students from higher-status homes do better in school. From this, they infer causation: students from high-status homes do better in school because of their high-status.

In following this research design, observers of Japan follow their Western peers. To measure SES, Western scholars in sociology and education typically turn to some mix of parental education, parental occupation, and family income. In 2005, Selcuk Sirin reported a meta-analysis of studies exploring the connection between SES and academic achievement. He concluded that scholars had reached an “agreement” on a “tripartite” definition of SES. It would, he continued, “incorporate[] parental income, parental education, and parental occupation[.]”<sup>143</sup> For their very recent meta-analysis, Paul Westrick and his co-authors, in 2015, simply measured SES through parental income.<sup>144</sup> Back in 1982, Karl White reported a meta-analysis of 143 studies in which eighty-eight used parental occupation, fifty-seven used parental education, and forty-seven used family income. The next most commonly used variable was housing quality, with thirty-nine studies.<sup>145</sup>

#### b. In Japan

To study education in Japan, modern scholars use the same template. Consider three of the better known scholars. First, take University of Tokyo

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<sup>142</sup> Mary C. Brinton, *Social Class and Economic Life Chances in Post-Industrial Japan: The “Lost Generation”*, in *SOCIAL CLASS IN CONTEMPORARY JAPAN* 114 (2009).

<sup>143</sup> Selcuk R. Sirin, *Socioeconomic Status and Academic Achievement: A Meta-Analytic Review of Research*, 75 *REV. EDUC. RES.* 417, 418 (2005).

<sup>144</sup> Paul A. Westrick et al., *College Performance and Retention: A Meta-Analysis of the Predictive Validities of ACT Scores, High School Grades, and SES*, 20 *EDUC. ASSESSMENT* 23 (2015).

<sup>145</sup> Karl R. White, *The Relation Between Socioeconomic Status and Academic Achievement*, 91 *PSYCH. BULL.* 461 (1982).

sociologist Hiroshi Ishida.<sup>146</sup> Using a 1975 national survey, Ishida regresses educational outcomes for Japanese children on (i) family income, (ii) father's education, (iii) mother's education, (iv) father's occupation, (v) whether a student comes from an urban home, and (vi) the presence of siblings. On the dependent variables of (a) whether a person finishes high school, and (b) whether he attends college, the calculated coefficients were statistically significant on all six independent variables.

Ishida does not even pretend to measure a student's cognitive ability. Apparently asked whether some of his six independent variables might correlate with intelligence, Ishida briefly alludes to an article by another scholar.<sup>147</sup> That scholar seems to have shown that high school grades in Japan do not explain much of the variation in whether a student attends college. Ergo, Ishida dismisses considerations of intelligence and infers causation from SES. Growing up in a high-status home contributes to later academic success.<sup>148</sup>

Oxford sociologist Takehiko Kariya uses a similar research design to reach a similar conclusion: competitive high schools select their students through a formally egalitarian process, but one that replicates substantive inequality.<sup>149</sup> Kariya writes: "Research shows that students from families with fathers having professional/managerial jobs, as well as those with highly educated parents, are more likely to attain higher education credentials (bachelor's degrees or above) as compared with others[.]"<sup>150</sup>

A student's "academic achievement," Kariya continues, is "significantly influenced by [his or her] family background through economic, cultural, and social capital embedded in the family[.]"<sup>151</sup> As a result, "the meritocratic selection of students into the hierarchy of high schools . . . reflect[s], to some extent, inequality in education as influenced by students' socioeconomic status."<sup>152</sup>

Once again, show correlation and conclude causation. Kariya suggests two at-least-superficially plausible reasons for inferring that causality.<sup>153</sup>

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<sup>146</sup> HIROSHI ISHIDA, *SOCIAL MOBILITY IN CONTEMPORARY JAPAN: EDUCATIONAL CREDENTIALS, CLASS AND THE LABOUR MARKET IN A CROSS-NATIONAL PERSPECTIVE* (Stanford Univ. Press 1993).

<sup>147</sup> *Id.* at 76–77.

<sup>148</sup> Social and economic inequality, *Id.* at 8, concludes, cause the observed unequal levels of academic achievement:

When various factors of social background (such as family income, urban origin and father's and mother's education) are included in the model, these background characteristics together play at least as important a role as education in the process of socioeconomic attainment in Japan.

Social, economic, and cultural "capital" each matters, explains Ishida. Consider social background, *Id.* at 67: "The advantages and disadvantages associated with the social environment in which men grow up are evident in [Japan]."

Consider wealth, *Id.* at 66: "The amount of family wealth and property, independent of other background characteristics, influences schooling beyond the minimum level, high school completion and college attendance in Japan[.]"

And consider culture, *Id.* at 68: "Cultural capital, measured by parental education, plays a crucial role in determining the success of sons in Japan[.]"

Blindly graded exams do not reward students on the basis of intellectual ability and effort, concludes Ishida. They reproduce inherited status, *Id.* at 102: "Families with considerable resources are able to pass on their advantages directly to their offspring independent of the offspring's own achievement."

<sup>149</sup> Kariya, *supra* note 141.

<sup>150</sup> *Id.* (citations omitted).

<sup>151</sup> *Id.* (citations omitted).

<sup>152</sup> *Id.*

<sup>153</sup> *Id.*



First, higher education is expensive. Wealthier families are better able than poor families to afford it. Per Kariya:

[S]ome argue that economic capital (i.e., family income) still either has a direct influence on university attendance by affecting a family's ability to afford tuition fees (especially for private institutions) or exerts indirect effects by determining whether the family can pay for private tutorials (i.e., shadow education) that enhance children's academic achievement . . . <sup>154</sup>

Second, richer families can afford to provide a more stimulating experience outside of school. They can take their children to museums and concerts. They can buy books. Again, Kariya writes: "others argue that a family's cultural and social capital influences children's academic achievement through their learning in varied ways (e.g., providing family environments that encourage children to work diligently, cultural resources transformable into higher academic achievement, and incentives to aspire to attain higher education)." <sup>155</sup>

Working with Brown University education scholar Yoko Yamamoto, Harvard sociologist Mary Brinton repeats the same exercise. <sup>156</sup> She explains that they "use three measures to control for respondents' socioeconomic background: father's occupation, parents' education, and family assets." <sup>157</sup> She writes that "students with more educated parents and more financial assets demonstrate higher academic performance when other variables are controlled . . ." <sup>158</sup> And once again, she straightforwardly infers causation: "Students with managerial/professional fathers have a distinct advantage in entering higher quality high schools . . ." <sup>159</sup>

### C. COGNITIVE ABILITY

#### 1. *The Elephant in the Room*

In fact, these various regressions ignore an obvious and obviously massive omitted variable—cognitive ability. People vary in their ability to solve difficult problems quickly and accurately. With error to be sure, Japanese high schools and universities use entrance exams that measure that ability. Because workers who can solve hard questions quickly and accurately raise firm profits, employers bid for them, and pay them high wages. And according to modern genetics, the ability to solve hard problems quickly and accurately is an ability children inherit—in part—through their genes.

The resulting logic is straightforward: to do well in school, children need to be smart; for the same reason that athletic children tend to have athletic parents, smart children tend to have smart parents; and smart parents tend to have attended competitive universities, to work in high-prestige jobs, and to earn high salaries. As a result, social or economic status might or might not

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<sup>154</sup> Kariya, *supra* note 141.

<sup>155</sup> *Id.*

<sup>156</sup> Yoko Yamamoto & Mary C. Brinton, *Cultural Capital in East Asian Educational Systems: The Case of Japan*, 83 SOC. EDUC. 67, 73 (2010).

<sup>157</sup> *Id.*

<sup>158</sup> *Id.* at 75.

<sup>159</sup> *Id.*

affect a child's academic achievement, but these regressions will not show it. At root, they show only that smart children tend to have smart parents. As behavioral geneticist Robert Plomin explained it:

In relation to education, what look like environmental effects of schools on children's achievement are actually genetic effects. Examples include the correlation between student achievement and types of school and the correlation between parent and offspring educational achievement. Both correlations are usually interpreted as being caused environmentally but both are substantially mediated by genetics . . .<sup>160</sup>

Cognitive scientist Steven Pinker was more blunt: “[A]ny study that measures something in parents and something in their biological children and then draws conclusions about the effects of parenting is worthless, because the correlations may simply reflect their shared genes[.]”<sup>161</sup>

## 2. *The Logic*

### a. The Phenomenon of Intelligence

The logic involved begins with the concept itself: cognitive ability is a coherent and (with error to be sure) measurable attribute. It measures a person's ability to follow logic, to solve hard and complicated problems, to move between abstract ideas and concrete applications. In turn, cognitive ability predicts a wide range of phenomenon. “IQ tests predict performance in school and on the job,” writes Pinker.<sup>162</sup> And “standardized tests,” explains fellow psychologist Christopher Chabris (with Jonathan Wai), “mainly measure general cognitive ability . . .”<sup>163</sup> In turn, that “general cognitive ability is highly predictive of educational and occupational success in the broad population.”<sup>164</sup>

Given the way they run regressions that exclude any reference to “cognitive ability,” sociologists seem uncomfortable with the concept. Sociologists in education seem especially reluctant. “Education is the field that has been slowest to absorb the messages from genetic research,” observes behavioral geneticist Robert Plomin.<sup>165</sup> “Genetics is by far the major source of individual differences in school achievement, even though genetics is rarely mentioned in relation to education.”<sup>166</sup>

As a cognitive scientist, Pinker loses patience with scholars who try to present a world without a measurable variable for intelligence: “I find it truly surreal to read academics denying the existence of intelligence. Academics are obsessed with intelligence. They discuss it endlessly in considering student admissions, in hiring faculty and staff, and especially in their gossip about one another.”<sup>167</sup>

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<sup>160</sup> ROBERT PLOMIN, *BLUEPRINT: HOW DNA MAKES US WHO WE ARE* 88 (MIT Press, 2018).

<sup>161</sup> STEVEN PINKER, *THE BLANK SLATE: THE MODERN DENIAL OF HUMAN NATURE* 375 (2002).

<sup>162</sup> *Id.* at 373.

<sup>163</sup> Christopher Chabris & Jonathan Wai, *Hire Like Google? For Most Companies, That's a Bad Idea*, L.A. TIMES (Mar. 9, 2014), .

<sup>164</sup> *Id.*

<sup>165</sup> PLOMIN, *supra* note 160, at 82.

<sup>166</sup> *Id.* at 88.

<sup>167</sup> PINKER, *supra* note 161, at 149–50.

The evidence, he writes, is straightforward:

[T]here is now ample evidence that intelligence is a stable property of an individual, that it can be linked to features of the brain . . . , that it is partly heritable among individuals, and that it predicts some of the variation in life outcomes such as income and social status.<sup>168</sup>

#### b. The Genetic Connection

Like the color of his (or her) eyes, the shape of his nose, and his athletic prowess, a child's cognitive ability reflects in part the genes he inherits from his parents. Intelligence is a function of the brain, and the brain—like a child's eyes and nose—is a biological organ. Cognitive ability is heritable for the simple reason, as Pinker put it, that “[a]ll human behavioral traits are heritable.”<sup>169</sup> Plomin summarizes the research: “[G]enetic research consistently shows that performance on tests of school achievement is 60 per cent heritable on average. That is, more than half of the differences between children on how well they do at school is due to inherited DNA differences.”<sup>170</sup>

Counter-intuitively, perhaps, the genetic component of cognitive ability increases over a person's lifespan.<sup>171</sup> That ability is not a phenomenon where the influence of one's social and family environment eventually crowds out the impact of one's basic genetic endowment. Instead, that genetic endowment gradually crowds out environmental influences. “The heritability of intelligence,” writes Pinker, “increases over the lifespan, and can be as high as .8 late in life.”<sup>172</sup> Although “IQ is affected by shared environment in childhood, . . . over the years the effect peters out to nothing.”<sup>173</sup>

The phenomenon of increasing heritability with age is general, but especially pronounced with respect to cognitive ability.<sup>174</sup> “[G]enetic influences become more important as we grow older,” explains Plomin, and “the domain where heritability increases most dramatically during development is cognitive ability.”<sup>175</sup> In his general genetics text, he writes:

A recent report on a sample of 11,000 pairs of twins, . . . showed for the first time that the heritability of general cognitive ability increases significantly from 41 percent in childhood (age 9) to 55 percent in adolescence (age 12) and to 66 percent in young adulthood (age 17) . . . the trend of increasing heritability appears to continue throughout adulthood to about 80 percent at age 65 . . .<sup>176</sup>

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<sup>168</sup> *Id.*

<sup>169</sup> *Id.* at 373.

<sup>170</sup> *Id.* at 10.

<sup>171</sup> PLOMIN ET AL., BEHAVIORAL GENETICS 201 (6th ed. 2012) (“Genetic factors become increasingly important for g throughout an individual's life span.”)

<sup>172</sup> PINKER, *supra* note 161, at 375 (emphasis in original).

<sup>173</sup> *Id.* at 379.

<sup>174</sup> See generally Daniel A. Briley & Elliot M. Tucker-Drob, *Explaining the Increasing Heritability of Cognitive Ability Across Development: A Meta-Analysis of Longitudinal Twin and Adoption Studies*, 24 PSYCH. SCI. 1704 (2013); PLOMIN, *supra* note 160, at 52.

<sup>175</sup> PLOMIN, *supra* note 160, at 52.

<sup>176</sup> PLOMIN ET AL., *supra* note 171, at 202.

### c. Cognitive Ability and Academic Performance

Given that schools are about teaching and intelligence is about learning, students will not do well in school without a commensurately high level of cognitive ability. Extremely bright students do not necessarily do well in school. Educational achievement requires more than cognitive ability. It requires conscientiousness. It requires perseverance. And it requires emotional stability.<sup>177</sup> But it does require appropriately high levels of cognitive ability.

### d. Cognitive Ability and SES

What one can say about the role of cognitive ability in educational achievement, one can say about its role on the job. Workers with low levels of cognitive ability almost always earn low wages, while workers with high levels cover the range from high down to low. Provided a worker with a high level of cognitive ability is willing to work conscientiously, to persevere, and to keep a level emotional keel, firms will bid for him. Employees who can solve hard problems quickly and accurately raise firm profitability. The higher this ability, the scarcer it is; the scarcer it is, the more firms pay for it.

“[H]aving an idea of how well a candidate thinks abstractly, solves novel problems and learns new things is important,” notes Chabris, “no matter what the job or situation.”<sup>178</sup> The research is extensive: “[D]ecades of quantitative research in the field of personnel psychology have shown that across fields of employment, measures of ‘general cognitive ability’ . . . are consistently the best tools employers have to predict which new employees will wind up with the highest performance evaluations or the best career paths.”<sup>179</sup>

Necessarily, as Plomin put it, “intelligence is one of the best predictors of educational achievement and occupational status.”<sup>180</sup> And occupational status, in turn, will correlate with income and wealth.

## CONCLUSION

When observers argue that the selective schools should replace their blindly graded entrance exams with lotteries or subjective measures, they miss the very basic implications of modern genetics and cognitive science. Schools like Stuyvesant (and Hibiya) do not confer prestige on students; students confer prestige on the school. Prestigious schools have the prestige they do because they have the students they do. Change the metric by which a school chooses its students, and the level and type of prestige will change with it. The modern Stuyvesant (and the pre-1965 Hibiya) has the prestige it has because the very brightest students attend it.

Exceptionally bright students want to study with other exceptionally bright students. Students learn best when taught at their own level. Ordinary students do not profit from being placed in classes that move too fast for them. And bright students do not profit from being placed in a class that is too slow. They will become bored, and they do not like to be bored. Very bright students tend to enjoy school. After all, they do well at it. They want

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<sup>177</sup> See, e.g., PLOMIN, *supra* note 160, at 158–59.

<sup>178</sup> Chabris & Wai, *supra* note 163.

<sup>179</sup> *Id.*

<sup>180</sup> PLOMIN, *supra* note 160, at 53.

to be challenged—and this desire to be challenged is wholly independent of whether their mother is an Amy-Chua-Tiger-Mom look-alike. Bright students tend to enjoy challenge.

For nearly a century, the Hibiya High School (and the Tokyo First Middle School that preceded it) provided that challenge. Bright students sought out the school, and sacrificed to attend it. In 1967, for straightforwardly egalitarian reasons, the Tokyo government took the approach often pushed for Stuyvesant: they set a minimum passing grade, and then chose by lottery. The exceptional students deserted the school en masse. They left for private schools instead, and—half a century later—public education in Tokyo has yet to recover.