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**Broadening the Context of Affirmative Action:  
The Role of Athletics and Legacy in College Admission Decisions**

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# **Broadening the Context of Affirmative Action: The Role of Athletics and Legacy in College Admission Decisions**

## Abstract

This study proposes a wider view of affirmative action than the one generally given in the literature on college admission. While discussions of affirmative action tend to focus solely on race, there are other characteristics of college applicants that could also fall under the rubric of affirmative action because of the “bonus” they confer. Our study examines the ways in which two important factors in college admission decisions, athletics and legacy, give an advantage to particular students. It is widely accepted that admission officers give preference to recruited athletes and to those who are members of a family line at a particular institution. This paper quantifies the extent of this advantage. It also asks which applicants are benefiting most from these preferences. Logistic regression analyses of admission decisions at three selective universities show that the advantages given by athletic talent and legacy status are differentially available among otherwise similarly qualified students.

## INTRODUCTION

Sociologists and other researchers of educational policy have paid considerable attention to affirmative action in the admissions process of higher education institutions. Studies show that there is a significant benefit in college admissions conferred by minority status. Kane (1998: 432) estimates the advantage at elite colleges is equivalent to an increase of two-thirds of a point in grade point average or 400 points on the SAT. Bowen and Bok (1998: 26) estimate that black applicants are up to three times more likely to be accepted at selective institutions. These numbers have generated debate among non-minority applicants and admissions researchers who raise the question of whether affirmative action is fair to all applicants. Most recently, after an appeal to the U.S. Supreme Court challenged the race-conscious admissions policies at the University

of Michigan,<sup>1</sup> schools across the nation have been subtly changing their admissions procedures in order to avoid affirmative-action controversy (Argetsinger 2003).

The political climate has shifted in recent years from respect for and support of affirmative action to an eagerness to replace it with a different method of help for the disadvantaged. In the late 1970s colleges began to receive complaints about affirmative action, and these complaints have only increased over time, becoming serious enough to warrant several court cases attacking affirmative action policies. The first such case was in 1978 when *Regents of the University of California v. Bakke*<sup>2</sup> resulted in a U.S. Supreme Court case challenging the medical school at the University of California at Davis for their practice of reserving a number of spots for members of minority groups. This case resulted in a ruling that granted the right to use race as one factor among many contributing to the admissions decision. However, a ruling against the University of Texas law school in *Hopwood v. Texas* in 1996,<sup>3</sup> as well as the more recent controversy at the University of Michigan, has the administration at many schools wondering how to interpret the ambiguity of the 1978 ruling.

While it is generally conceded that minority candidates are given a boost in the college admissions process, less widely acknowledged is the fact that there are many ways in which applicants can gain an advantage in the highly competitive admissions process. For example, studies on early decision applicants show that they receive an admissions bonus roughly equivalent to 100 SAT points (Avery, Fairbanks, and Zeckhauser 2003). It has also been discovered that, in addition to minorities, legacies,

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<sup>1</sup> Gratz v. Bollinger (123 S. Ct. 602) and Grutter v. Bollinger (123 S. Ct. 617).

<sup>2</sup> Regents of the University of California v. Bakke, 98 S. Ct. 2733 U.S. Cal. 1978.

<sup>3</sup> Hopwood et al. v. Texas, 78 F. 3d 932 5<sup>th</sup> Cir. 1996.

recruited athletes, and talented artists receive an admissions advantage relative to their peers (Shulman and Bowen 2002, Bowen and Bok 1998, Kane 1998). While recent public and political discourse has begun to acknowledge legacy as a form of preference comparable to affirmative action (Argetsinger 2003, Golden 2003, Steinberg 2003), academics have been less willing to accept this comparison. They often fail to see the connection between the type of preference given to minority applicants and preferences given to those with other ascribed characteristics such as legacy or athleticism (Thomas and Shepard, 2003). While the idea of legacy as a counterpoint to arguments against affirmative action has recently become a controversial issue, there are remarkably few reliable studies that make an empirical case for a redefinition of what we now term affirmative action.

This paper argues for thinking of affirmative action more broadly as an admissions preference system based on any individual non-academic characteristic that an institution deems desirable. It shows that other sources of preference, namely legacy and athletics, function similarly to race in providing a bonus to applicants in the admissions process. How large is the admission advantage associated with being a talented athlete or a legacy? How does the size of the preference compare with the boost given to racial minorities? Which students benefit the most from these non-traditional sources of affirmative action? Whereas other studies have shown that there are admissions advantages for legacies or athletes (Kane 1998, Bowen and Bok 1998, Shulman and Bowen 2002), ours is the first to consider both of these factors, in conjunction with race, in a unified framework using regression analysis.

## BACKGROUND

There is generally no good way to predict with certainty the college or university admission of a particular individual (Paul 1995, Bunzel 1996, Toor 2001, Steinberg 2002, Argetsinger 2003, Menand 2003). The admissions process varies widely between schools, and different types of institutions select applicants with a variety of goals in mind. Such traditional indicators of academic merit as SAT scores, high school GPA, and class rank are highly correlated with offers of admission to selective schools and are widely thought of as primary factors in gaining access to selective institutions. However, at selective schools there are often many applicants of equal academic merit, making it difficult for admissions committees to make decisions based solely on academic performance and potential.

The literature on college admissions can be divided into two categories. The first focuses on what *should* be done in college admissions (Bowen and Rudenstine 2003, Atkinson 2002, Karen 1990, Klitgaard 1985, Sternberg 1972, Wechsler 1977). That is, what would a perfect selection system look like? What are its undergirding principles? This is the focus of most of the theoretical work regarding college admissions. The other portion of the literature deals with what *is* being done in college admissions (Avery et al. 2003, Zwick 2002, Breland et al. 2000, Kane 1998, Rowe et al. 1985, Hartman and Bell 1978). What does the current selection process look like? While the importance of this paper is rooted in the first set of issues, it is the second question that our study primarily addresses. We ask what the current admissions advantage is for athletes and for legacies.

In their groundbreaking study, Bowen and Bok (1998) outline the current state of admissions at U.S. colleges and universities. They argue for a definition of merit that is

more robust than academic merit, and they remind readers that the definition of merit depends on what the institution is trying to achieve. Bowen and Bok stress that admissions officers typically give significant weight to four applicant characteristics or qualifications: 1) academic promise, 2) ability to contribute to a community having diverse backgrounds, experiences, and talents, 3) the likelihood of making an important contribution to society, and 4) the potential to preserve and strengthen institutional loyalties and traditions.

It is useful to bear these four categories in mind when thinking about the admissions process at academically selective colleges and universities and the considerations given to particular groups of applicants. Items 1 and 3 are the ones most endemic to educational institutions. Items 2 and 4, on the other hand, consider ways in which the diversity and institutional loyalty contained within a student's background and experience might contribute more generally to the campus atmosphere.

There has been much debate within these broad criteria about which specific credentials should be valued in the admission decision and about how much weight to give to each of them. While most of this debate has centered around race, preferences for legacies and athletes are also being questioned. It has even been suggested that legacies and athletes are stigmatized in ways similar to minority students because of their privileged status in the admissions process (Bowen and Bok 1998, Argetsinger 2003). Though legacy applicants often have other desirable characteristics, many claim that a family advantage is an unfair one (Paul 1995, Golden 2003). Moreover, the stereotypical picture of a recruited athlete is one in which such meritocratic factors as SAT scores are either ignored or downplayed so that a school can have a better sports team.

Nevertheless, research on these credentials suggests they are two of the most important factors conferring an admissions advantage. Legacies are two or three times as likely to be accepted as all other candidates, and athletes are up to five times as likely to be admitted, depending on the institution (Paul 1995, Bowen and Bok 1998, Karen 1990, Schulman and Bowen 2001). These plus factors, however, are rarely examined together in analyses that control for other considerations such as race and SAT scores.

#### Legacy: A Weberian Framework

When we examine the advantage afforded to those whose parents or other family members have attended the college in question, we might ask why these legacy applicants are given a preference in admissions. Previous research on legacy admission suggests a story in which the reproduction of social class is perpetuated because of the characteristics that educational institutions tend to value (Karen 1990, Zweigenhaft 1993, Bourdieu 1977). That is, students who already have a cultural advantage deriving from an educated family background receive even more of an advantage.

In a Weberian framework (Weber 1946), the root of this tradition is a function of status groups. These are the basic units of society and are defined by individuals who share a common subculture—cultural tastes, ways of presenting oneself, habits of consumption, religious practices, values and opinions, and other preferences. Because these status groups are the source of a fundamental identity, the characteristics of the group inevitably become criteria for moral evaluation of others. And, because some groups control the institutions that distribute scarce social goods such as education, their method of evaluation becomes the criterion for distribution.

This method of evaluation works to the advantage of legacies on two levels. First, legacies have more of the cultural characteristics valued by the admissions committee because they are members of the same status group. This causes legacies to be understood as more qualified, because status groups work to maintain their advantage. Second, legacies are more likely to be counted on to make acceptable contributions at a later date, because they have the cultural capital to understand what kinds of contributions would be valued.

The legacy advantage is greatest at the most elite institutions. Ivy League schools admit over 40 percent of legacies in contrast to just 15 percent of all applicants (Paul 1995). Though some researchers hypothesize that the legacy advantage is primarily a result of overall better primary and secondary education and the elite values instilled by successful parents, admissions committees do make a conscious decision to admit legacies at a higher rate. This is done in order to garner political and financial support by increasing family ties to the institution and generally to increase social network ties and/or time contributions. Alumni contributions to most private institutions are indispensable, and the admissions committee is as aware of this need as of the need for a good quarterback (Karen 1990, Paul 1995, Steinberg 2003).

There has been scarce statistical analysis of legacy admissions on a detailed level; studies most often mention legacy advantage in passing, or with little empirical evidence (Argetsinger 2003, Golden 2003, Thomas and Shepard 2003, Steinberg 2003). The main weakness in these studies is that, although they suggest a higher acceptance rate for legacies, they fail to control for other applicant characteristics.

### Athletics: The Pursuit of Diverse Talents

There is a somewhat larger body of literature examining the role of athletics in the admissions process. The Knight Commission Report (2001) asks whether the balance between academics and athletics has gotten out of hand, taking a view of sports that would include athleticism in the diversity for which colleges strive. Atwell (2001) suggests that when it comes to sports, colleges tend to be in the entertainment, rather than education, business. Schulman and Bowen (2001) take a thorough look at intercollegiate athletics, sifting out the benefits of college sports while also highlighting the possible challenges sports programs pose to the educational goals of the institution. Their study emphasizes the growing importance of intercollegiate athletics and finds that the order in which preferences in admission are ranked has shifted over the past 23 years, from 1) minorities, 2) athletes, and 3) legacies, to a system that gives by far the highest advantage to athletes, then legacies, and finally minorities.

Studies about athletic recruitment add to an ongoing discussion of the role of athletics in minority communities. A substantial portion of the literature criticizes sports programs as a distraction to African-American students who should be focusing on their education and are instead enticed by the prospect of fame and fortune of the wrong kind. The “excessive celebration” of sports is believed to have eclipsed the success stories that illustrate more enduring values and more readily obtainable skills (Harrison 1998, Edwards 2000). Other researchers see recent efforts to restrict academically lenient recruitment practices of college sports programs as a hindrance to the future success of African-American students (Lomax 2000).

While many talk about sports and the role of athletic recruitment in influencing admissions standards or providing opportunities to students from more diverse backgrounds, Shulman and Bowen are the only authors who thoroughly examine the issue empirically and in a cross-institutional setting. Our study also uses cross-institutional data to examine the advantages afforded to athletes in the admissions process. It incorporates comparative data from three entering cohorts and separately identifies applicants who are white, black, Hispanic, Asian, or some other race or ethnicity.

## HYPOTHESES

At the heart of this study are two main questions. First, is there an admissions advantage for athletes or legacies? Second, if so, do these bonus factors convey selective advantage according to other applicant characteristics such as race or academic merit? Both questions have to do with how level the playing field is in college admissions. Our hypotheses are as follows:

### *Hypotheses about the advantage given to athletes:*

1. Athletes have a significant advantage in admissions.
2. Black students benefit most from an advantage given for athletic talent.
3. The largest athletic advantage is given to athletes with low or mid range SAT scores.

### *Hypotheses about the advantage given to legacies:*

4. Legacies have a significant advantage in admissions.
5. The largest advantage is given to legacies who are white.
6. The largest advantage is given to legacies with mid to high SAT scores.

Our hypotheses are grounded in the literature on college admissions. They arise from evidence provided by former empirical studies (in the case of hypotheses 1 and 4),

as well as from assumptions that have not been backed up by data but that are considered to be common sense or based on stereotypes. For example, the belief that college athletes have lower SAT scores (Shulman and Bowen, 2001: 43) gives rise to hypothesis 3, whereas the view that athletics provide an attractive path to upward mobility for minorities (Shulman and Bowen, 2001: 52) is the basis for hypothesis 2. Hypotheses 5 and 6 are based on claims that the legacy advantage is primarily afforded to white students and to students who are already attractive candidates based on their academic promise (Karen 1990, Bowen and Bok 1998, Thomas and Shepard 2003).

## DATA AND METHODS

### Data

To test these hypotheses we draw upon data from the National Study of College Experience (NSCE), a research project underway at Princeton University whose purpose is to understand better the paths different students follow through higher education. Data from the NSCE will shed light on how courses, activities, social networks, and people's backgrounds affect their experiences in applying to and attending college. The ten colleges and universities participating in the NSCE supplied individual-level data on all persons who applied for admission in the fall of 1983 (or a nearby year), 1993, and 1997.<sup>4</sup> These data include whether the individual was accepted, together with a string of variables from the application form and, if the student subsequently enrolled at that institution, additional information on financial aid and academic performance in college.

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<sup>4</sup> The ten institutions are drawn from the list of 34 colleges and universities contained in the College and Beyond data set assembled by Bowen and Bok (1998). In addition to having geographic spread, the ten NSCE schools include representation from public universities, private research universities, small liberal

For this analysis we use data from three private research universities that provided information on whether the applicant was a legacy and/or an athlete. Legacies are children or other close relatives of alumni/ae. Athletes include individuals who are either recruited by athletic programs, typically meaning that they appear on coaches' recruiting lists, or otherwise of Olympic or star athletic caliber. Table 1 contains a brief overview of the data. Altogether there are 124,374 applicant records. More than three-quarters of applicants had SAT scores of 1200 or better,<sup>5</sup> nearly one-half reported their race as white,<sup>6</sup> and athletes and legacies comprised 6 percent and 4 percent of the applicant pools, respectively.<sup>7</sup>

Table 1 also contains the percent of applicants in each category who were accepted. The overall acceptance rate across all cohorts for these three institutions is 25.0 percent. But there is considerable variation around this mean. Individuals with the highest SAT scores have the best chance of being accepted. Blacks and Hispanics have higher acceptance rates than whites or Asians. And both athletes and legacies have more than double the chance of being admitted over their non-athlete or non-legacy counterparts. To put these figures in perspective, for the three schools for which they have detailed records, Bowen and Bok (1998: 28n13) report overall admission rates for the 1989 entering cohort of 44 percent for non-black legacies, 22 percent for non-black,

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arts colleges, and historically black colleges and universities. Anonymity was guaranteed to these institutions in exchange for their participation in the National Study of College Experience.

<sup>5</sup> All SAT scores have been adjusted to a common metric to incorporate the "recentering" of scores introduced by the Educational Testing Service in the mid-1990s.

<sup>6</sup> We know from the more than 9,000 sample members who responded to the NSCE survey component that the great majority of persons who failed to report their race on the college application form in fact consider themselves to be white.

<sup>7</sup> To clarify, the unit of analysis is the institutional application record. The same individual may have applied for admission to more than one of these three universities. The 124,374 applications represent

non-legacy candidates, and 39 percent for black applicants. For the one institution for which they have reliable data on athletes, “the overall admission rate for athletes who were identified by coaches as promising candidates was 78 percent” (Bowen and Bok 1998: 29).

### Methods

To examine the influence of athlete and legacy status on admission chances at academically selective private research universities, we fit a series of logistic regression models where the response variable is the outcome of the admission decision and coded 1 if the applicant is accepted and 0 otherwise. We begin by examining determinants of admission probabilities that ignore athlete and legacy status. We then consider the additive effects of these potential “plus” factors when their influence is considered separately and jointly. Finally, to test the remaining hypotheses, we explore models that contain interactions involving athlete or legacy status with both race and SAT scores.<sup>8</sup>

### RESULTS

The models in Table 2 explore the effects on admission probabilities of cohort, race, sex, citizenship status, SAT scores, athlete, and legacy status. Including cohort year allows for the possibility that, other things equal, admission chances fluctuate over time. We include race to quantify the presumed benefit that members of racial and ethnic minority groups receive. Other demographic characteristics that may influence admission outcomes are sex and citizenship status. Academically selective colleges and

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112,909 applicants. Some persons (9,159) applied to two institutions, and a few (1,153) to all three. In short, 9.2 percent of our observations are either duplicates or triplicates.

<sup>8</sup> The purposes and values of these three institutions are sufficiently alike that it is appropriate to combine the separate outcomes of their admission decisions into one analysis.

universities typically rely on a variety of indicators of academic merit and potential. The one that is most consistently reported in admission records, however, and that has a straightforward interpretation is SAT score. Finally, we include athlete and legacy status as our primary variables of interest.<sup>9</sup>

Model 1 in Table 2 is the baseline model before athlete or legacy status is included. All the coefficients are significant at the .001 level, and the set of predictor variables is jointly significant (chi-squared statistic of 13,680.8 on 12 degrees of freedom). Relative to persons who applied to these universities in the 1980s, applicants in the 1993 entering cohort had 22 percent higher odds of being admitted. By contrast, applicants in 1997 had nearly 28 percent lower odds. Part of this intercohort difference is due to variations in the total volume of applications. In comparison to the 1980s cohort, the number of applications received was 7 percent lower in 1993 and 12 percent higher in 1997.

The racial/ethnic effects in model 1 are striking. Compared with applicants who listed their race as white on the application form, the odds of being admitted are nearly four times as high for blacks and more than twice as large for Hispanics. Asian or Asian-American applicants and applicants who listed some other race (including no race) had more than 30 percent poorer odds of admission compared with whites. The direction of these effects captures the popular conception of affirmative action as it is used in higher education. All other things equal, blacks and Hispanics receive a boost, whereas it is harder for Asians and Asian Americans to be admitted, even harder than it is for whites.

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<sup>9</sup> This list of predictor variables does not exhaust the set of factors that admission officers consider. We do not have information on, for example, letters of recommendation, personal statements, or other kinds of extracurricular activities that surely play a role in determining which applicants to accept.

What is perhaps more surprising is the magnitude of the advantage conferred on racial minorities.<sup>10</sup>

Males are at a competitive disadvantage with respect to females, having nearly 23 percent poorer chances of admission. U.S. citizens experience a 10 percent advantage over non-citizens. Finally, as one would expect, academic merit is strongly related to admission probabilities. There is a monotonic increase in odds ratios from the lowest SAT category to the highest. Compared to applicants with combined SAT scores below 1000, those scoring 1400 or better have odds of admission 70 times as high.

Our ability to explain admission outcomes is significantly enhanced by including athlete status. In model 2 being a recruited athlete raises one's odds of admission by nearly 350 percent compared with non-athletes. The odds ratio of 4.45 associated with being an athlete is the largest in model 2. The increase in the pseudo R-squared and in the likelihood ratio chi-squared statistic between models 1 and 2 also suggests the important influence of athletic ability in the admissions process. Model 3 includes legacy status and deletes athlete status. The coefficient on legacy status is also statistically significant. Legacy applicants have odds of admission that are 3.4 times those of applicants without a close relative who attended the institution. A comparison of the goodness-of-fit measures in models 2 and 3 against those in model 1 indicates that the

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<sup>10</sup>Using data from the high school class of 1982, Thomas Kane (1998) found that, at the most selective colleges, black and Hispanic applicants were 8 to 10 percent more likely to be admitted than their statistically equivalent non-minority counterparts. William Bowen and Derek Bok (1998) also detected a racial advantage in admissions. Based on records from five colleges and universities in the College and Beyond data, they found that unadjusted acceptance rates for applicants in the fall of 1989 were 25 percent for whites and 42 percent for blacks. The black-white gap rose when students with comparable SAT scores were compared, reaching an admission probability for black applicants that was three times higher than the admission probability for whites in the upper-middle ranges of SAT scores.

explanatory power of legacy status in the admissions process, while highly statistically significant, is somewhat less than that of athletic ability.

Model 4 in Table 2 considers the joint effect of legacy and athlete status. Each coefficient is significant, as is the joint effect of both variables combined (chi-squared statistic of 4400.4 on 2 degrees of freedom when models 4 and 1 are compared). The combined model indicates that being a promising athlete or a legacy applicant boosts one's chances appreciably in the competition for admission. Athletes have odds ratios of admission 4.5 times as high as non-athletes, and the likelihood of admission for legacies is 3.5 times as high as their non-legacy counterparts. These results lend strong support to hypotheses 1 and 4 that both athletes and legacies have a substantial advantage in the admissions process over non-athletes and non-legacies.

Closer inspection of the odds ratios in Table 2 suggests that the admission bonuses given to athletes and legacies may not be distributed evenly across all other categories of applicants. For example, a comparison of the odds ratios for the same variables in models 1 and 2 shows that the primary beneficiaries of the athletic preference may be applicants who are white, male, U.S. citizens, and who score in the lower-to-mid SAT range (below 1400). Similarly, a comparison of coefficients in models 1 and 3 suggests that white applicants who are U.S. citizens may benefit most from a legacy preference. Tables 3 and 4 explore some of these interactions more systematically.

Table 3 includes interactions between athletic ability and race and between athletic ability and SAT scores. Model 1 repeats the results from model 4 in Table 2 and is included again for reference. Model 2 can be used to test hypothesis 2 that black applicants benefit more from an athletic preference than individuals from other racial

backgrounds. The odds ratio opposite the athlete variable indicates that the likelihood of admission for white athletes is 4.8 times as high as that for white non-athletes. Black athletes receive an admission advantage over black non-athletes, too, but the odds ratio is only 56 percent as great as it is for whites. Still, the odds of admission for black athletes are 2.68 ( $= 4.803 \times .559$ ) times as high as they are for black non-athletes. The lower relative advantage for blacks compared with whites is significant at the .001 level.

The athletic advantage for Hispanics is also lower than it is for whites. The admissions boost that Hispanic athletes receive compared with Hispanic non-athletes is just 57 percent of 4.803, or an odds ratio for admission of 2.76 in favor of Hispanic athletes. This white-Hispanic differential is also significant. By contrast, athletes who count themselves as Asian or of another race have admission advantages over their non-athlete counterparts that are not significantly different from the odds ratio among whites. We may conclude from model 2 that the athletic preference is greatest in the case of white applicants and least (barely more than half as great) for blacks and Hispanics. This assessment does not support hypothesis 2. Nor does it easily comport with conventional wisdom. But when one considers the broad array of athletic teams fielded by top universities, including, for example, crew, tennis, lacrosse, swimming, golf, squash, and ice hockey, among others, one realizes that many of these are “elite” sports that are more readily available to students from privileged backgrounds.

Hypothesis 3 states that the athletic advantage is greatest for applicants with low or mid-range SAT scores. This hypothesis receives strong support from model 3. Athletes who score in the 1200-1399 range (the SAT reference group) have odds of admission that are 4.57 times as high as non-athletes with similar SAT scores. But the

athlete advantage is magnified by a factor of 3.09 for individuals having combined SAT scores below 1000. In other words, athletes in the lowest SAT category have a likelihood of admission that is more than 14 ( $= 4.571 \times 3.092$ ) times as high as for low-scoring non-athletes. The odds ratio between athletes and non-athletes decreases monotonically as SAT scores rise. At the highest SAT level (scores of 1400 or better), the odds ratio between athletes and non-athletes is 3.42 ( $= 4.571 \times .749$ ) in favor of athletes. In sum, athletes receive an edge over non-athletes at all SAT levels, but the greatest benefit is conferred in the lower tiers of SAT scores.

Model 4 in Table 3 combines the interactions between athlete status and race and athlete status and SAT scores and also adds an interaction term between athlete and legacy. Two observations are worth making. First, the conclusions we drew from models 2 and 3 are strengthened here. The white-nonwhite differential is stronger and so is the SAT gradient. Second, among white non-legacies with SAT scores in the 1200-1399 range, the admission advantage that athletes have over non-athletes is reflected in an odds ratio of 5.036. This athlete bonus is cut in half (.503), however, when the population under consideration is white legacies with 1200-1399 SAT scores.

The admission advantage possessed by athletes over non-athletes is shown in a different way in Figures 1 and 2. These figures give the expected probabilities of admission by race and athlete status (Figure 1) and by SAT score and athlete status (Figure 2), calculated from model 4 in Table 3 using the omitted categories of all other variables. There is a clear admission advantage for athletes over non-athletes. In Figure 1 the relative gain is large for whites and smallest for blacks and Hispanics. The expected admission probability is 128 percent greater for white athletes than for white

non-athletes (.530 versus .232). By contrast, among blacks and Hispanics, the relative gain is only 29 and 42 percent, respectively. The story in Figure 2 also confirms earlier results. There is a substantial increase in the likelihood of being accepted as SAT scores rise, and in each case the chances of admission favor athletes over non-athletes. However, the greatest athletic advantage is among the lowest-scoring applicants, and it declines monotonically as scores increase. For example, among applicants with combined SAT scores below 1000, athletes have an expected admission probability of .117 compared with .008 among non-athletes, for a ratio of 14.6. This ratio declines to 1.7 for SAT scores in the 1400-1600 range.

We may test the remaining two hypotheses using data in Table 4. Once again, model 1 repeats results from model 4 in Table 2. Model 2 is appropriate for testing hypothesis 5 that whites are the primary beneficiaries of a legacy preference. Among whites, the odds of legacy applicants being admitted that is 3.335 times that of non-legacies. The relative odds are only 60 percent as large for blacks and just 36 percent as great for Hispanics. Nevertheless, Hispanic legacy applicants still have 20 percent better chances ( $3.335 \times .360 = 1.20$ ) of being admitted than Hispanic non-legacies. There is no statistically significant difference between the relative odds for whites and Asians, but persons of other race have relative odds 28 percent higher than those of whites. As noted earlier, most of the individuals in the other race category are individuals who failed to report their race on their college application, and most of these are white. We should conclude from model 2 that whites (including those who failed to indicate their race as white) benefit most from a legacy preference. These findings support hypothesis 5.

Model 3 shows that the likelihood of legacies being admitted among students with SAT scores between 1200 and 1399 is 3.2 times the likelihood among non-legacies with scores in the same range. For applicants with lower scores, the relative legacy advantage is not significantly different from that of students in the 1200-1399 range. However, the legacy bonus increases by 28 percent for students with the highest SAT scores, and the difference is significant. This finding lends strong support to hypothesis 6, which suggests that the largest legacy advantage goes to applicants with SAT scores in the mid-to-high range.<sup>11</sup> It is not clear why the largest relative boost of all—nearly twice that for students in the 1200-1399 range—goes to individuals whose SAT scores are not known. The main story is not much altered in model 4, and the interaction term between legacy and athlete indicates that the admission advantage possessed by legacies over non-legacies (3.25 times as great) among white non-athletes with SAT scores between 1200 and 1399 is nearly halved (.553) among white athletes with comparable SAT scores.

The predicted probabilities of admission in Figures 3 and 4 are calculated from model 4 in Table 4. Figure 3 shows the relative advantage of legacies over non-legacies by racial/ethnic group. It is apparent that the relative gain by legacies is large for whites and Asians, greatest perhaps for persons of other races, and definitely smallest for blacks and especially for Hispanics. These conclusions are consistent with the regression results in model 2 in Table 4. When the expected admission probabilities in Figure 4 are recast as odds ratios, they also conform to the regression findings in Table 4. The odds ratio between legacies and non-legacies is 2.7 for SAT scores in the 1200-1399 range, 3.4 for the highest scores, and 4.6 when SAT scores are unknown.

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<sup>11</sup> Cross-tabulations reported in Bowen and Bok (1998: 29) come to similar conclusions.

## CONCLUSIONS

Affirmative action in higher education means different things to different people. At one level it represents an aggressive form of outreach to ensure an applicant pool as deep, talented, and diverse as possible. Under this view, the admission process itself may or may not be accompanied by preferential treatment other than for candidates who display sufficiently high levels of academic ability. More commonly, however, affirmative action is seen as a system of preferences or “plus” factors that operate at the admission stage to ensure adequate representation from underrepresented groups of potentially many different types. Ordinarily, at least in the public mind, preferences for members of racial and ethnic minority groups loom large.

Using data from three selective research universities, we show that racial/ethnic preferences are quite strong. Unadjusted admission rates for black applicants are close to 40 percent and for Hispanic candidates nearly 32 percent, in contrast to 27 percent for whites and 21 percent for Asians. In comparison with whites, blacks have odds of admission roughly four times as high (controlling for other factors) and Hispanics have an advantage two and one-half times as great as whites. But at highly competitive colleges and universities where the size of the applicant pool is large relative to the number of students accepted, admission officers are able to exercise a fair amount of discretion over whom to admit. Under such circumstances, preferences become multi-faceted and are awarded across the board for such things as geography, religion, economic status, artistic talent, and manifestations of creativity, among others.

Here we focus on the bonus given to recruited athletes and to family legacies. These plus factors are also sizeable. When viewed as odds ratios, admission preferences

extended to athletes are as large as those for blacks, and those for legacies are about three-quarters as strong. Both athletes and legacies display unadjusted admission rates that are twice those of their non-athlete and non-legacy counterparts. We also show that athlete and legacy bonuses are not evenly distributed over applicants in other categories. It is in fact whites and candidates with SAT scores in the lower ranges that benefit most from an athletic preference. Legacy preferences are extended disproportionately to white applicants with above-average SAT scores.

The fact that white students are the primary beneficiaries of athlete and legacy recruitment strategies at highly selective private research universities helps to put into broader perspective the usual arguments about how racial minorities are unfairly favored by affirmative action. This customary view is affirmative action in the most rudimentary and restrictive sense. Here we argue for a more expansive interpretation of affirmative action, one that views academically selective colleges and universities as picking and choosing from many different pools or queues in order to create a first-year class that best advances institutional goals and values.

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Table 1: Frequency Distributions and Percent of Applicants Accepted, by Category

Category	Number of Applicants	Percent of Applicants	Percent Accepted
<i>Total Sample</i>	124,374	100.0	25.0
<i>Cohort</i>			
1980s	40,825	32.8	24.5
1993	38,000	30.6	29.1
1997	45,549	36.6	21.9
<i>SAT Score</i>			
< 1000	2,643	2.1	1.9
1000 – 1199	17,147	13.8	10.3
1200 – 1399	55,890	44.9	21.3
1400 – 1600	43,926	35.3	38.3
Unknown	4,768	3.8	10.2
<i>Sex</i>			
Female	68,465	55.0	24.1
Male	55,909	45.0	25.9
<i>Race</i>			
White	60,620	48.7	26.9
Black	6,618	5.3	38.7
Hispanic	6,906	5.6	31.6
Asian	28,754	23.1	20.9
Other <sup>a</sup>	21,476	17.3	18.6
<i>U.S. Citizen</i>			
No	18,415	14.8	16.5
Yes	105,959	85.2	26.4
<i>Athlete</i>			
No	116,897	94.0	23.4
Yes	7,477	6.0	49.1
<i>Legacy</i>			
No	119,649	96.2	24.0
Yes	4,725	3.8	49.7

<sup>a</sup> “Other” race includes race not specified.

Source: National Study of College Experience

Table 2: Logistic Regression Estimates of the Additive Effect of Athlete and Legacy Status on Admission Probabilities (coefficients shown as odds ratios)

Predictor Variables	Model 1	Model 2	Model 3	Model 4
<i>Cohort</i>				
(1980s)	--	--	--	--
1993	1.217 ***	1.222 ***	1.230 ***	1.236 ***
1997	0.724 ***	0.737 ***	0.729 ***	0.743 ***
<i>Demography</i>				
(White)	--	--	--	--
Black	3.921 ***	4.207 ***	4.153 ***	4.466 ***
Hispanic	2.377 ***	2.659 ***	2.523 ***	2.828 ***
Asian	0.651 ***	0.698 ***	0.683 ***	0.733 ***
Other Race	0.683 ***	0.691 ***	0.659 ***	0.667 ***
(Female)	--	--	--	--
Male	0.774 ***	0.737 ***	0.776 ***	0.738 ***
(Non-U.S. Citizen)	--	--	--	--
U.S. Citizen	1.102 ***	1.042	1.042	0.985
<i>Academic Merit</i>				
SAT < 1000	0.040 ***	0.039 ***	0.040 ***	0.039 ***
SAT 1000-1199	0.306 ***	0.290 ***	0.308 ***	0.291 ***
(SAT 1200-1399)	--	--	--	--
SAT 1400-1600	2.805 ***	3.101 ***	2.858 ***	3.162 ***
SAT Unknown	0.386 ***	0.375 ***	0.392 ***	0.382 ***
<i>Other Plus Factors</i>				
(Non-Athlete)		--		--
Athlete		4.450 ***		4.512 ***
(Non-Legacy)			--	--
Legacy			3.388 ***	3.467 ***
Number of Cases	124,374	124,374	124,374	124,374
Likelihood Ratio Chi-Squared (df)	13,680.8 (12)	16,686.9 (13)	15,072.6 (13)	18,081.2 (14)
Pseudo R <sup>2</sup>	0.098	0.119	0.108	0.129

Note – omitted categories are shown in parentheses.

\* p < 0.05; \*\* p < 0.01; \*\*\* p < 0.001

Table 3: Logistic Regression Estimates of the Interactive Effect of Athlete Status on Admission Probabilities (coefficients shown as odds ratios)

Predictor Variables	Model 1	Model 2	Model 3	Model 4
<i>Cohort</i>				
(1980s)	--	--	--	--
1993	1.236 ***	1.233 ***	1.232 ***	1.229 ***
1997	0.743 ***	0.741 ***	0.740 ***	0.736 ***
<i>Demography</i>				
(White)	--	--	--	--
Black	4.466 ***	4.668 ***	4.512 ***	4.841 ***
Hispanic	2.828 ***	2.905 ***	2.860 ***	2.983 ***
Asian	0.733 ***	0.737 ***	0.732 ***	0.738 ***
Other Race	0.667 ***	0.669 ***	0.666 ***	0.667 ***
(Female)	--	--	--	--
Male	0.738 ***	0.739 ***	0.737 ***	0.736 ***
(Non-U.S. Citizen)	--	--	--	--
U.S. Citizen	0.985	0.984	0.981	0.978
<i>Academic Merit</i>				
SAT <1000	0.039 ***	0.040 ***	0.031 ***	0.030 ***
SAT 1000-1199	0.291 ***	0.292 ***	0.277 ***	0.272 ***
(SAT 1200-1399)	--	--	--	--
SAT 1400-1600	3.162 ***	3.177 ***	3.203 ***	3.232 ***
SAT Unknown	0.382 ***	0.382 ***	0.369 ***	0.365 ***
<i>Other Plus Factors</i>				
(Non-Athlete)	--	--	--	--
Athlete	4.512 ***	4.803 ***	4.571 ***	5.036 ***
(Non-Legacy)	--	--	--	--
Legacy	3.467 ***	3.475 ***	3.470 ***	3.672 ***
<i>Interactions</i>				
(Non-Athlete or White)		--		--
Athlete and Black		0.559 ***		0.443 ***
Athlete and Hispanic		0.574 ***		0.497 ***
Athlete and Asian		0.953		1.002
Athlete and Other Race		0.971		0.988
(Non-Athlete or Non-Legacy)				--
Athlete and Legacy				0.503 ***
Athlete and SAT < 1000			3.092 **	4.383 ***
Athlete and SAT 1000-1199			1.312 ***	1.478 ***
(Non-Athlete or SAT 1200-1399)			--	--
Athlete and SAT 1400-1600			0.749 ***	0.714 ***
Athlete and SAT Unknown			1.236	1.296
Number of Cases	124,374	124,374	124,374	124,374
Likelihood Ratio Chi-Squared (df)	18,081.2 (14)	18,119.6 (18)	18,134.7 (18)	18,234.1 (23)
Pseudo R <sup>2</sup>	0.129	0.130	0.130	0.131

Note – omitted categories are shown in parentheses.

\* p < 0.05; \*\* p < 0.01; \*\*\* p < 0.001

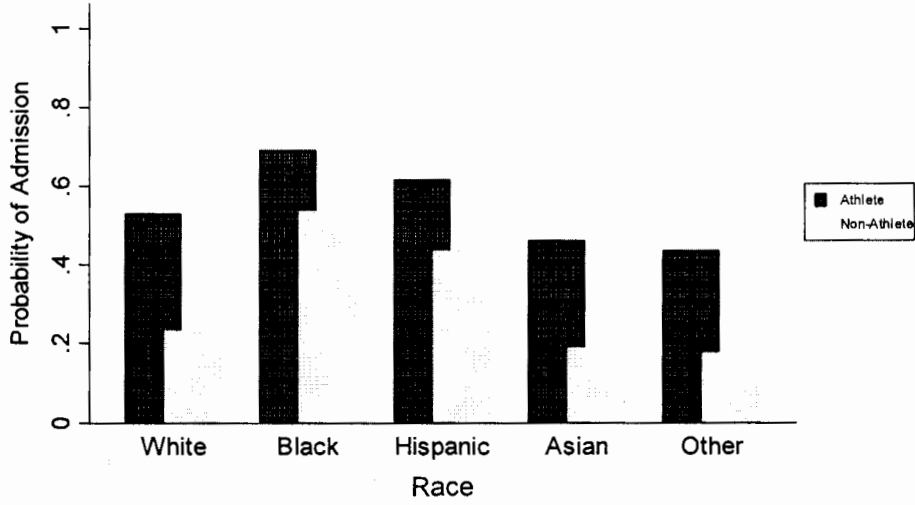
Table 4: Logistic Regression Estimates of the Interactive Effect of Legacy Status on Admission Probabilities  
(coefficients shown as odds ratios)

Predictor Variables	Model 1	Model 2	Model 3	Model 4
<i>Cohort</i>				
(1980s)	--	--	--	--
1993	1.236 ***	1.238 ***	1.237 ***	1.239 ***
1997	0.743 ***	0.744 ***	0.743 ***	0.744 ***
<i>Demography</i>				
(White)	--	--	--	--
Black	4.466 ***	4.487 ***	4.446 ***	4.478 ***
Hispanic	2.828 ***	2.856 ***	2.817 ***	2.854 ***
Asian	0.733 ***	0.730 ***	0.734 ***	0.732 ***
Other Race	0.667 ***	0.652 ***	0.667 ***	0.653 ***
(Female)	--	--	--	--
Male	0.738 ***	0.738 ***	0.738 ***	0.738 ***
(Non-U.S. Citizen)	--	--	--	--
U.S. Citizen	0.985	0.978	0.986	0.977
<i>Academic Merit</i>				
SAT < 1000	0.039 ***	0.039 ***	0.039 ***	0.039 ***
SAT 1000-1199	0.291 ***	0.292 ***	0.295 ***	0.293 ***
(SAT 1200-1399)	--	--	--	--
SAT 1400-1600	3.162 ***	3.166 ***	3.124 ***	3.139 ***
SAT Unknown	0.382 ***	0.381 ***	0.370 ***	0.369 ***
<i>Other Plus Factors</i>				
(Non-Athlete)	--	--	--	--
Athlete	4.512 ***	4.515 ***	4.515 ***	4.649 ***
(Non-Legacy)	--	--	--	--
Legacy	3.467 ***	3.335 ***	3.176 ***	3.250 ***
<i>Interactions</i>				
(Non-Legacy or White)		--		--
Legacy and Black		0.596 *		0.629
Legacy and Hispanic		0.360 ***		0.377 ***
Legacy and Asian		1.065		1.017
Legacy and Other Race		1.282 **		1.282 **
(Non-Legacy or Non-Athlete)				--
Legacy and Athlete				0.553 ***
Legacy and SAT < 1000			1.135	1.555
Legacy and SAT 1000-1199			0.774	0.892
(Non-Legacy or SAT 1200-1399)			--	--
Legacy and SAT 1400-1600			1.275 **	1.194 *
Legacy and SAT Unknown			1.927 **	1.825 **
Number of Cases	124,374	124,374	124,374	124,374
Likelihood Ratio Chi-Squared (df)	18,081.2 (14)	18,114.5 (18)	18,106.6 (18)	18,157.1 (23)
Pseudo R <sup>2</sup>	0.129	0.130	0.130	0.130

Note – omitted categories are shown in parentheses.

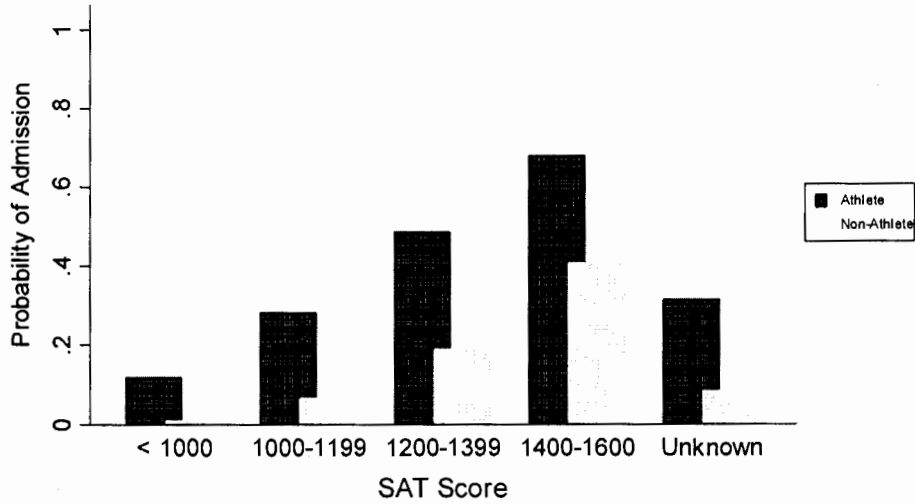
\* p < 0.05; \*\* p < 0.01; \*\*\* p < 0.001

Figure 1: Mean Predicted Probability of Admission  
Comparison of Athlete and Non-Athlete by Race



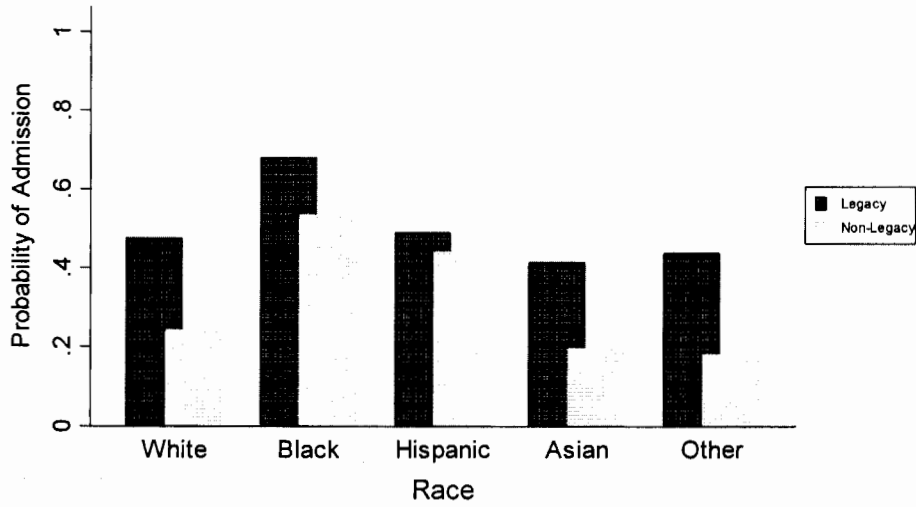
Note: based on the estimates for model 4 in Table 3.

Figure 2: Mean Predicted Probability of Admission  
Comparison of Athlete and Non-Athlete by SAT Score



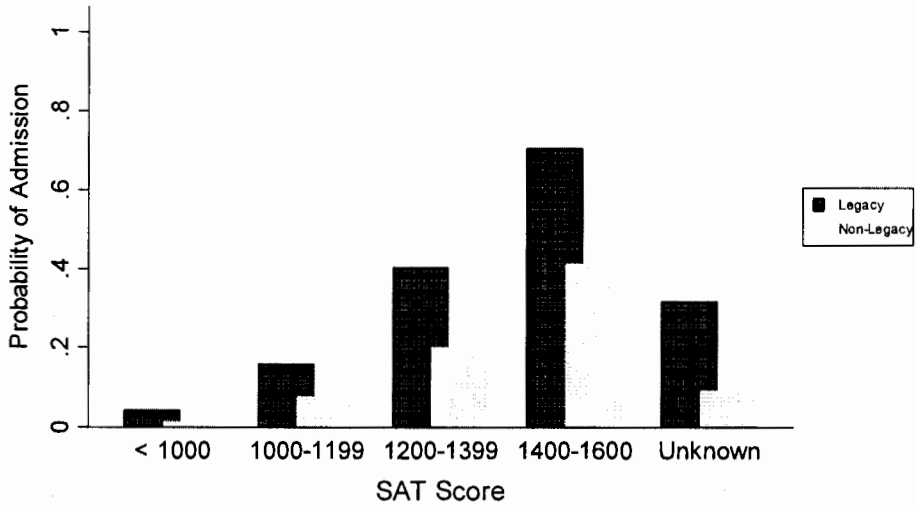
Note: based on the estimates for model 4 in Table 3.

Figure 3: Mean Predicted Probability of Admission  
Comparison of Legacy and Non-Legacy by Race



Note: based on the estimates for model 4 in Table 4.

Figure 4: Mean Predicted Probability of Admission  
Comparison of Legacy and Non-Legacy by SAT Score



Note: based on the estimates for model 4 in Table 4.