

Harvard Investigates Harvard: “Does the Admissions Process Disadvantage Asians?”

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Executive Summary: Harvard Investigates Harvard

Well before the Students for Fair Admissions (SFFA) sued Harvard for discrimination against Asian American applicants, the university’s Office of Institutional Research (OIR) looked into whether the school’s admissions process disadvantaged Asian Americans.

Using multiple methods, OIR produced several reports, with many outcomes indicating significant statistical evidence of bias against Asian American applicants.

While being African American, Native American, or Hispanic was a “plus” factor in Harvard admissions, the reports showed that being Asian was a “minus.”

Examining Harvard admissions data from roughly 200,000 applicants between 2007 and 2016, OIR focused on the “admits,” asking what the racial composition of a class would be if factors other than academics were taken into account. OIR then created models that incorporated those factors.

The actual composition of admits provides a baseline for comparison, and it shows how closely the models reflect the process by which Harvard has made admissions decisions. The models demonstrate what the racial composition of a class would be as one factor, starting with academics, and then another (legacy and recruited athlete) was added to OIR’s logistic regression equation to predict the racial composition of the entering class. The last column (All Previous Factors Plus Race/Eth) closely resembles the actual class of admits over the ten years.

Table. What Harvard Would Look Like if the Following Factors are Considered*

	Model 1	Model 2	Model 3	Model 4	
	Academics Only	Academics, Legacy, & Athlete	Academics, Legacy, Athlete, Extracurriculars, & Personal Rating	All Previous Factors Plus Race/Eth	Actual
White	38%	48%	51%	44%	43%
Asian Am	43%	31%	26%	18%	19%
Afr Am	1%	2%	2%	11%	10%
Hispanic	2%	3%	4%	10%	9%

* Based on OIR’s graph, see Appendix C of this report.

OIR calculated these numbers from its logistic regression analysis. The models show:

- If applicants were evaluated in terms of academic credentials only, Asian admits would make up 43% of the entering class.
- When nonacademic factors were included, the number of Asian admits would drop:
 - To 31% if varsity athlete and legacy status were taken into account;
 - To 26%, if extracurriculars and the “personal rating” were also added;
 - And, finally, to 18% if race was used as a factor.
- Whites as a proportion of admits increased if nonacademic factors were used:
 - From 38% if only academic credentials were considered;
 - To 48% if varsity athlete and legacy were added;
 - And to 51% if extracurriculars and the personal rating were taken into account.
 - Finally, whites dropped to 44% when race was added as a factor.
- African Americans as a proportion of admits noticeably rose only when race was included as a factor.
 - Using athlete, legacy, extracurriculars, and personal ratings in OIR’s equations did not significantly increase their numbers.
 - African Americans as a proportion jumped to 11% when OIR added race.
- The same increase occurred for Hispanic admits, but to a lesser extent.

OIR’s final admissions equation (Model 4) was within roughly one percent of the actual racial composition of admits during the ten years under review.

Additional statistical analysis by OIR showed that an applicant’s probability of admissions was affected by the following.

- Being Asian was consistently negative, regardless of method and variables used as controls (including personal rating).
- Being African American mattered almost as much as being a legacy and having a high personal rating.
- Being a recruited athlete, being a legacy, having a high personal rating, and being African American were given more weight than high academic credentials.

All documents were labeled “Confidential” and “Highly Confidential – Attorney’s Eyes Only.” OIR related its findings to Harvard’s general counsel and top administrators. It did so more than a year before SFFA filed its lawsuit.

Introduction

Whether elite colleges and universities discriminate in admissions against Asian American applicants is a question that Harvard College has frequently investigated in the context of its own admissions practices. In 2011 or early 2012, well before the Students for Fair Admissions (SFFA) sued the college for bias against Asian American applicants, the university’s Office of Institutional Research (OIR) looked into whether the school’s admissions process disadvantages Asian Americans. Using multiple methods, OIR produced several reports containing a number of findings. OIR did not present a final conclusion, and Harvard says that “the work done by OIR employees was not intended to address whether Asian American applicants were experiencing discrimination.”¹ Even if that was not the intention, however, the released documents contain pervasive statistical disparities against Asian Americans as a racial group and direct discrimination against individuals on account of their being Asian American.

OIR’s work was kept confidential until June 15, 2018, when some of it was made public as a result of the lawsuit. This report, issued by the Center of Equal Opportunity, summarizes the office’s methods and findings of bias against Asian American applicants. (OIR referred to Asian Americans as “Asian.” Applications originating from Asian countries were classified by OIR under “International.” I shall refer to Asian Americans as Asians for the rest of the report.)

The OIR Documents: What They Found and Who Saw Them

On February 14, 2012, OIR summarized its “initial” findings, in a report labeled “Highly Confidential – Attorney’s Eyes Only.”² Using statistical methods on roughly 200,000 applicants to Harvard College, OIR found the following:

- “Athletes and Legacies explain the difference in raw admit rates for Asian and White applicants.”

¹ “Defendant’s Memorandum in Opposition to Plaintiff’s Motion for Summary Judgment.” Case 1:14-cv-14176-ADB Document 435 Filed 07/27/18, p. 23 of 51. https://admissionscase.harvard.edu/files/adm-case/files/harvard_sj_opp_as_filed.pdf.

² SFFA, “Exhibit 145. Office of Institutional Research. *Admissions Part II: Subtitle, February 14, 2012.*” Case 1:14-cv-14176-ADB Document 421-145 Filed 06/15/18, p. 3 of 18. <http://samv91khoyt2i553a2t1s05i-wpengine.netdna-ssl.com/wp-content/uploads/2018/06/Doc-421-145-Admissions-Part-II-Report.pdf>. See also, “Plaintiff’s Statement of Undisputed Material Fact,” [SMF], Case 1:14-cv-14176-ADB, Document 414, Filed 06/15/18. <http://samv91khoyt2i553a2t1s05i-wpengine.netdna-ssl.com/wp-content/uploads/2018/06/Doc-414-Statement-of-Material-Facts.pdf>. The February 2012 document was labeled, “the second OIR report” by SFFA [SMF¶452] and received by the dean of admissions “at some point” [SMF¶467].

- “Asian applicants have higher average ratings and test scores (excluding the personal rating).”
- “Differences exist in the raw admit rates of Asian and White students with similar test scores and academic indices. Even top scores and ratings don't guarantee admission.”
- “Personal rating is important in models of the admissions process and drive some of the demographic differences we see.”

In February 2013 OIR produced another report clearly stating a major research question: “Does the admissions process disadvantage Asians?”³ The results were the same as in 2012. Since then, OIR has found on other occasions that nonacademic factors primarily help the admission chances of whites and hurt those of Asians, and that the inclusion of race as a factor hurts the chances of admission for both whites and Asians.⁴

In May 2013, Harvard’s president, the dean of admissions, the director of admissions, and the head of OIR discussed its findings in meetings run by Harvard’s general counsel. The head of OIR advised against making the findings public. The reports were also shared with the dean of Harvard College.

OIR labeled all documents “Confidential” and “Highly Confidential – Attorney’s Eyes Only.”⁵ (Appendix A presents a timeline of major documents and events.)

Though heavily redacted, the documents contain a substantial amount of information regarding admissions at Harvard. Most importantly, the reports show how the college, year after year, “adjusted” numbers using various factors, not just race, in order to limit the number of Asian admits and to construct the entering class it wanted.

OIR fitted a series of logistic regression models, using a pooled dataset of 200,000 applicants drawn from ten years of admissions data from the class of 2007

³ SFFA, “Exhibit 134. Office of Institutional Research, *Admissions and Financial Aid at Harvard College: For Discussion, February 2013*.” Case 1:14-cv-14176-ADB Document 421-134 Filed 06/15/18, p. 4 of 44. <http://samv91khoyt2i553a2t1s05i-wpengine.netdna-ssl.com/wp-content/uploads/2018/06/Doc-421-134-February-2013-Report.pdf>; OIR also reported on how early admissions impacted the admission pool and on gender balance and selection of majors (findings on gender balance, p. 18-21 of Ex. 134, redacted).

⁴ SFFA, “Exhibit 112. Office of Institutional Research. *Admissions Memo*.” Case 1:14-cv-14176-ADB Document 421-112 Filed 06/15/18. <http://samv91khoyt2i553a2t1s05i-wpengine.netdna-ssl.com/wp-content/uploads/2018/06/Doc-421-112-May-1-2013-Memorandum.pdf>; SFFA, “Exhibit 157. Office of Institutional Research. *Demographics of Harvard College Applicants, May 30, 2013*.” Case 1:14-cv-14176-ADB Document 421-157 Filed 06/15/18. <http://samv91khoyt2i553a2t1s05i-wpengine.netdna-ssl.com/wp-content/uploads/2018/06/Doc-421-157-May-30-2013-Report.pdf>.

⁵ OIR produced additional findings in the May 30 follow-up report (Exhibit 157) regarding low-income applicants and race/ethnicity. The report found that low-income applicants were more diverse than all applicants; that a greater percentage of minorities, including Asians, were low income. For all race/ethnic groups, low-income applicants were given preference. OIR sent this May 30 report to the dean and others.

through the class of 2016.⁶ The extremely large sample allowed OIR to easily model the probabilities of admissions using various factors used by the admission committee. OIR mostly looked at “admits” (the term used by Harvard)—those whom the admissions committee invited to attend.

Under a process that does not vary significantly over the years, the admissions committee begins its deliberations by assigning one, two or three admissions officers to each application. One officer is designated the “first reader,” who has the task of assigning a score from 1 to 6 on each of four factors—academic, extracurricular, athletic, and personal, with 1 being the highest rating. (Appendix B describes the Harvard admissions process.)

I have worked from OIR’s own tables and summary statistics in telling the story below. In this study, in the OIR reports, and in the Statement of Material Facts (SMF) filed with the court, the term, “Asians,” refers to Asian Americans. Applicants and admits from Asia are part of the “international” group and not relevant to the issue at hand.

The graphs and tables in this report are based on or replicate OIR’s tables and charts. I present OIR statistics on all racial and ethnic groups but have focused my comments on whites, Asians, African Americans, and Hispanics.

The Composition of a Harvard Class

Harvard is one of the hardest universities to get into, with an admissions rate of roughly 7% (for 2009 to 2016). Yet the OIR reports show that it’s easier for some groups to get in and for one group—Asians—to have a significantly harder time getting in.

OIR looked at the “admits” over a 10-year period.⁷ Roughly 43% of admits were white, while 19% were Asian. Some 10% were African Americans, and another 10% were Hispanics. Native Americans were 1%. Nine percent did not list their race or ethnicity, and 8% were international admits.⁸

In taking up the question of anti-Asian bias, OIR asked what the racial/ethnic composition of admits would be if factors other than academics were taken into account in making admission decisions. OIR then created models that incorporated those factors.

⁶ SMF¶400.

⁷ At the admissions committee meetings where final admit/reject/waitlist decisions are made, senior admissions officers and top administrators had on hand the past years’ percentage of each group choosing to attend, i.e., “the yield.” These percentages were redacted in the SMF (SMF¶231). OIR found that the number of African American admits was larger than the number of African Americans who enrolled. Many of them went elsewhere.

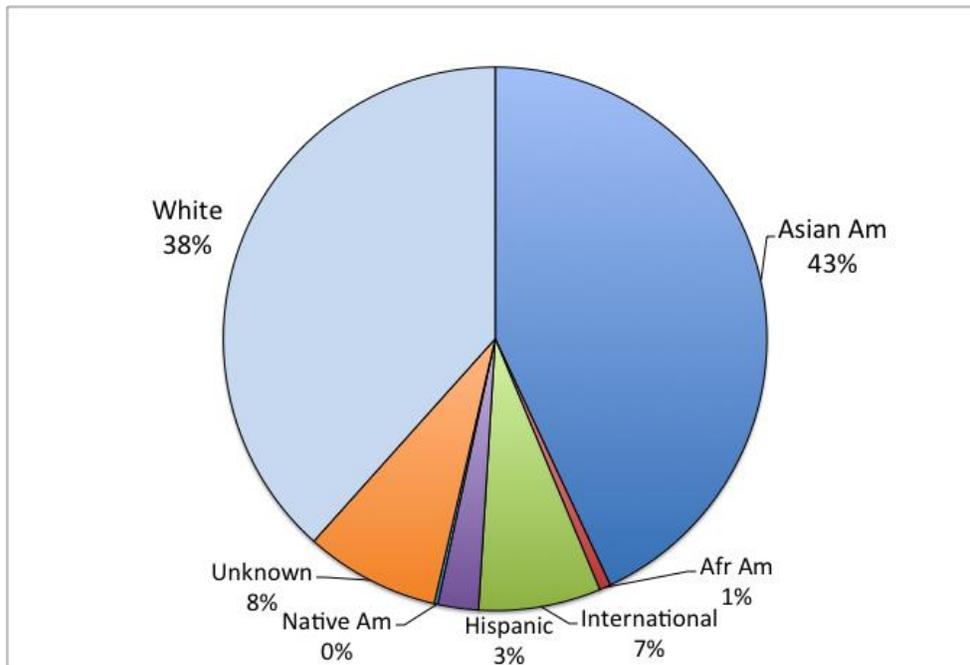
⁸ Based on OIR’s graph created in February 2012 (Exhibit 145, p. 12 of 18), and reproduced in Exhibit 134 (February 2013, p. 35 of 44). See Appendix C of this report.

The actual composition of admits provide a baseline for comparison, and it shows how closely the models reflect the process by which Harvard makes admission decisions. The models demonstrate what the racial/ethnic composition of a class would be as one factor and then another are added in. The last model closely resembles the actual class of admits.

Model 1

For Model 1 (see Figure 1), the research office asked what the composition of admits would be if Harvard looked only at academics. OIR used two variables for “academics”— 1) scores on Harvard’s academic rating and 2) scores on its academic index.⁹ If the admissions committee considered only academics, Harvard would look like this (see my Figure 1 below, based on OIR’s graph, Appendix C).

Figure 1. Who’s Admitted If Only Academics Are Considered*



* Based on OIR’s graph, see Appendix C.

Recall the percentage breakdown of actual admits: Whites were 43%; Asians, 19%, African Americans, 10%, and Hispanics, also 10%. If admissions were based on academic qualifications alone (OIR Model 1), whites would be 38% of admits while

⁹ The academic rating is the academic score, ranging from 1 to 6, assigned by the admissions officer “first” reading the application. The assigned score is based on the standard elements—SAT scores, ACT scores, high school GPA, and class rank, but also academic awards and competitions, difficulty of courses, and quality of the high school (SMF ¶80). The applicant’s score on Harvard’s academic index is a pure calculation, weighted and solely based on an applicant’s test scores and high school GPA. The exact algorithm was not provided. See Exhibit 145, p. 16 of 18.

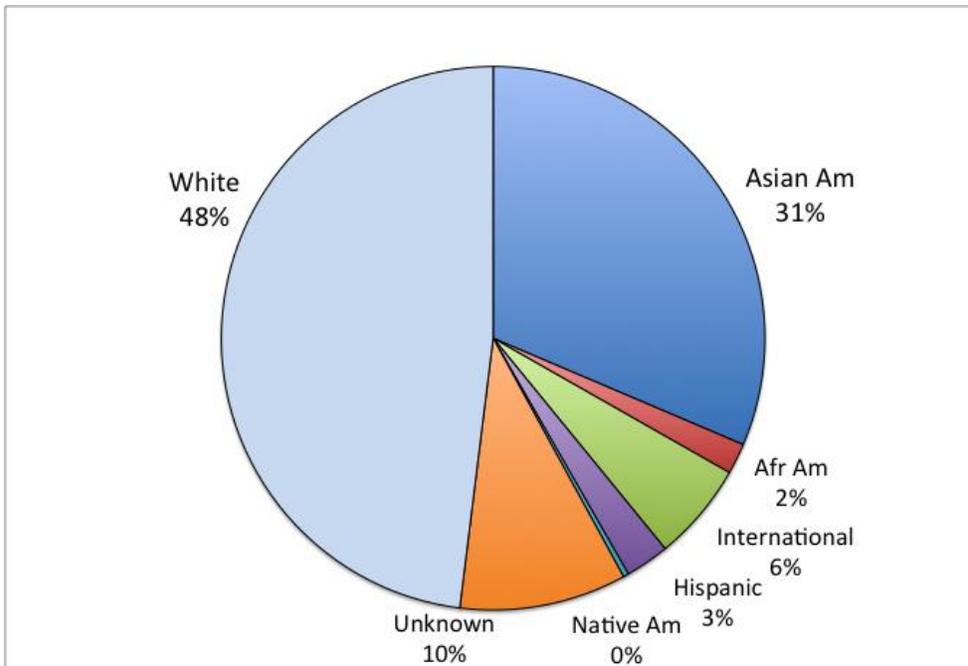
Asians would be 43%. Hispanics would be 3%, and African Americans would make up 1%.

It looks a lot like Caltech, which has race-blind admissions. In the fall of 2016, Asians made up roughly 43% of Caltech undergraduates.¹⁰

Model 2

OIR then added two factors (i.e., variables), “legacy” (if the applicant has a parent that went to Harvard or Radcliffe) and “recruited athlete.” Those moves yielded the percentages below (see my Figure 2 below, based on OIR’s graph in Appendix C).

Figure 2. Who’s Admitted If Academics, Legacy, and Recruited Athlete Are Considered*



* Based on OIR’s graph, see Appendix C.

Taking into account academics, legacy, and recruited athlete resulted in the following: white admits increased, from 38 to 48%, Asian admits dropped from 43 to 31%, African Americans were 2%, and Hispanic admits 3%.

¹⁰ In the 1980s, Asians at Harvard and Caltech made up roughly the same percentage of undergraduates. The percentages diverged since the 1990s. See Althea Nagai, “Too Many Asian Americans: Affirmative Discrimination in Elite College Admissions,” Center for Equal Opportunity, May 22, 2018. <http://www.ceousa.org/about-ceo/press-center/1209-too-many-asian-americans>.

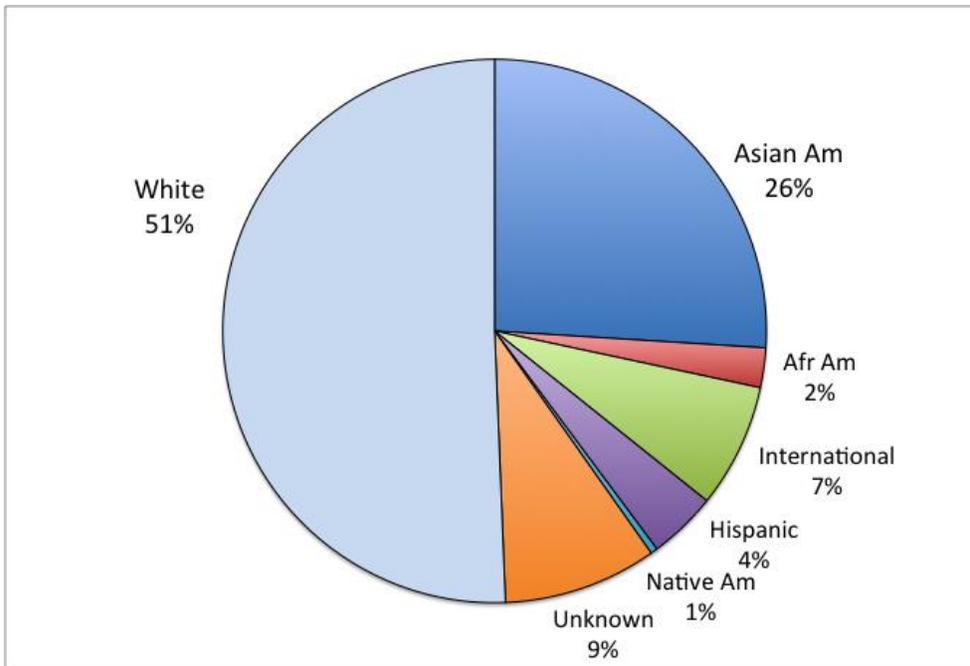
While having no impact on the number of Hispanics (3%, as in Model 1), “legacy” and “recruited athlete” doubled the number of African American admits, from 1% to 2%, but the numbers were small.

Model 3

In Model 3, OIR added two more variables—extracurriculars and personal scores. The first reader assigns a score of 1 to 6, with 1 being the highest, for extracurriculars. The rating excludes athletics.¹¹ And the first reader gives every applicant a personal rating, also from 1 to 6.

Of all the factors considered, the personal rating generates the most subjective scores. The first reader rates the applicant on such traits as whether the person has a “positive personality” and “others like to be around him or her,” . . . and has such traits as “likability . . . helpfulness, courage, [and] kindness,” is an “attractive person to be with,” “widely respected,” a “good person,” and has good “human qualities.”¹²

Figure 3. Who’s Admitted If Academics, Legacy, Athlete, Extracurriculars, and Personal Ratings Are Considered*



* Based on OIR’s graph, see Appendix C.

¹¹ SMF ¶82. There was no further breakdown of the types of extracurricular activities (classical music, rock/band, church volunteering, debate club, to name a few). In contrast, Espenshade and colleagues broke down extracurricular activities into subtypes, with athletics as a subtype. See Thomas J. Espenshade and Alexandria Walton Radford, *No Longer Separate, Not Yet Equal: Race and Class in Elite College Admission and Campus Life* (Princeton, NJ: Princeton University Press, 2009), p. 30-31.

¹² SMF ¶ 90.

When OIR added extracurriculars and personal ratings, whites became more than half the admits (51%) and Asians dropped to 26%. The impact on African Americans and Hispanics was small. The number of African American admits stayed the same while Hispanics increased to 4% of the total.

Asian applicants scored the highest on extracurriculars—four points higher than whites, 12 points higher than African Americans, and 11 points higher than Hispanics.¹³ “Extracurriculars” therefore cannot negatively affect the number of hypothetical Asian admits. Given that proportionately more Asian applicants were given a high score on extracurriculars, its addition alone should have boosted the number of Asian admits, not lowered them.

It’s the low personal ratings that best explain the drop in Asian admits. In OIR’s summary, “Personal rating is important in models of the admissions process and drive some of the demographic differences we see.”¹⁴ OIR was clearly referring to its negative impact on Asian admits and its positive impact on white admits.

The statistical table on logistic regression coefficients generated by OIR (reproduced and discussed later in this report) also showed that personal ratings were given significantly more weight than extracurriculars.¹⁵

From Harvard’s diversity perspective, adding legacy, recruited athlete, extracurriculars and personal ratings to academics did not substantially increase the proportion of African American and Hispanic admits. To accomplish this, race was added to the evaluation of applicants.

¹³ SFFA, “Exhibit B. Rebuttal Expert Report of Peter S. Arcidiacono,” Case 1:14-cv-14176-ADB Document 415-2 Filed 06/15/18, p. 106, Table 4.1R. <http://samv91khoyt2i553a2t1s05i-wpengine.netdna-ssl.com/wp-content/uploads/2018/06/Doc-415-2-Arcidiacono-Rebuttal-Report.pdf>. The data are from 2009 to 2016. In their own study of elite college admissions, Espenshade and Radford also found Asians to have the most extracurriculars (Espenshade and Radford, p. 30-31). Harvard’s own expert witness, David Card, found Asian applicants to have higher extracurricular ratings, as well as higher academic ratings. But, according to Card, white applicants were “more likely to be multi-dimensional.” They were also significantly better on athletics and personal ratings. “Exhibit 33. Report of David Card, Ph.D., December 15, 2017,” Case 1:14-cv-14176-ADB Document 419-33 Filed 06/15/18, p. 35. https://projects.iq.harvard.edu/files/diverse-education/files/expert_report_as_filed_d._mass._14-cv-14176_dckt_000419_033_filed_2018-06-15.pdf.

¹⁴ “Exhibit 145,” p. 3 of 18. Looking at these ratings for all applicants, SFFA’s expert witness showed how the admissions officer’s scoring of a person’s character favored white over Asian applicants. Twenty-one percent of all white applicants received a high personal rating (a 1 or 2). In contrast, Harvard admissions officers gave high ratings to 18% of Asian applicants and 19% of African American and Hispanic applicants. These differences in percentages seem small, but for a study of 200,000 applicants a few percentage-point differences among applicants result in significant differences in the final racial composition of admits. Based on SFFA, “Exhibit B. Rebuttal Expert Report,” p. 106, Table 4.1R.

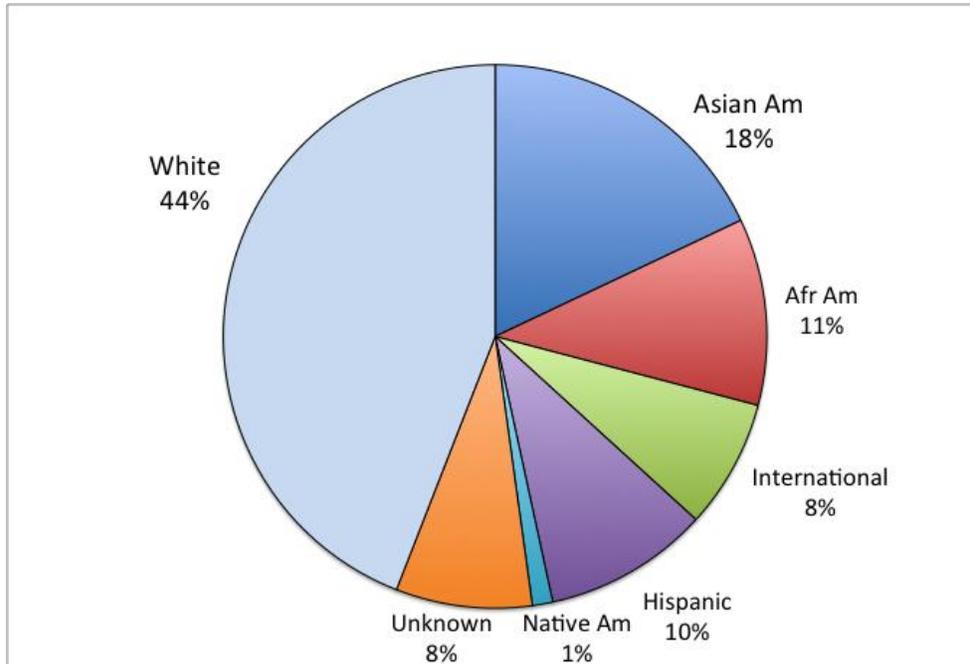
¹⁵ The original table is found in “Exhibit 112,” p. 5 of 10. See also SMF¶502.

Model 4

When race was included, the number of Asian admits dropped even more, as Model 4 shows. The number of white admits also dropped.

Figure 4 below shows the composition of the entering class when using the four factors plus what OIR calls “demographics”—meaning race, ethnicity, and gender.¹⁶

Figure 4. All Significant Variables Plus Race and Gender*



* Based on OIR’s graph, see Appendix C.

When OIR added race, ethnicity, and gender as factors, African Americans were 11% of admits; Hispanics, 10%; whites were 44%; and Asians dropped even more, to 18%.

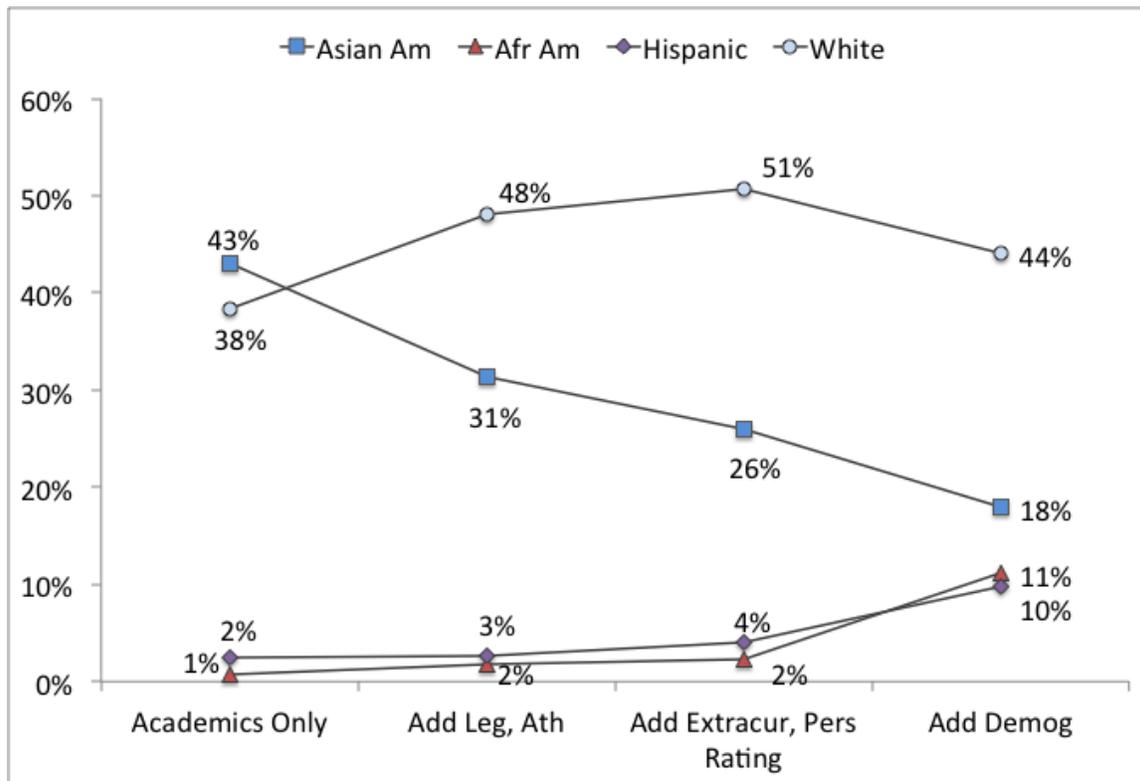
OIR’s predicted percentages in Model 4 were within 1 percentage point of the actual composition of each racial and ethnic group of admits.

¹⁶ “Exhibit 134,” p. 35 of 44; “Exhibit 145,” p. 11 of 18. Gender is routinely added as a demographic variable in large data analyses. In the case of Harvard, gender was not found to be a statistically significant factor in admissions. See Table 1 that shows OIR’s logistic regression equation for all variables, where gender has a coefficient of 0.00, indicating its nonsignificance. See “Exhibit 112,” p. 5 of 10.

To Summarize

Figure 5 below shows the sequential consequences of OIR's including the several variables in modeling admissions decisions.

Figure 5. Racial/Ethnic Composition of Admits When OIR Adds Factors*



* Based on OIR's graph, see Appendix C.

Taking into account academics alone, whites were 38% of all admits; legacy plus athlete resulted in a 10-point boost, to 48%. Extracurriculars plus personal ratings moved whites up another 3 points, making them the majority in Model 3. Including race and ethnicity resulted in fewer white admits, and whites were no longer the majority, falling from 51% in Model 3 to 44% in Model 4.

Asians experienced the biggest impact when all nonacademic factors including race were added, resulting in an Asian admit percentage of 18%, down from the hypothetical 43%. Legacy plus athlete dropped them 12 percentage points; extracurriculars plus personal ratings, 5 points. From there, Asians dropped a final 8 points and made up 18% of all admits (in Model 4).

Hispanic and African American admits only increased in number when race was added as a factor. The other added factors hardly moved the numbers. Including race made the big difference. This is probably due to Harvard's concern with racial diversity

and yield, i.e., the number of admits who ultimately end up matriculating. Some applicants whom Harvard accepts go elsewhere, particularly African American admits.¹⁷

In OIR's own assessment of the models, "Once we account for ratings and demographic factors, we can closely predict what the admitted class will look like."¹⁸ OIR's predicted percentages were within one point of the actual proportions.

OIR's Additional Findings

In the February 14, 2012 report, OIR also compared only white and Asian applicants who were neither recruited athletes nor legacies as it researched the question of bias against Asians.¹⁹ OIR found that nonathlete-nonlegacy white applicants did substantially better on only one variable—the personal ratings. In contrast, Asians did significantly better on mean SAT scores, academic ratings, and extracurriculars. Nonathlete-nonlegacy whites were rated slightly higher on the guidance counselor ratings, while whites and Asians split on other factors (alumni ratings, teacher ratings).

In another set of analyses, OIR compared white and Asian nonathlete-nonlegacy applicants with the same academic credentials. In one case, the researchers used Harvard's academic index (based on an algorithm of test scores and high school GPA) and in another they used only SAT scores. In both cases, OIR found nonlegacy-nonathlete whites admitted at higher rates compared to Asians with the same academic qualifications.²⁰

Finally, in their May 2013 memo, OIR displayed the average admission rate for the top academic achievers, comparing athletes to nonathletes, legacies to nonlegacies, low-income to higher income, and Asians to non-Asian applicants. Among applicants

¹⁷ SMF ¶¶ 105-107; 231. The yield is probably greatest for legacies, where having a parent who went to Harvard or Radcliffe College probably fails to give a comparable and significant boost outside of Harvard. The yield rates by race and ethnicity were substantially redacted. The *New York Times* found that African Americans and Hispanics have made up roughly the same percentages of first-year matriculants since the 1980s. The article acknowledges that black and Hispanic underrepresentation is often due to inadequate academic preparation (e.g., lack of good teachers and counselors, no advanced courses, inadequate supplemental materials), starting from elementary school; that affirmative action is no magic bullet; and that blacks and Hispanics have gained proportionally more ground at less selective colleges and universities. The article notes in passing that "the growth of Asian enrollment has slowed at some schools." Jeremy Ashkenas, Haeyoun Park, and Adam Pearce, "Even with Affirmative Action, Blacks and Hispanics are More Underrepresented at Top Colleges than 35 Years Ago," *New York Times*, August 24, 2017. <https://www.nytimes.com/interactive/2017/08/24/us/affirmative-action.html>.

¹⁸ "Exhibit 134," p. 37 of 44. OIR did suggest a need for more detail regarding individual cases, since aggregated data do not capture the nuances of distinctive admits—exceptional talent (music, art, writing); the role of "context cases" (not defined by OIR); the role of the personal essay (which is not rated separately by the admissions officer but rolled into the personal ratings score); and socio-economic status. These suggestions do not imply OIR's rejection of its methods, models, and results.

¹⁹ "Exhibit 145," p. 6 of 18. See also SMF ¶¶ 432-465.

²⁰ SMF ¶¶ 443; 444.

with the highest academic ratings, Harvard admitted legacy, athlete, and low-income ones at a higher rate than it did those who were nonlegacies, nonathletes, and higher income.

Asian high achievers were the only subgroup admitted at a lower rate than non-Asian high achievers.²¹ Only 12% of Asian top achievers were admitted, compared to 18% of non-Asian applicants.

In contrast, OIR found that 83% of athletes with the highest academic ratings were admitted, as were 55% of legacies with the same. Some preference was also given to top academic low-income applicants. Twenty-four percent of low-income applicants were admitted compared to 15% with higher incomes.

These additional findings are consistent with OIR's models of admission. Asian applicants, even the most academically qualified, were not getting into Harvard as often as their non-Asian counterparts.

And this is partly because of Harvard's personal rating system. As OIR stated, "Personal rating is important in models of the admissions process and drive some of the demographic differences we see."²² By "demographic differences," OIR means Asian versus non-Asian. Harvard's personal ratings are disproportionately lower for Asian students.

In the next section, "Stat Talk," I examine the more complicated statistical table that OIR created based on its logistic regression analyses. The OIR table answers the question: Exactly how much did each separate factor contribute to a decision to admit? How much weight was given to legacy? Being a recruited athlete? Extracurriculars? The personal ratings? Race and ethnicity? And how did academic credentials fare?

From these regression results, we can better understand the variables that are the most important in deciding whom to admit, or not.

Stat Talk: OIR's Logistic Regression

Using logistic regression analysis, OIR reconstructed what the several admissions committees thought were the most important factors in their decision-making. The coefficients for various factors are shown in the OIR table below, which is reproduced in this study as Table 1. The table makes it possible to compare variables.

²¹ "Exhibit 112," p. 10 of 10.

²² "Exhibit 145," p. 3 of 18.

Table 1. OIR’s Logistic Regression Results Predicting Admissions, Data from 2009 through 2016²³

Variable	Coefficient Estimate	P-value
Athletic rating of 1	6.33	0.00
Personal Rating 1 or 2	2.41	0.00
Legacy	2.40	0.00
African American	2.37	0.00
Native American	1.73	0.00
Extracurricular 1 or 2	1.58	0.00
Academic 1 or 2	1.31	0.00
Standardized Academic Index	1.29	0.00
Hispanic	1.27	0.00
CSS self- reported income ≤ \$60K	0.98	0.00
International	0.24	0.00
Asian	-0.37	0.00
Constant	-6.23	0.00
Unknown/Other	-0.03	0.41
Female	0.00	0.87

*N=192,359; Pseudo R² = 0.45.

OIR found only one negative, statistically significant factor—being Asian.

As for the other variables, in descending order of importance (i.e., size of the coefficient estimate), athletics came in first, personal rating second, legacy third, and African American fourth—and so on, as the table shows. All variables except “Unknown/Other” and “Female” were statistically significant.²⁴

Furthermore, the regression results showed that academic excellence was less important than having a high personal rating, being a legacy or athlete, being African or Native American, or having exceptional extracurriculars. I discuss the major factors below.

Athletics. Controlling for all other variables, being a recruited varsity athlete gave an applicant the greatest advantage in admissions, with a coefficient estimate of 6.33. Being a recruited athlete was worth roughly five times as much in admissions as being in the “Academic 1 or 2” category (coefficients of 6.33 versus 1.31).²⁵ This was not surprising since recruited athletes appeared on a separate “coaches’ list,” and not amongst the general pool of applicants, effectively bypassing most of the decision-making

²³ Based on “Exhibit 112,” p. 5 of 10. See also SMF¶502.

²⁴ That is, findings are not likely due to chance if p-values are less than or equal to 0.05. Except for “Unknown/Other” and “Female,” all variables have p-values of less than 0.01. “Unknown or Other” has a p-value of 0.41; 0.41 is much larger than the conventional 0.05 level of statistical significance. For “Female,” the p-value=0.87.

²⁵ 6.33 divided by 1.31 = 4.83.

process.²⁶ The coefficient for athlete was more than two and a half times that of the second most important variable, a high personal rating.

Personal Rating. A high personal rating was the second most important variable in predicting admissions, according to OIR. It had a coefficient of 2.41, which was slightly higher than the third variable, being a legacy.²⁷

Legacy. Legacy, i.e., having a parent who attended Harvard or Radcliffe, was the third most significant variable statistically with a coefficient of 2.40.

African American and Native American. Fourth and fifth in importance was the consideration of race. Being African American had a coefficient of 2.37—slightly lower than having a high personal rating or legacy status, meaning that being African American was worth almost as much as having a high personal rating or being a legacy.

Additionally, it was worth roughly twice as much as having a high academic rating (2.37 versus 1.31).

Native American came in fifth, with a coefficient of 1.73, which was slightly higher than the importance placed on high extracurriculars (1.58) and a high academic rating (1.31).

High Extracurriculars. A rating of 1 or 2 on extracurricular activities had a coefficient of 1.58, only slightly higher than the high academic rating.

High Academic Rating. Based on the scores awarded by the admissions officer, and ranging from 1 to 6, a high rating was defined as a 1 or a 2. The academic rating took into account test scores, class rank, awards and honors, quality of the high school, difficulty of the curriculum, AP classes and exams. If the applicant had done independent research, the rating also incorporated the quality of the student's research paper, based on Harvard faculty comments.

Having a high academic ranking came in seventh, with a coefficient of 1.31. The seventh-place standing of high academic credentials shows that an applicant with superior academic qualifications is not assured of a place at Harvard. Conversely, an applicant who lacks the highest academic credentials but has nonacademic ones (e.g., being a legacy, having a good personality, being African American) can still be admitted. For example, 70% of recruited athletes with an academic rating of a 4 (which would be a mediocre rating given the Harvard applicant pool) were admitted, versus less than one-

²⁶ See Appendix D for further discussion of athletes at elite colleges.

²⁷ As discussed earlier, the initial personal ratings given by the admission officer were the most subjective of all factors. The reader rated each applicant on character issues, popularity, and leadership. Moreover, teacher recommendations, comments by high school guidance counselors, and interview ratings statistically accounted for only 20% of the variations in personal rating, according to OIR (SMF ¶462). What constituted the other 80% was not discussed. In contrast, SAT plus high school GPA statistically accounted for 98% of the variance in Harvard's academic index (SMF ¶463).

tenth of one-percent (0.076%) of non-athletes with the same score.²⁸ Note however that a mediocre academic score is only relative to the Harvard applicant pool. At a less competitive school, the same academic qualifications may be quite strong.

Standardized Academic Index. OIR also used standardized academic index scores in its logistic regression. The exact algorithm is not known. While similar to the Harvard academic ratings, calculated index scores were based on just the SAT I and high school grades. The standardized academic index had a coefficient of 1.29, roughly the same as Harvard's academic rating (as one would expect).

Hispanic. Being Hispanic came in at ninth, with a coefficient of 1.27. Harvard evidently gave significantly less preference to being Hispanic than to being African American or Native American. Being Hispanic was roughly the same as having strong academic credentials and only slightly more important than being from a low-income family.

Income. "Income less than \$60,000" came in tenth, with a coefficient of 0.98. Harvard gave relatively small preference to families with lower income. The "Income less than \$60,000" coefficient was substantially lower than other variables such as being a legacy or being African American.

Asian. The only negative factor was being Asian, with a coefficient of -0.37. All other things being equal, being white worked to an applicant's advantage (not to mention being African American or Native American, or, to a lesser extent, being Hispanic).

The negative coefficient of being Asian statistically controls for the other variables, including the personal ratings. There is clearly a separate Asian effect—lower admission rates of Asian applicants were not just because of lower personal ratings or less importance placed on high academic ratings.

In a different set of logistic regressions, OIR still found a negative coefficient against Asians.²⁹ Here, OIR produced more calculations, using the same method, this time excluding recruited athletes while adding many more variables (e.g., first-generation college bound, the year of applying, average SATs, average SAT IIs, and early applicant). Having added these other variables, OIR found an even larger negative result for being Asian, one with a negative coefficient of -0.50.

So, in sum, what do the OIR's coefficients reveal?

- That being Asian was consistently negative, even controlling for all other variables, including personal ratings;
- That high personal ratings were extremely important in admissions;
- That a high academic rating was far from the most significant;

²⁸ SMF ¶593.

²⁹ Exhibit 145, p. 10 of 18.

- That being African American, along with being an athlete, being a legacy and having a high personal rating outweighed a high academic rating; and
- The same weight was not given to Hispanics.

Conclusion

In 2012, Harvard's Office of Institutional Research reviewed the College's admissions process, looking specifically at whether it was biased against Asian applicants. Since then OIR has revisited this question on several occasions.

The answer is manifest. Harvard's admissions process disadvantages Asians. The OIR reports and memos provide the statistical evidence. OIR analyzed 200,000 recent applications in multiple ways, and each method produced the same result.

Asians on average were the most academically qualified. But OIR showed that academic qualifications were not the most important factor in being accepted. Being a varsity athlete, having high personal scores, being a legacy, and being African or Native American roughly doubled or more in importance compared to academic credentials. One could get into Harvard with lesser test scores and grades (relative to the Harvard applicant pool) if one could rely on one or more of those non-academic factors. In the hypothetical mentioned earlier, using nonacademic factors dropped the number of Asian admits from 43% to 18% of the entering class.

This extensive analysis identifies one version of how Harvard has used race as a "plus" factor (in the words of the Supreme Court) to create a diverse undergraduate class—as it defines diversity. In the competition for a limited number of seats, being African American or Native American is a considerably large "plus factor," making up for differences in academics and in lower personal scores. Being Hispanic is also a plus factor, but only a small one. It is less important than academic credentials and only slightly more significant than being a low-income applicant.

But being Asian is a "minus" factor. The different analyses conducted by OIR, using different variables and comparing different groups all pointed to the same conclusion.

Additionally, an Asian applicant is burdened not just by being Asian. The disadvantage of being Asian was magnified by lower personal ratings and not helped much by test scores and grades. Downplaying the importance of top academic credentials further worked to decrease the number of Asian admits.

Being Asian as a minus factor plus cultural stereotyping may affect an admissions officer's personal rating of an Asian applicant. An Asian applicant may face both obvious and subtle forms of discrimination when trying to get into Harvard.

On June 15, 2018, as a result of SFFA's motion for summary judgment, the OIR findings, though heavily redacted, were made public. Harvard has dismissed the office's findings, maintaining that they were drafts merely preliminary and never final. While it is true that OIR reached no final conclusions regarding bias against Asian applicants, the statistics themselves might be said to be the conclusion.

Appendix A . OIR Documents: a Timeline

In 2011 or early 2012, OIR began an examination of whether the college’s admissions process disadvantaged Asians. The table below presents a timeline of the institute’s work in terms of the documents the office produced and what they say. It is difficult to provide a precise timetable because some documents have not been released and some that were had been substantially redacted. SFFA put the latter on its web site. OIR had labeled them: “Highly Confidential—Attorney’s Eyes Only.”

Table 2. Timeline of Important OIR Documents:

<p><u>February 14, 2012</u></p> <ul style="list-style-type: none">• OIR produces a report. (Exhibit 145).• OIR summarizes the report’s findings:<ul style="list-style-type: none">○ “Athletes and Legacies explain the difference in raw admit rates for Asian and White applicants.”○ “Asian applicants have higher average ratings and test scores (excluding the personal rating).”○ “Differences exist in the raw admit rates of Asian and White students with similar test scores and academic indices. Even top scores and ratings don’t guarantee admission.”○ “Personal rating is important in models of the admissions process and drive some of the demographic differences we see.”³⁰• The dean of admissions receives the report “at some point.”³¹• Unknown who else receives it.• Meetings by persons not identified in the report are held to discuss the report and its findings.• Unclear why SFFA refers to this seemingly first report as “the second OIR report.” <p><u>February 2013</u></p> <ul style="list-style-type: none">• OIR produces a report on multiple topics, including one on Asian bias (Exhibit 134).• Date of report is unknown.• The document is subtitled, “For Discussion,” and it begins with the research question: “Does the admissions process disadvantage Asians?”³²• OIR reaches the same conclusions as before.<ul style="list-style-type: none">○ Being a recruited athlete, being a legacy, and having a high personal rating increase the proportion of whites and reduce the number of Asians.○ The same factors do not significantly increase the proportion of African American and Hispanic admits.
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³⁰ “Exhibit 145,” February 14, 2012, p. 3 of 18.

³¹ SMF ¶466, 467.

³² “Exhibit 134,” p. 4 of 44. OIR also reported on early admissions, gender balance, selection of major, and whether low-income applicants were given preference and significant financial aid.

- Inclusion of race as a factor hurts those chances for both whites and Asians but significantly increases the proportion of Hispanic and African American admits.
- OIR asks in the document itself, “Who else should see this work?”³³
- OIR meets with the dean of admission and others; date of meeting unknown.³⁴
- SFFA calls this “the first OIR report.”

May 1, 2013.

- OIR creates and circulates a lengthy memo that contains the same findings as were stated in previous reports.
- The memo does not directly answer the research question, “Does the [Harvard] admissions process disadvantage Asians?”
- OIR raises the concern again, as to whether any of the work should be made public.³⁵
- Harvard’s general counsel and high-level administrators, including the president of the university, meet with OIR to discuss findings. Date of meeting is not given in the released documents.

May 30, 2013.

- OIR produces new findings: on the proportion of applicants that are low income; on the percentage of each racial/ethnic group that are low income; and whether low-income applicants are admitted at a higher rate.
- Unknown who receives it; unknown who sees it.

November 7, 2014

- SFFA files lawsuit.

June 15, 2018

- OIR reports and documents, though redacted, made public.

³³ “Exhibit 134,” p. 39 of 44. Later [date not given], Fitzsimmons was given the 2012 report.

³⁴ SMF ¶¶ 426-431.

³⁵ “[S]haring any analysis of admission weights will draw attention to the variety of factors that compete with one another in the admissions decisions. ... We know that many are interested in the analysis of the relative tradeoffs.” See “Exhibit 112,” p. 5 of 10.

Appendix B. The Admissions Process

Harvard's admissions committee assigns one, two, or three admissions officers to each application. One admissions officer is designated the "first reader," who assigns a score from 1 to 6 on each of several factors—academic, extracurricular, athletic, and personal, with 1 being the highest rating.

Academics. There are two separate numbers for academics: 1) an academic rating; and 2) an academic index score. For the academic rating, the first reader assigns an academic score from 1 to 6 that is based on the standard elements—SAT scores, ACT scores, high school GPA, and/or class rank, but also academic awards and competitions, the quality of the applicant's research paper, AP classes and exams, and the quality of the high school.³⁶

There is also the applicant's score on Harvard's academic index. This is a calculation solely based on test scores and grades.³⁷

The academic rating by the first reader is somewhat more subjective than the output calculated from Harvard's academic index algorithm. It requires an assessment of the applicant's academic performance and environment. There is probably significantly correlation between the first reader's academic rating and the calculated academic index score.

Athletics. The first reader also gives the applicant a score from 1 to 6 for athletics, with a 1 for being a recruited athlete. OIR has not said what constitutes a score of 2, 3, 4, 5, or 6.

Personal Rating. The admissions officer also gives each applicant a personal rating, also from 1 to 6. The officer rates the applicant on such traits as whether the person has a "positive personality"; "others like to be around" the person; the individual has such traits as "likability ... helpfulness, courage, [and] kindness," and is "attractive . . . to be with," "widely respected," a "good person"; having good "human qualities."³⁸

Harvard's personal rating is the most subjective of the factors that are used in evaluating applicants.

Extracurriculars. The admission officer also assigns a score on extracurriculars (athletics are excluded). There's no further discussion or description of what goes into the scoring, of the types of extracurricular activities, e.g., classical music, marching band, church volunteering, debate club, to name a few.

³⁶ SMF ¶ 80.

³⁷ "Exhibit 145," p. 16 of 18. It's unclear how the academic index score is produced, except that it is a weighted score based on SAT scores and high school GPAs.

³⁸ SMF ¶ 90.

Additional Information. The applications indicate whether the person is a legacy, male or female, a U.S. citizen, the person’s race/ethnicity, and gender.

The first reader then assigns each applicant an overall score. The reader is encouraged to score an applicant by “stepping back and taking all the factors into account and then assigning that overall rating.”³⁹

Then the admissions process moves to the “dockets” stage. The admissions committee has 20 subcommittees representing 20 docket (geographic regions): 18 are American docket and two are international. Each subcommittee reviews the applicants from its docket, and a preliminary decision is rendered by the subcommittee to admit, deny, or waitlist.⁴⁰

After the subcommittees make these preliminary decisions, the 40-member admissions committee, made up of senior officers, meets and consolidates the decisions of the subcommittees. The admissions committee includes the dean and director of admissions.⁴¹

Before the end of the whole committee meeting (the meeting continues off and on for about two weeks), the dean comes up with a number that the committee must cut in order to meet the goal for the number of applicants who are to be admitted.⁴²

At multiple points, OIR provides summary statistics to the admissions committee on the admit demographics.

³⁹ SMF¶99.

⁴⁰ SMF¶114.

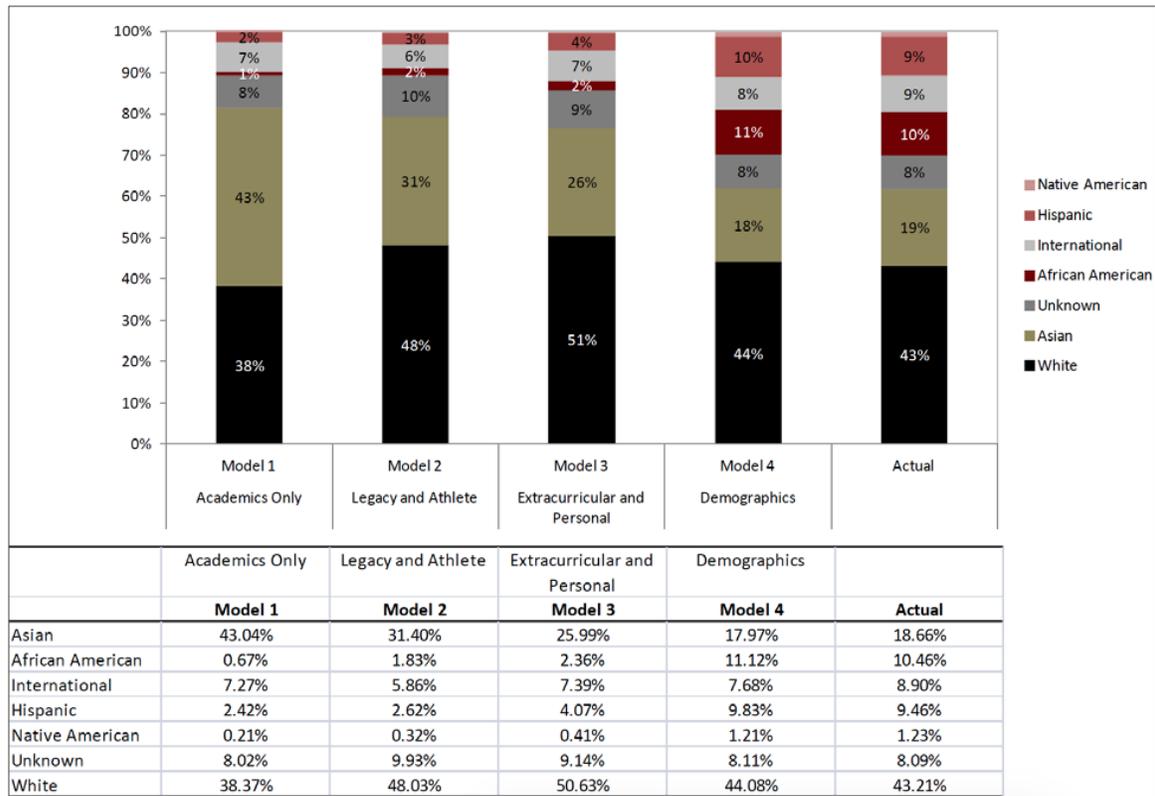
⁴¹ SMF¶124,125.

⁴² SMF¶134. The final number of admits is probably based on a projection of the number likely to matriculate and how many would end up going elsewhere.

Appendix C. OIR’s Graph of the Four Models

I have taken the data from this graph below and turned them into the figures discussed in the body of this paper.

Figure 6. Graph and Table from OIR Report, Four Models⁴³



⁴³ “Exhibit 145,” p. 12 of 18; “Exhibit 134,” p. 35 of 44. See also SMF ¶399.

Appendix D. Research on Athletics and Elite College Admissions

One should not be surprised that the “athlete” variable is the most important. Elsewhere, it was found that 70% of recruited athletes with an academic rating of “4” (a mediocre rating) were admitted while less than one-tenth of one-percent (0.076%) of non-athletes with the same score were.⁴⁴

But athletes form a large percentage of Harvard students. Over the years, varsity athletes have made up as much as one-sixth of the student body.⁴⁵ And Harvard athletics includes football and basketball but also volleyball, tennis, lacrosse, fencing, and more. (The *Crimson* noted that Harvard had a rugby team of 42 players.)

Varsity athletes have always made up a significant percentage of Ivy League undergraduates. In their study of college athletics, James L. Schulman and William G. Bowen found that male athletes were 27% of all undergraduate men in 1989, including 14% of all men at Columbia and 22% of all men at Princeton. They noted that the number is substantially higher today than it was in the fifties and seventies (20%) due to a significant rise in the number of male athletes in the “lower profile” sports (i.e., not football, basketball, or hockey).⁴⁶

A final note: Harvard says it does not keep records on the race and ethnicity of its varsity athletes. At least, in this area of education, the college does not advantage or disadvantage students on the basis of race.

⁴⁴ SMF¶592.

⁴⁵ *Harvard Crimson*, “The Other Field of Study,” November 21, 2013. <https://features.thecrimson.com/2013/other-field-study/>.

⁴⁶ James L. Schulman and William G. Bowen, *The Game of Life: College Sports and Educational Values* (Princeton, 2001), p. 32-35.



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