The Effects of America's Three Affirmative Action Programs on Academic Performance

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Although affirmative action programs for minority students form just one of several criteria for preferential admissions to American colleges and universities, little research has compared the impact of other large "affirmative actions" programs such as those for athletes and legacies. Using data from the National Longitudinal Survey of Freshmen (NLSF), a sample of nearly 4,000 students in 28 elite American colleges and universities, we develop models that test claims about the effects of affirmative action—namely mismatch hypothesis and stereotype threat—on college performance in three groups: minorities, athletes, and legacies. First, we estimate models predicting two direct and indirect effects suggested by stereotype threat: hours studied per week and the degree of psychological performance burden reported by students. Next we include these direct and indirect measures of stereotype threat and the mismatch hypothesis on grades earned through the end of sophomore year and the likelihood of leaving school by spring of junior year. We do not find strong evidence for the mismatch hypothesis as applied to minorities and athletes, although legacies who enjoyed a greater admissions bonus earned lower grades. Minorities attending institutions that practice greater affirmative action were less likely to drop out but did report lower grades. We also find that legacies and athletes who attend a school that practices institutional affirmative action are indeed more likely to drop out of school. Keywords: affirmative action, higher education, stereotype threat, legacy students, student athletes.

Affirmative action in favor of underrepresented minorities has been debated by scholars, the media, and the public for many years. Attention crested in 2003 with the Supreme Court's Bollinger decisions, which reaffirmed the constitutionality of using race as one factor, among several, in college admission decisions. Less controversial have been two other preferential admission programs also in widespread use, one granting an admissions bonus to applicants with athletic skills and the other conferring preferential treatment on the children of alumni, commonly known as "legacy admissions." Even less attention has focused on smaller preferential admissions programs having to do with region, class, and rural origin. As these various categories suggest, entry into selective institutions of higher education has never been decided purely on academic criteria—before or after minority affirmative action came into effect (Fetter 1995; Zwick 2002).

The term "affirmative action" comes from the legal requirement that institutional officials take concrete, identifiable, and positive (in other words, *affirmative*) steps to include historically excluded groups in their selection pools and to adopt mechanisms that enure their representation among those ultimately chosen (Skrentny 1996). We realize, of course, that legacy admissions and athletic recruitment originate from very different motivations, but here we label them as "affirmative" because they, too, bring non-academic criteria positively to bear in the admissions process. In attaching the label "affirmative action" to legacy and athletic admissions, we are being deliberately provocative in order to underscore the fact that minorities are not the only social group to benefit from a "thumb on the scale" in academic admissions.

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***Social Problems*, Vol. 54, Issue 1, pp. 99–117, ISSN 0037-7791, electronic ISSN 1533-8533.**

The lack of popular or scholarly attention to America's two other major affirmative action programs does not stem from their small size. James L. Shulman and William G. Bowen (2001) document the huge importance of athletic affirmative action in college admissions and demonstrate that its influence is greatest in small liberal arts colleges. Among students entering institutions in the New England Small College Athletic Conference in 1995, for example, Bowen and Sarah A. Levin (2003:86) found that 24 percent of males and 17 percent of females were *recruited* athletes. According to their calculations, recruited athletes had roughly a 33-percentage point advantage over non-athletes in the admissions process.

A survey conducted by H. M. Breland and associates (1995) found that affirmative action for children of alumni is practiced widely at both public and private institutions. A recent survey by Daniel Golden (2003) found that 23 percent of freshmen enrolled at Notre Dame were the children of alumni, with corresponding figures of 14 percent at Penn, 13 percent at Harvard, 11 percent at Princeton, and 11 percent at the University of Virginia. The seemingly modest size of these percentages belies the fact that children of alumni constitute a relatively small share of all applicants to selective schools. When one controls for the number of applicants, the children of alumni are found to benefit from exceptionally high admission rates. According to William G. Bowen and Derek Bok (1998), legacies had a two to one admissions advantage over non-legacies. Cameron Howell and Sarah E. Turner (2004) document a similar advantage at the University of Virginia, where only 32 percent of regular applicants were admitted compared with 57 percent of alumni children. As a result, the freshman class of 2002 was 7 percent legacy, compared with 3 percent African American, even though the state is 20 percent black.

The preferential boost given to alumni children appears to be greatest at private institutions. The University of Pennsylvania is one of the few institutions brave enough to publish admissions data online. According to final tabulations for the Class of 2008, legacies accounted for 4.6 percent of applicants but made up 11.2 percent of admissions; and whereas the overall admission rate at Penn was 21 percent, it was 51 percent for the children of alumni, yielding an advantage of 2.4 to 1 (University of Pennsylvania 2005). In their study of three private research universities, Thomas J. Espenshade, Chang Y. Chung, and Joan L. Walling (2004) found that 50 percent of legacies were admitted compared with only 25 percent overall. By way of comparison, the authors learned that 49 percent of athletes were admitted, compared with 39 percent of African Americans and 32 percent of Latinos.

It is clear that the United States hosts three major programs of "affirmative action" that assign significant weight to membership in a social group. It is also clear that programs targeting athletes and alumni children are at least as large (in terms of numbers of people who benefit) as those favoring minorities. The foregoing statistics can be misleading, however, because they do not take into account the scholarly qualifications of different sets of applicants. Although in raw terms, athletes and legacies may both enjoy a 2 to 1 admissions advantage, it is quite possible that the former are relatively less qualified, while the latter are relatively more qualified, on average.

The only comprehensive study of all three affirmative action programs that has sought to control for variation in qualifications is that of Espenshade and associates (2004). They used special tabulations of admissions data to estimate models predicting the likelihood of admission using variables such as sex, citizenship, SAT score, high school GPA, race, athletic recruitment, and legacy status. Other things equal, they found that being African American instead of white translated into the equivalent of 230 extra SAT points on a 1600 point scale. For athletes the advantage was 200 points, and for legacies it was 160 points. Thus, when objective qualifications are held constant, being African American appears to be somewhat more powerful in achieving selective admission than athletic ability or alumni family origins. All three groups nonetheless receive a substantial premium in the entry sweepstakes compared with other applicants.

Despite the large size of America's three affirmative action programs, only minority affirmative action has been controversial. Critics have leveled three basic charges against race-sensitive admissions: (1) affirmative action constitutes reverse discrimination that lowers the odds of admission for other, better qualified non-minority students; (2) affirmative action creates a mismatch between the skills of minority students and the abilities required for success at selective institutions, setting up minorities for academic problems; and (3) affirmative action stigmatizes members of the target group as less than fully qualified, which results in demoralization and substandard performance by students in the favored group who may, in fact, be very well qualified.

The first criticism—that affirmative action constitutes reverse discrimination (see Glazer 1976)—has not stood up to empirical scrutiny. Studies show that minority affirmative action generally has small and insignificant effects on the admission prospects of white students (Dickens and Kane 1999; Wilson 1995). In legal terms, the Supreme Court recently held that using race, as one of *several* factors, in college admissions is indeed constitutional and allowable under federal law (see *Gratz v. Bollinger* 2003; *Grutter v. Bolling*er 2003). In light of this decision, and owing to a lack of appropriate data at our disposal, we will not consider the reverse discrimination hypothesis further in this paper.

The second hypothesis, which argues that affirmative action sets up minority students for failure by placing them in academic settings where they are under-prepared, has been called the mismatch hypothesis because it posits a disconnect between the skills minority students possess and those they need for success at competitive institutions of higher education (Sowell 2004; Thernstrom and Thernstrom 1999). Although this hypothesis makes intuitive sense, it has not been supported empirically (see Holzer and Neumark 2000; Kane 1998). Bowen and Bok (1998), for example, found that blacks who attended selective institutions were more likely to graduate than their counterparts at less selective institutions. Sigal Alon and Marta Tienda (2005) found that minority students generally thrive at selective institutions, whatever their origins.

In his assessment of minority affirmative action at U.S. law schools, Richard H. Sander (2004) argued that black students were substantially less qualified than whites and that, as a result, they clustered at the bottom of the class, dropped out at higher rates, and failed the bar more often. Based on these data, he concluded that affirmative action actually undermined the goal of producing black lawyers. The fact that blacks earn lower test scores, achieve lower grades, and graduate at lower rates is well-documented across all institutions, selective or not, but critics have argued that these facts alone provide no basis for concluding that affirmative action is causing academic problems (see Chambers et al. 2005).

A recent analysis of the academic effects of minority affirmative action programs at selective schools led Mary J. Fischer and Douglas S. Massey (forthcoming) to conclude that affirmative action did *not* set up minority students for unusual academic difficulties. They developed an index measuring the degree to which minority students were likely to have benefited from affirmative action and found that likely beneficiaries actually earned *higher* grades than other minority students, other things equal. That is, black and Hispanic students with SAT scores below the institutional average earned better grades than minority students generally, contradicting the mismatch hypothesis.

A third argument against affirmative action is that, at a collective level, it stigmatizes minority group members as intellectually inferior (see Thernstrom and Thernstrom 1999). We label this proposition the stereotype threat hypothesis because it claims that affirmative action underscores the belief—deeply ingrained in American culture—that minority students, especially African Americans, are less intelligent (a hypothesis originated by Steele 1992). In this case, affirmative action's exacerbation of racial stigma influences not only how white students view their minority peers, but also how minority students view themselves. Even proponents of affirmative action admit that heightening racial stigma is a possible negative consequence of affirmative action (Bowen and Bok 1998).

If white students believe that many of their black peers wouldn't be there were it not for a "lowering" of academic standards under affirmative action, and more importantly, if black students *perceive* whites to believe this (see Torres and Charles 2004), then affirmative action may indeed undermine minorities' academic performance by increasing the psychological burden they experience. Fischer and Massey (forthcoming) also addressed the issue of stereotype threat and found that affirmative action policies did, in fact, heighten the level of psychological threat to black students and contributed to their under-performance.

In the present study, we expand on this earlier work by measuring simultaneously the academic effects of all three of America's large affirmative action programs. Specifically, we estimate models to test whether skills mismatch and stereotype threat influence the academic performance of legacies and athletes as well as minorities. Presumably skills mismatch operates similarly for all three groups—to the extent that admissions standards are "relaxed" to recruit athletes or admit the children of alumni, then these students likewise are set up for academic difficulties. Moreover, if it is widely believed on campus that standards have been lowered to admit athletes and legacies, this belief could trigger mechanisms of stereotype threat similar to those experienced by minorities, emphasizing negative images about college athletes ("dumb jocks") and alumni children ("stupid rich kids").

Affirmative Action and Academic Performance

Measuring Affirmative Action

To gauge the effects of affirmative action on academic performance, one must rely on some operational measure by which students from extremely diverse backgrounds can be compared. For this reason, debates about the effects of affirmative action intersect with broader debates about the value and appropriateness of standardized tests in evaluating students for college admission (Lemann 1999; Owen 1999; Zwick 2002). Much attention has focused on the SAT, which has been shown to be an imperfect predictor of college performance, especially among minorities (Bowen and Bok 1998; Fleming 2002; Fleming and Garcia 1998). Despite vocal criticisms (see Gould 1981; Taylor 1980), the SAT remains a staple of the college admissions process, though it may be less important at selective private institutions, which generally cast a wider net in their search for meritorious students by taking into account a variety of skills, talents, and accomplishments in addition to grades and test scores (see Springer and Franck 2005; Steinberg 2002).

Wherever they apply, however, students and parents display an obsessive concern with SAT scores and this test continues to signify to the general public how well qualified a student is to attend a prestigious college, as evidenced by their prominence in the institutional ratings published annually by *U.S. News and World Report* (see U.S. News and World Report 2005). When critics of affirmative action speak out against race-sensitive admissions, the evidence they most often cite to document the "unfairness" of race-sensitive admissions are the large black-white test score gaps (see Jencks and Philips 1998; Thernstrom and Thernstrom 1999).

Perhaps for these reasons, when Espenshade and associates (2004) sought to quantify the admissions advantage granted to affirmatively targeted groups, they did so in terms of an SAT score "bonus." We also use SAT scores to measure affirmative action, not because they are ideal, but because they offer a practical method that can be applied across groups and schools, in addition to occupying center stage in the affirmative action debate. In essence, we take the critics at their word and reason that if admissions standards have indeed been "loosened" to facilitate the entry of a particular group of students—athletes, legacies, or minorities—then we expect to observe an SAT gap between the group in question and other students on campus. Whenever a targeted group's SAT scores lie below the institutional average, we assume it is because admissions officers have traded off low test scores against other criteria

associated with a desire to recruit members of the group—the essence of affirmative action. The more group-specific criteria are applied, the less weight is given to SAT scores, and the larger the test-score gap.

Modeling Affirmative Action's Effects

As Fischer and Massey (forthcoming) pointed out, applying group-sensitive admissions policies yields gaps at both the individual and institutional level. Given the plethora of guides publishing institutional average SAT scores (see College Board 2005; Fiske, 2005; Meltzer et al. 2005; U.S. News and World Report 2005; Yale Daily News 2005), an individual from a targeted group with a low SAT score will most likely be aware that his or her score is below the usual level for the institution. In addition, whatever one's own SAT score might be, students in theory can observe a gap between members of a targeted group and students in general, either directly because the data are published (online or a in college guide) or indirectly because group differences in performance are apparent in classrooms and members of targeted groups concentrate in what are perceived to be "easy" classes.

Following Fischer and Massey (forthcoming), we define two measures of affirmative action that attempt to capture different pathways through which such policies may affect students' achievement. We hypothesize that individual and institutional affirmative action influence academic achievement in direct and indirect ways, yielding a more complicated model of the program's consequences than has been specified before. Our expanded conceptualization of the process by which affirmative action influences academic achievement is summarized in Figure 1.

For students entering a selective college or university, whether they themselves received an affirmative action benefit (measured by the gap between their SAT score and the school average) and whether their institution makes extensive use of affirmative action criteria (indicated by the gap between their group's average SAT score and students in general) are exogenous factors over which they have no control. They either received an individual admissions benefit or they did not, and they are entering a school that practices affirmative action for certain groups of students or does not. Of course, they don't know either fact with absolute certainty—they are simply making informed guesses based on knowledge of their own and their group's test scores.

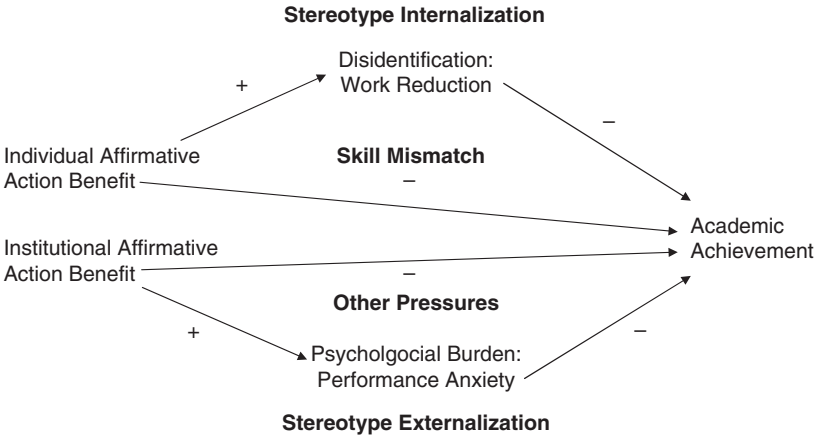

Figure 1 • *Conceptual Model of the Effect of Affirmative Action on Academic Performance*

Testing Stereotype Treat

In their study of stereotype threat among minority students, Massey and Fischer (2005) showed that negative stereotypes within minority student culture operate in two distinct ways to undermine academic performance. Stereotype internalization refers to the extent that group members come to believe, at least at some level, negative stereotypes about their own group. Stereotypes are internalized when they are wholly or partly adopted by the individual and incorporated into his or her social cognition (Fiske and Taylor 1991). If a student has internalized negative stereotypes about his or her group (fearing that a negative stereotype may, in fact, be true) it creates a painful psychological situation. If a student agrees that good grades indicate intelligence and works very hard to earn high marks, but nonetheless achieves low grades, then he or she confirms, at least to him or herself, the negative stereotype of group intellectual inferiority, a very painful psychological prospect for most people (see Steele 1992, 1997).

To reduce the implicit level of threat, members of stereotyped groups have been found to engage in a process of disidentification, in which academic achievement is simply removed from the domain of factors that determine self-esteem (Crocker and Major 1989; Crocker and Quinn 1998). In their analysis of stereotype threat, Massey and Fischer (2005) conceived of disidentification in terms of academic effort. They found that students who internalized negative stereotypes about their group's intellectual ability significantly reduced the hours they studied, which led to lower grades. Although the grades may have been low, the students were protected psychologically because they could tell themselves, "well, I didn't work that hard anyway." Poor performance is thus rationalized by limited work effort rather than by supposed group-specific deficiencies (Steele and Aronson 1995). Michael J. Lovaglia and associates (1998) suggest that stereotype threat and disidentification are not limited to minorities, but can work to undermine the performance of any group that is symbolically labeled as intellectually or morally suspect, such as athletes or legacy students.

The externalization of stereotypes occurs when minority members expect others to act on the basis of prejudicial notions in evaluating them (Massey and Fischer 2005). Most African Americans, for example, are well aware of negative stereotypes about black intellectual ability (Torres and Charles 2004). Indeed, growing up black in American society, it is nearly impossible *not* to learn about the stigma of black intellectual inferiority (Loury 2001). It is logical to assume, therefore, that many black students *expect* that white professors and students will draw on this stereotype in evaluating their performance on intellectual tasks.

Externalization creates a different kind of psychological burden compared with internalization because the stereotype is acknowledged publicly. Specifically, the expectation that others will draw on negative stereotypes in making evaluations increases performance anxiety to put extra pressure on students whenever they are called upon to demonstrate what they have learned and how well they can think. Students who believe that professors and other students are prejudiced against them come to feel as if they are carrying the entire group on their backs every time they are asked to perform. Massey and Fischer (2005) showed that students who saw out-group members as biased and prejudiced experienced a much higher performance burden because they viewed their performance as reflecting well or badly on the entire group, and that this psychological burden lowered grades significantly.

If the application of affirmative action policies leads to perceived differences between groups in terms of preparation or ability at a particular institution (as measured by average test-score gaps between group members and other students on campus), then the externalization of stereotypes will be exacerbated. Apparent differences between a group's SAT scores and those of other students only serve to underscore negative stereotypes about the group's intellectual ability. If students from the group fail to acquit themselves well, it reflects badly not only on themselves, but on all group members. They will have confirmed the negative stereotype not only to themselves, but to their professors and fellow students. As a result, when it comes time to perform on a test or assignment, they choke.

We do not argue that the potential for stereotype threat is equal for all three affirmatively targeted groups. The canard of black racial inferiority is no doubt far more vicious and deep-seated than stereotypes about dumb jocks or stupid rich kids, and minority status is far more visible to other students than being a recruited athlete or alumni child. Virtually all people of African ancestry, and most Latinos, are easily recognizable as minorities by other students and faculty on campus. Aside from unusually large males who play on the on the football or basketball teams, however, athletes are not necessarily recognizable by others, and legacies are even more difficult to identify. We thus expect minorities such as blacks and Latinos to be more vulnerable to stereotype threat than athletes or legacies.

Testing the Mismatch and Other Hypotheses

While the theory of stereotype threat argues that affirmative action affects performance indirectly through disidentification and performance burden, the skills mismatch hypothesis postulates a direct effect at the individual level. Members of targeted groups who benefit from a relaxing of admissions standards under affirmative action are set up for academic trouble later on because they are less prepared than other students for the rigors of competition on elite campuses. Holding constant the effect of stereotype threat, students who have benefited from affirmative action should achieve less academic success than other students, and the greater the divergence between their academic preparation (as captured by the SAT) and the institutional norm, the worse they are expected to do academically.

The direct effect of institutional-level affirmative action on academic performance has not been well theorized up to this point. In addition to whatever effects institutional affirmative action may have in undermining academic performance through stereotype externalization, it may also lead to other pressures that inhibit scholarly achievement. If a group is perceived to be on campus "illegitimately," such perceptions could produce a tense social atmosphere characterized by inter-group disputes that poison relations on campus and make life difficult for members of a targeted group, yielding social pressures that undermine academic performance. We label this the social subversion hypothesis because affirmative action is hypothesized to undermine the social legitimacy of group members on campus.

Data and Measures

Our data come from the National Longitudinal Survey of Freshmen (NLSF), a probability sample of students who entered 28 selective U.S. colleges and universities as freshmen in the fall of 1999. Some 35 schools were asked to participate in the study, including all of the institutions studied by Bowen and Bok (1998), plus the University of California at Berkeley. All but seven of the schools (Duke, Hamilton, Morehouse, Spelman, Vanderbilt, Wellesley, and Xavier) agreed and were able to participate, yielding an institutional response rate of 80 percent. This sample is ideal for our analysis precisely because it is comprised only of students from the most selective academic institutions. Affirmative action programs—whether geared toward minorities, athletes, or legacies—are only relevant if admissions are competitive, and the more competitive the competition the more relevant—and controversial—they become.

Among institutions that agreed to participate, NLSF investigators approached 4,573 randomly selected students and completed 3,924 face-to-face interviews, for an overall response rate of 86 percent (Massey et al. 2003). The baseline sample included 998 whites, 959 Asians, 916 Latinos, and 1,051 African Americans. The survey gathered extensive information about respondents prior to entering college and measured in some detail their attitudes, motivations, and perceptions. A detailed description of the sampling methodology and questionnaire and a list of the 28 institutions are presented in Massey and associates (2003).

The baseline survey was followed by a series of shorter telephone surveys designed to determine how respondents had fared since the first interview. Follow-up surveys were administered each spring from 2000 through 2003. Here we draw upon data compiled in the follow-up surveys of 2000 and 2001 when most respondents were finishing their freshman and sophomore years. The respective response rates for these waves were 96 percent and 90 percent. Whereas the independent variables used in the analyses are defined from the baseline survey, the intervening variables and the outcomes come from the freshman and sophomore follow-up surveys.

We sought to consider the effect of affirmative action on two academic outcomes. The first outcome considered is the cumulative GPA earned through the sophomore year. GPA was calculated from retrospective self-reports of courses taken and grades earned. A validation exercise performed by Massey and associates (2003) compared self-reported grades to those from official transcripts and found that student self-reports were accurate and reliable. The second outcome is whether the student left school by the end of the junior year (the spring of 2002). Leaving the institution in which a student matriculated as a freshman does not necessarily mean that a person dropped out of higher education entirely, but it nonetheless indicates something problematic about the student's presence at the institution (either social, financial, or academic). We defined school leaving as a dichotomous variable coded 1 if the student was not enrolled in the same institution during the spring of their junior year and 0 otherwise.

To measure affirmative action at the individual level, we computed the difference between the SAT score earned by a member of a targeted group and the institutional average, yielding three different individual level scores—one for legacies, one for athletes, and one for minorities. For group members with SAT scores that equaled or exceeded the school average, we coded the individual affirmative action score as 0. For those having scores below the institutional average, we coded the score as the absolute value of the deviation between that person's score and the school average. A value of 0 indicates that the student likely did not receive an affirmative action benefit, and a positive score means that some benefit may have accrued, with the size of the likely benefit roughly indicated by the size of the score. Because legacies, athletes, and minorities are subsets of the larger student population it is possible for all subgroup members to have SAT scores below the institutional average.

To measure affirmative action at the institutional level we took the difference between the average SAT score earned by a targeted group and all students at the college or university in question, once again yielding three scores—an institutional score for legacies, one for athletes, and one for minorities. As before, a score of 0 means that the targeted group likely received no average benefit at the aggregate level, and a positive score indicates the relative size of the benefit that was received. The larger the aggregate gap, the more an institution may be presumed to have used criteria other than SAT scores to determine admission for athletes, legacies, or minorities. The institutional affirmative action indices were assigned only to individuals belonging to the relevant group. Thus only minority students received an institutional score for minority affirmative action, only athletes received an institutional score for athletic affirmative action, and only the children of alumni get an institutional score for legacy affirmative action. All other students received a score of 0. Again, since each group constitutes a small subset of all students at each institution, it is possible for the group mean to lie below the institutional mean across all schools and groups.

We built on prior work by Massey and Fischer (2005) to define the two intervening variables described in Figure 1—academic effort and performance burden. Although all respondents provided a self-rating of their academic effort using a 0 to 100 scale (where 0 indicated no effort and 100 indicated maximum possible effort), this subjective rating was highly correlated with another, clearer, and more objective indicator: the number of hours per week spent studying. Students were asked to estimate the number of hours per week they spent studying, and given this variable's concrete meaning and straightforward interpretation, we employ it here (as did Massey and Fischer 2005).

Whereas Massey and Fischer (2005) measured performance burden using items that explicitly referenced the respondent's own racial/ethnic group, we selected items that were general and could apply to any student regardless of ethnicity. In order to maximize the number of items and increase the reliability of our index, we included items from waves 1, 2, and 3 (listed in the Appendix). From the wave 1 survey we included an item that asked respondents about their experience as seniors in high school:

> How self-conscious were you about the way that your teachers perceived you, with 0 meaning you were not conscious at all and 10 meaning that you were extremely sensitive to what they thought?

From waves 2 and 3 we included the following two items:

> Using the same 0 to10 scale, where 0 indicates total disagreement and 10 indicates total agreement, how much do you agree or disagree with the following statements? (a) If I let my instructors know that I am having difficulty in class, they will think less of me. (b) If I let other students know that I am having difficulty in class, they will think less of me.

Finally, from wave 3 we used these items:

> Using the same 0 to 10 scale, where 0 indicates total disagreement and 10 indicates total agreement, how much do you agree or disagree with the following statements? (a) I don't want to look foolish or stupid in class. (b) If I don't do well, people will look down on others like me.

With nine items, each scored 0 to 10, the resulting composite scale has a theoretical range of 0 to 90, though in practice it varied only from 0 to 85. Across the entire sample the mean value of performance burden was 33.9 with a standard deviation of 13.6 and a Cronbach's alpha of 0.77, indicating a relatively high degree of reliability. Minorities and athletes generally experienced the greatest performance burden, with index values of 34.4 and 34.7, respectively, compared with 32.8 among legacies. Within each group, however, the reliability of measurement was roughly comparable, with alpha coefficients of 0.77 for minorities, 0.78 for legacies, and 0.72 for athletes. This index measures performance burden in a very general sense and it remains empirically to be determined whether and how this overall anxiety is affected by affirmative action.

In seeking to measure the direct and indirect effects of individual and institutional affirmative action, we hold constant a variety of social characteristics. Because demographic background has been shown to affect academic performance, we include controls for variables such gender (1 if male, 0 otherwise); whether the student grew up in an intact, two-parent family (1 for intact and 0 otherwise); and being of foreign origin (1 if the student had a foreign born parent and 0 otherwise). We also control for indicators of socioeconomic status such as parental education, which we measure by counting the number of college degrees held by parents. An undergraduate degree (BA, BS, AB) counts for one point, while an advanced degree (PhD, JD, MD) yields an additional point. Thus each parent contributes a maximum of two points, yielding a scale of 0 (neither parent went to college) and 4 (both parents have advanced degrees). Parental income is measured as a dichotomous variable coded 1 if the student reported that household income during the year prior to college was greater than or equal to $100,000, and 0 otherwise. Poverty status was measured with a dummy variable that equaled 1 if the respondent's family had ever been on welfare while growing up, and 0 otherwise.

We measured prior academic preparation for college using five indicators. First, we included self-reported SAT scores in the model. This question was asked in the third wave of data collection, so there are some cases that are missing this information due to non-participation in that wave (those who had dropped out by then couldn't report). There were also students who were present in wave 3, but who chose to not answer the question. Unit and item non-response leave us with 2,865 cases for analysis. In addition, because one cannot speak of affirmative action for minorities at Howard University, the only Historically Black College in our sample, the 60 students from Howard were dropped in this paper.

Another potentially important factor in predicting performance is whether or not the student attended a private school prior to coming to college. Attending private schools may be one

method that parents living in less desirable neighborhoods can offset the negative impact of their immediate environment. If the student reported attending private school at age 6, age 13, and age 18, we coded the private school indicator as 1. The variable was coded 0 if the student attended public schools exclusively or for some of their schooling. We also include an indicator of advanced placement (AP) courses. Students were asked to list any AP courses that they took in high school. Based on this report, we created a count of the number of AP courses taken. Students also reported grades earned in major academic subjects during high school and from this roster of course grades, we computed a high school grade point average. Finally, students were asked to rate the overall quality of their high school, from poor (1) to excellent (4).

Following Massey et al. (2003) we control for a student's social and psychological preparation for college by measuring social distance from whites (presumably the normative population on elite campuses) and susceptibility to peer influence, along with standard indices of self-efficacy and self esteem. Social distance from whites was measured using 0 to 10 closeness ratings with respect to five different targets: young white men, young white women, rich whites, middle class whites, and whites in general. The resulting scale had a range of 0 to 50 and a reliability of .898 (see Appendix B in Massey et al. 2003). We measured the degree to which respondents were susceptible to peer influence by coding the degree of agreement with statements pertaining to their high school years, such as "I thought and acted like others;" "I valued the same thing as others;" "I worried about what others thought of me;" and "I did things so that others would like me." Each of seven such items was coded 0 to 4 such that a higher score indicated less sensitivity to peer influence and more individual autonomy. The resulting index had a possible range of 0 to 28 and a Cronbach's alpha of .592.

The NLSF assessed psychological preparation using standard measures of self-esteem and self-efficacy developed by Morris Rosenberg and Roberta Simmons (1971). To measure self-esteem, the questionnaire asked respondents the degree to which they agreed or disagreed with ten statements about self-worth, such as "I am a person of worth equal to others;" "I have a number of good qualities;" and "I am inclined to feel I am a failure." Each item was coded 0 to 4 such that a higher value indicated a higher self-appraisal. Summing across all items yielded a scale with a potential range of 0 to 40 and a reliability of .855. The scale of self-efficacy was created from questions asking about agreement or disagreement with statements such as "I don't have control over the direction of my life" and "every time I try to get ahead something stops me." Six such items were coded 0 to 4 to yield a scale of self-efficacy that ranged from 0 to 24 and had an alpha of 0.69.

Finally, in response to helpful suggestions from reviewers we included several controls for institutional characteristics as well as student financial aid. The racial environment in each school is assessed by computing the percentage of same-race students for each student within each group at each campus. Following Massey and Fischer (2005) we also include an indicator of whether the number of minority faculty reported by students in their classes is above or below the median for the NLSF in general. Type of institution is represented by dummy variables indicating whether the institution is a public research institution or a private liberal arts college, with the reference category being a private research university. To assess a student's financial status, we note whether he or she received a grant or fellowship and whether or not he or she worked for pay during the freshman or sophomore year.

Explaining Study Effort and Performance Burden

Our comparison focuses on three groups that have been well documented to benefit from special consideration in the college admissions process: athletes, legacies, and minorities. For our purposes, athletes are those students who played for a varsity or junior varsity team in their freshman year; legacies are defined as students with at least one parent who attended the institution in question; and minorities include African Americans and Latinos but not Asians, who are over-represented at most selective schools.

In order to conserve space, we do not present a full table of means. Instead we simply highlight salient contrasts between the three groups on key variables. In terms of grades, legacies appear to do best, earning a GPA of 3.26 over the first two years of college, followed by athletes at 3.12, and minorities at 3.05. In terms of school leaving, athletes have the lowest departure rate (just 5 percent) through the junior year, followed by legacies (7 percent), and minorities (11 percent).

The critical exogenous predictors are the affirmative action indicators defined above. In general, athletes and minorities were most likely to be affirmative action beneficiaries under our operationalization. Whereas 70 percent of athletes and 77 percent of minorities evinced SAT scores below the institutional average, the figure was only 48 percent for legacy students. Among those members of targeted groups who appeared to benefit from affirmative action, athletes and minorities received roughly the same SAT bonus of 108 points, followed by legacies with 47 points. Thus, legacies were least likely to benefit from affirmative action and received the smallest bonus when they did so; minorities were 7 percent more likely to receive a benefit than athletes but both groups received a comparable benefit. At the institutional level, athletes received the largest bonus—93 SAT points—compared to 88 points for minorities and 23 points for legacies.

In Table 1 we show models used to estimate hours studied per week and the performance burden experienced by students on campus. Because the data are grouped by institution, we corrected for intra-group correlation in the estimation of standard errors. The top panel includes dummy variables indicating membership in the targeted groups, which are not mutually exclusive. It is possible, though statistically unlikely, that someone is simultaneously a legacy, a minority, and an athlete. Just seven respondents in the sample met all three criteria, but 159 of the 294 athletes were also minorities. The next two panels show the effect of the affirmative action benefit received by each of the three groups, first at the individual level and then at the institutional level. The remaining panels in the table show the effect of background factors we sought to control in assessing affirmative action's effects. Inspection of a correlation matrix revealed little colinearity between the various measures of affirmative action.

In the model predicting hours studied, we see that once all the variables are included in the model, most of the inter-group differences in study effort diminish to insignificance. The exception is minority students. Other things equal, they put in about 1.9 more hours per week of study effort. In terms of background variables, males study less than females and those with foreign born parents study more than those with native parents. Study time is unrelated to individual SAT scores, private school attendance, or overall school quality, but is strongly and positively predicted by the GPA earned in high school. Among social-psychological variables, social independence was positively related to study time: those who were more independent from peers tended to study more. Students at liberal arts colleges also studied more hours per week than those at other kinds of institutions.

Contrary to the stereotype threat hypothesis, we found no evidence that individual level affirmative action led to disidentification and reduced work effort among minority students. All of the estimated coefficients were statistically insignificant, leading us to conclude that the receipt of an affirmative action benefit by minorities and other preferred groups does not exacerbate the internalization of stereotypes to heighten stigma and produce disidentification with academic achievement.

Turning to the model predicting performance burden, we likewise find no support for the hypothesized externalizing effects of stereotype threat. For minorities and legacies the coefficients are small and statistically insignificant, and for athletes the effect, though modest, is significant and negative. Although Massey and Fischer (2005) earlier found that minorities experienced a greater performance burden, using the more general measure developed here we find that once other factors are controlled, none of the affirmatively targeted experience a significant performance burden.

Table 1 • ***Effect of Three Affirmative Action Variables on Hours Studied Per Week and Performance Burden Felt by Students in the NLSF***

	Hours Studied per Week		*Performance Burden*	
Independent Variables	*B*	*SE*	*B*	*SE*
Key predictors				
Group status				
Minority	1.877*	0.845	0.854	0.858
Athlete	0.050	0.933	1.238	0.967
Legacy	−0.829	1.684	−1.127	1.019
Individual affirmative action				
Minority benefit	0.005	0.005	—	—
Athletic benefit	−0.012	0.007	—	—
Legacy benefit	0.015	0.010	—	—
Institutional affirmative action				
Minority benefit	—	—	0.016	0.010
Athlete benefit	—	—	−0.010*	0.004
Legacy benefit	—	—	−0.011	0.009
Control variables				
Demographic background				
Male	−1.782**	0.582	0.188	0.558
Intact family	0.919	0.596	0.564	0.683
Foreign parent	1.981**	0.573	1.565*	0.666
Socioeconomic background				
No. degrees held by parents	0.060	0.152	0.192	0.203
Family ever on welfare	−0.820	0.871	1.854*	0.913
Income over $100K	0.172	0.543	1.529*	0.621
Academic preparation				
SAT combined	−0.002	0.004	−0.014***	0.003
Private school	−0.255	0.875	−1.321	0.770
No. AP courses taken	0.285	0.148	0.526**	0.153
High school GPA	7.116**	1.083	1.753	1.045
Self-rated school quality	−0.193	0.464	0.719	0.412
Social-psychological preparation				
Social distance from whites	0.059	0.057	−0.176***	0.054
Independence from peers	0.198**	0.065	0.676***	0.065
Self-efficacy	0.094	0.143	−0.469***	0.124
Self-esteem	−0.011	0.064	−0.279***	0.066
Campus racial environment				
Percent students same race	0.010	0.013	−0.031*	0.014
High no. minority professors	−0.180	0.699	1.438*	0.553
Kind of institution				
Private research	—	—	—	—
Public research	1.684	1.447	−1.362	0.714
Private liberal arts	2.718**	0.711	−4.184***	1.071
Student financial status				
On grant or fellowship	0.297	0.519	0.434	0.614
Worked for pay	0.437	0.502	−0.177	0.569
Constant	−4.640	6.684	53.224***	5.027
R2	0.070		0.145	
Number of cases	2,375		2,288	

Source: NLSF

*$p < .05$ **$p < .01$ ***$p <$. 001 (two-tailed tests)

Beyond the effects of affirmative action, the estimated coefficients for our control variables indicate that the burden of academic performance is lowered by having a high SAT score and reporting high levels of self-esteem, self-efficacy, and social distance from whites, but the burden is raised by being of foreign origins and having taken advanced placement courses. Those students who report themselves as relatively more independent of peers also experience a higher psychological burden. Paradoxically, having more students of the same race or ethnicity on campus reduces performance burden whereas having more minority professors increases it. Students at liberal arts colleges generally feel less burdened than those at other institutions. Thus performance anxiety is predicted by a variety of individual and structural factors, but affirmative action is not one of them.

Determinants of Academic Achievement

Table 2 completes our estimation of the conceptual model by showing the effects of individual and institutional affirmative action on two indicators of academic success: GPA and the likelihood of leaving school. The equation predicting GPA was estimated using an ordinary least squares regression whereas predicting school leaving was estimated using maximum likelihood logistic regression, both corrected for clustering across institutions.

As can be seen, in terms of school leaving, the effects of affirmative action hypothesized by critics are generally not sustained. Neither of the two intervening variables (hours studied and performance burden) influence the odds of departure, rendering the indirect pathways shown in Figure 1 inoperative. In addition, once background characteristics are controlled, inter-group differences in school leaving dissolve into statistical insignificance and none of the individual indicators of affirmative action has a statistically detectable effect on the odds of departure either.

Likewise, we find no evidence that an institution's commitment to racial affirmative action raises the odds that a minority student will leave school. In this case, the lack of evidence stems not from a lack of statistically significant effects, but from a significant coefficient the sign opposite that hypothesized by affirmative action's critics. For minority students, attending a school where the application of affirmative action criteria have produced a large SAT gap between minorities and other students actually appears to lower the odds of leaving school.

Among athletes and legacy students, however, the critique is sustained. Attending an institution where these groups have lower average scores than others at the institutions does raise the odds that individual members of those groups decide to leave school, thus confirming the hypothesis of stereotype externalization. Holding these effects constant, the odds of school leaving are also strongly predicted by one indicator of academic preparation—SAT scores—as well as by a strong sense of self-efficacy, all of which decrease the likelihood of leaving school. Surprisingly, students at liberal arts colleges are more likely to leave school compared to others as are those students who received a grant or fellowship.

The statistical power of the independent variables is greater in the ordinary least squares model predicting GPA than in the logit model predicting school leaving (compare the respective R^2 values). Both performance burden and hours studied have significant effects on GPA in the expected direction, and the effect of hours studied is particularly strong, meaning that any indirect pathways going through it are potentially operative. Unfortunately, in Table 1 we have already demonstrated that affirmative action has no significant effects on hours studied, so this indirect pathway contributes nothing to the determination of academic success. Table 1 also indicates that affirmative action is unrelated to performance burden, so despite the significant effect of performance burden on GPA, pathways through it are also inoperative.

At the individual level, there is little evidence that affirmative action itself has any direct effect on minority grade performance. For minorities as well as athletes, the coefficients in the third panel of Table 2 are small and statistically insignificant, thereby disconfirming the mismatch hypothesis. By granting these students an admissions bonus, colleges and universities do not appear to be

Table 2 • ***Effect of Selected Variables on GPA Earned through Sophomore Year and the Odds of Leaving School among Students in the NLSF***

	GPA through Sophomore Year		*Left School*	
Independent Variables	*B*	*SE*	*B*	*SE*
Intervening variables				
Hours studied	0.0026***	0.0006	−0.0083	0.0071
Performance burden	−0.0012*	0.0006	−0.0106	0.0080
Key predictors				
Group status				
Minority	−0.1282***	0.0258	−0.0500	0.3070
Athlete	−0.0405	0.0342	−0.8013	0.4991
Legacy	0.0188	0.0375	−0.1364	0.4361
Individual affirmative action				
Minority benefit	−0.0001	0.0002	0.0002	0.0015
Athletic benefit	0.0001	0.0002	−0.0030	0.0026
Legacy benefit	−0.0008*	0.0004	−0.0033	0.0047
Institutional affirmative action				
Minority benefit	−0.0006*	0.0003	−0.0061*	0.0032
Athlete benefit	0.0000	0.0001	0.0033**	0.0012
Legacy benefit	0.0003	0.0002	0.0060*	0.0027
Control variables				
Demographic background				
Male	−0.0962***	0.0162	0.3306	0.1807
Intact family	0.0273	0.0207	−0.0064	0.2100
Foreign parent	0.0073	0.0180	−0.0036	0.2112
Socioeconomic background				
No. degrees held by parents	0.0269***	0.0054	0.0108	0.0655
Family ever on welfare	−0.0114	0.0271	−0.2344	0.3091
Income over $100K	0.0001	0.0179	0.2343	0.2077
Academic preparation				
Combined SAT score	0.0006***	0.0001	−0.0023*	0.0010
Private school	0.0020	0.0191	−0.2268	0.2633
No. AP courses taken	0.0025	0.0047	−0.0892	0.0522
High school GPA	0.3562***	0.0315	−0.2992	0.2796
Self-rated school quality	0.0407***	0.0108	0.1428	0.1340
Social-psychological preparation				
Social distance from whites	0.0010	0.0014	−0.0126	0.0167
Independence from peers	0.0078***	0.0019	0.0303	0.0227
Self-efficacy	−0.0042	0.0035	−0.0776*	0.0382
Self-esteem	0.0042*	0.0019	−0.0131	0.0210
Campus racial environment				
Percent students same race	0.0002	0.0004	0.0009	0.0051
High no. minority professors	−0.0050	0.0155	0.1474	0.1827
Kind of institution				
Private research	—	—	—	—
Public research	−0.0384	0.0213	0.3189	0.2480
Private liberal arts	−0.0353	0.0298	1.5131**	0.3087
Student financial status				
On grant or fellowship	0.0084	0.0174	0.4275*	0.1975
Worked for pay	−0.0127	0.0163	0.0071	0.1879

(*continued*)

Table 2 (*continued*)

	GPA through Sophomore Year		*Left School*	
Independent Variables	*B*	*SE*	*B*	*SE*
Constant	0.9280	0.1504	2.9901	1.6014
*R*2	0.3244		0.077	
Number of cases	2,285		2,056	

Source: NLSF
*$p < .05$ **$p < .01$ ***$p < .001$ (two-tailed tests)

setting them up for academic failure by placing them in situations where they are ill prepared to compete. Only among legacies does this story appear to hold: the greater the gap between an individual legacy student's SAT and the institutional average, the lower the grades earned.

At the institutional level, however, we do find some evidence of a negative effect of minority affirmative action as hypothesized under the social subversion hypothesis, though not for the other two groups. As indicated by the significant negative coefficient in the fourth panel of Table 1, the greater the gap on campus between minority SAT scores and those at the institution generally, the lower the grades earned by individual minority students at that institution. It appears that minority affirmative action as applied in the institutions under study does serve to undermine the perceived legitimacy of minority students' presence on elite campuses. Thus, institutions that grant a large SAT admissions bonus to underrepresented minorities may unwittingly undermine minority grade performance to the extent that non-minority students and professors view the presence of minority students on campus as undeserving and unearned, or seen as being there only because standards were "lowered" or "relaxed" to admit them.

Considering the control variables, we see that males earn significantly lower grades than females and that grade achievement is strongly and positively related to parents' education. The more college degrees held by a student's parents, the higher the GPA he or she earns in college. Grade attainment is also strongly and positively predicted by high SAT scores, the quality of the high school attended, and high grades earned there. College GPA is also positively predicted by greater self-esteem and independence from peers, but negatively predicted by attending a public research institution.

Even controlling for all the variables in the model, however, minority group members still earn lower grades than other students, suggesting the effect of other, unmeasured factors in determining grade performance. One such factor not considered here is the degree of school and neighborhood segregation experienced while growing up, which has been shown to have important strong consequences for minority achievement even after they come to inhabit a privileged niche in American society (see Charles, Massey and Dinwiddie 2004; Fischer and Massey 2005).

In response to the suggestion of a reviewer, we also tested for an interaction between institutional and individual level affirmative action in determining grades and school leaving among minorities. Perhaps individual affirmative action operated to undermine minority performance only in schools where it was extensively practiced at the institutional level. To consider this possibility we computed the average institutional affirmative action score for each school and divided them into high and low categories. Those schools in the high category had institutional affirmative action scores above the median and those in the low category had scores below the median. We then estimated the models in Table 2 separately for the high and low categories to test whether individual affirmative action had different effects depending on the degree to which schools practice affirmative action at the institutional level. We found no apparent difference in the effect of individual affirmative action for minorities on either grades or school leaving between the two categories.

Conclusions

In this analysis we sought to place affirmative action programs for athletes and the children of alumni on a par with the better-known and more controversial affirmative efforts undertaken to recruit underrepresented minorities. Our review of the literature revealed that all three programs are significant in size and yield a sizeable admissions bonus for members of the targeted groups. We used data from the NLSF to determine whether the detrimental effects of affirmative action hypothesized by critics might help to explain differentials in academic performance, specifying a structural equations model to test several specific hypotheses about group-specific performance. The mismatch hypothesis argues that affirmative action beneficiaries are set up for academic failure because they are less prepared than other students for scholarly competition at selective schools. The stereotype threat hypothesis argues that granting targeted groups an SAT admissions bonus underscores negative stereotypes about group intellectual abilities and thereby generates psychological pressures that compromise academic performance.

Our systematic analysis of the academic performance of affirmatively targeted groups found little support for the mismatch hypothesis. Other things equal, minorities and athletes who received an apparent SAT admissions bonus did not earn lower grades or leave school at higher rates than other students on campus. Affirmative action programs thus do not appear to set up either minorities or athletes for academic failure by dumping them unprepared into a very competitive academic environment. Ironically, the only evidence we find of a skills mismatch is for the children of alumni. The greater the gap between a legacy student's SAT and the institutional average SAT, the lower the grades he or she earned, though the effect size was modest.

Likewise, when we tested stereotype threat theory at the institutional level, we did not find that affirmative action increased the performance burden experienced by minority students. The only significant effect was for athletes and for them the effect of institutional affirmative action was negative, acting to reduce anxieties about academic performance. We found no evidence that affirmative action increased performance burden. Even though performance burden itself was associated with lower grades, affirmative action did not operate indirectly through it to affect academic performance.

In terms of the direct effects of institutional affirmative action, we did find that in schools where athletic affirmative action was widely practiced, athletes were more likely to leave the institution before graduation. We also found that in schools with a stronger commitment to legacy admissions, the children of alumni were more likely to drop out. With respect to minorities, however, we found opposite effects of institutional affirmative action when the outcome was grades earned versus school leaving. Contrary to expectations derived from the critics, the stronger an institution's apparent commitment to affirmative action, the lower the likelihood minority students would leave school. Consistent with their critique, however, the direct effect of institutional affirmative action on GPA was negative for minorities. We interpreted this as supporting the social subversion hypothesis, which argues that a large gap between minority students and others at an institution challenges the legitimacy of their presence on campus, thereby creating a social climate within which it is difficult to function effectively.

We do not expect these findings to settle the debate on affirmative action. We do hope, however, that they enable readers to place the issue of minority affirmative action in a broader context, viewing it as just one of several programs to target a subgroup of students affirmatively. Although athletes and legacy students, as well as minorities, may be granted a bonus in the admissions process, the worst fears of the critics of affirmative action do not seem to be realized. Whatever the effects of affirmative action in raising or lowering the odds of academic success, they are relatively minor compared with the influence of factors such as socioeconomic status and academic preparation. Greater attention should probably be paid to improving the access of poor children of all races to high-quality schooling than to arguing about the relatively small effects of affirmative action on academic achievement.

Appendix

Items in Scale of Performance Burden

From wave 1: How self-conscious were you about the way that your teachers perceived you, with 0 meaning you were not conscious at all and 10 meaning that you were extremely sensitive to what they thought?

0 not conscious at all ..... 10 extremely sensitive

From waves 2 and 3: Using the same 0 to 10 scale, where 0 indicates total disagreement and 10 indicates total agreement, how much do you agree or disagree with the following statements?

If I let my instructors know that I am having difficulty in class, they will think less of me.

If I let other students know that I am having difficulty in class, they will think less of me.

From wave 3: Using the same 0 to 10 scale, where 0 indicates total disagreement and 10 indicates total agreement, how much do you agree or disagree with the following statements?

I don't want to look foolish or stupid in class.

If I don't do well, people will look down on others like me.

References

Alon, Sigal and Marta Tienda. 2005. "Assessing the 'Mismatch' Hypothesis: Differentials in College Graduation Rates by Institutional Selectivity." *Sociology of Education* 78:294–315.

Bowen, William G. and Derek Bok. 1998. *The Shape of the River: Long-Term Consequences of Considering Race in College and University Admissions.* Princeton, NJ: Princeton University Press.

Bowen, William G. and Sarah A. Levin. 2003. *Reclaiming the Game: College Sports and Educational Values.* Princeton, NJ: Princeton University Press.

Breland, H. M., J. Maxey, G. T. McLure, M. J. Valiga, M. A. Boatwright, and V. L. Ganley. 1995. *Challenges in College Admissions: A Report of a Survey of Undergraduate Admissions Policies, Practices, and Procedures*. Princeton, NJ: Educational Testing Service.

Chambers, David L., Timothy T. Clydesdale, William C. Kidder, and Richard O. Lempert. 2005. "The Real Impact of Eliminating Affirmative Action in American Law Schools: A Critique of Richard Sander's *Stanford Law Review* Study." *Stanford Law Review* 57(6):1855–98.

Charles, Camille Z., Douglas S. Massey, and Gniesha Dinwiddie. 2004. "The Continuing Consequences of Segregation." *Social Science Quarterly* 85:1353–74.

College Board. 2005. *The College Board College Handbook 2000: All-New 43rd Edition*. New York: College Board.

Crocker, Jennifer and Brenda Major. 1989. "Social Stigma and Self-Esteem: The Self-Protective Properties of Stigma." *Psychological Review* 96:608–30.

Crocker, Jennifer and Diane Quinn. 1998. "Racism and Self-Esteem." Pp. 169–87 in *Confronting Racism: The Problem and the Response*, edited by Jennifer Eberhardt and Susan T. Fiske. Thousand Oaks, CA: Sage Publications.

Dickens, William T. and Thomas J. Kane. 1999. "Racial Test Score Differences as Evidence of Reverse Discrimination: Less than Meets the Eye." *Industrial Relations* 38:331–63.

Espenshade, Thomas J., Chang Y. Chung, and Joan L. Walling. 2004. "Admission Preferences for Minority Studies, Athletes, and Legacies at Elite Universities." *Social Science Quarterly* 85:1422–46.

Fetter, Jean H. 1995. *Questions and Admissions: Reflections on 100,000 Admissions Decisions at Stanford*. Stanford, CA: Stanford University Press.

Fischer, Mary J. and Douglas S. Massey. 2005. "The Effect of Childhood Segregation on Minority Academic Performance at Selective Colleges." *Ethnic and Racial Studies* 29:1–26.
———. Forthcoming. "The Academic Effects of Affirmative Action in Higher Education." *Social Science Research*.
Fiske, Edward B. 2005. *Fiske Guide To Colleges 2006*. New York: Sourcebooks.
Fiske, Susan T. and Shelly E. Taylor. 1991. *Social Cognition*. New York: McGraw Hill.
Fleming, Jacqueline. 2002. "Who Will Succeed in College? When the SAT Predicts Black Students' Performance." *The Review of Higher Education* 25:281–96.
Fleming, Jacqueline and Nancy Garcia. 1998. "Are Standardized Tests Fair to African Americans? Predictive Validity of the SAT in Black and White Colleges. *Journal of Higher Education* 69:471–95.
Glazer, Nathan. 1976. *Affirmative Discrimination: Ethnic Inequality and Public Policy*. New York: Basic Books.
Golden, Daniel. 2003. "Family Ties: Preference for Alumni Children in College Admission Draws Fire." *Wall Street Journal*, January 15, p. A1.
Gould, Stephen J. 1981. *The Mismeasure of Man*. New York: Norton.
Gratz v. Bollinger. 2003. 123 S. Ct. 2411.
Grutter v. Bollinger. 2003. 123 S. Ct. 2325.
Holzer, Harry and David Neumark. 2000. "Assessing Affirmative Action." *Journal of Economic Literature* 38:483–568.
Howell, Cameron and Sarah E. Turner. 2004. "Legacies in Black and White: The Racial Composition of the Legacy Pool." *Research in Higher Education* 45:325–51.
Jencks, Christopher and Meredith Philips. 1998. *The Black-White Test Score Gap*. Washington, DC: Brookings Institution.
Kane, Thomas J. 1998. "Racial and Ethnic Preferences in College Admissions." Pp. 431–56 in *The Black-White Test Score Gap*, edited by Christopher Jencks and Meredith Philips. Washington, DC: Brookings Institution.
Lemann, Nicholas. 1999. *The Big Test: The Secret History of the American Meritocracy*. New York: Farrar Straus Giroux.
Loury, Glenn C. 2001. *The Anatomy of Racial Inequality*. Cambridge, MA: Harvard University Press.
Lovaglia, Michael J., Jeffrey W. Lucas, Jeffrey A. Houser, Shane R. Thye, and Barry Markovsky. 1998. "Status Processes and Mental Ability Test Scores." *American Journal of Sociology* 104:195–228.
Massey, Douglas S., Camille Z. Charles, Garvey F. Lundy, and Mary J. Fischer. 2003. *Source of the River: The Social Origins of Freshmen at America's Selective Colleges and Universities*. Princeton, NJ: Princeton University Press.
Massey, Douglas S. and Mary J. Fischer. 2005. "Stereotype Threat and Academic Performance: New Data from the National Longitudinal Survey of Freshmen." *The DuBois Review: Social Science Research on Race* 2:45–68.
Meltzer, Tom, Christopher Maier, Carson Brown, Julie Doherty, Andrew Friedman, and Robert Franek. 2005. *Best 361 Colleges, 2006*. Princeton, NJ: Princeton Review.
Owen, David. 1999. *None of the Above, Revised : The Truth Behind the SATs*. Lanham, MD: Rowan and Littlefield.
Rosenberg, Morris and Roberta G. Simmons. 1971. *Black and White Self-Esteem: The Urban School Child*. Washington, DC: American Sociological Association.
Sander, Richard H. 2004. "A Systematic Analysis of Affirmative Action in American Law Schools." *Stanford Law Review* 47:367–483.
Shulman, James L. and William G. Bowen. 2001. *The Game of Life: College Sports and Educational Values*. Princeton, NJ: Princeton University Press.
Skrentny, John D. 1996. *The Ironies of Affirmative Action : Politics, Culture, and Justice in America*. Chicago: University of Chicago Press.
Sowell, Thomas. 2004. *Affirmative Action Around the World: An Empirical Study*. New Haven, CT: Yale University Press.
Springer, Sally P. and Marion R. Franck. 2005. *Admission Matters: What Students and Parents Need to Know About Getting Into College*. San Francisco: Jossey Bass.
Steele, Claude M. 1992. "Race and the Schooling of Black Americans." *The Atlantic Monthly* 269(4):68–78.
———. 1997. "A Threat in the Air: How Stereotypes Shape Intellectual Identity and Performance." *American Psychologist* 52:613–29.
Steele, Claude M. and Joshua Aronson. 1995. "Stereotype Treat and the Intellectual Test Performance of African Americans." *Journal of Personality and Social Psychology* 69:797–811.

Steinberg, Jacques. 2002. *The Gamekeepers: Inside the Admissions Process of a Premier College*. New York: Viking.

Taylor, Howard F. 1980. *The IQ Game: A Methodological Inquiry into the Heredity-Environment Controversy*. New Brunswick, NJ: Rutgers University Press.

Thernstrom, Stephen and Abigail Thernstrom. 1999. "Reflections on the Shape of the River." *UCLA Law Review* 46:1583–1631.

Torres, Kimberly C. and Camille Z. Charles. 2004. "Metastereotypes and the Black-White Divide: A Qualitative View of Race on an Elite College Campus." *The DuBois Review: Social Science Research on Race* 1:115–49.

University of Pennsylvania. 2005. Penn Admissions: Incoming Student Profile. Accessed June 26, 2005 (www.admissionsug.upenn.edu/applying/profile.php?).

U.S. News and World Report. 2005. *U.S. News Ultimate College Guide 2006*. New York: Sourcebook, Inc.

Wilson, John K. 1995. *The Myth of Political Correctness: The Conservative Attack on Higher Education*. Durham, NC: Duke University Press.

Yale Daily News. 2005. *The Insider's Guide to the Colleges, 2006.* 32d ed. New York: St. Martins.

Zwick, Rebecca. 2002. *Fair Game? The Use of Standardized Admissions Tests in Higher Education*. New York: Routledge.