Bans and Signals: Racial and Ethnic Differences in Applications to Elite Public Colleges in States With and Without Affirmative Action

PAMELA R. BENNETT
University of Maryland, Baltimore County

AMY LUTZ
Syracuse University

In this research article, Pamela R. Bennett and Amy Lutz offer new hypotheses about how state bans on affirmative action affect application decisions based on students' beneficiary positions vis-à-vis affirmative action and evaluate them for black, white, Latino, and Asian American students separately. They posit that bans discourage applications to selective colleges from prospective students who benefit from affirmative action (black and Latino) and encourage applications from prospective students who do not benefit from the policy (white and Asian American). Members of nonbeneficiary groups that have strong academic credentials are more responsive to bans because they are best positioned for admission under restrictions on race-conscious admissions policies. Citing results from the Education Longitudinal Study of 2002–2006, the authors show how state restrictions on race-conscious admissions have contributed to racial inequality in higher education by further drawing into elite institutions' application pools racial groups that already account for most of their students while also raising the chances that students from those groups will be admitted.

Keywords: affirmative action, state policy, college applicants, blacks, Latinos, Asian Americans, whites, inequality

In the United States, selective colleges and universities have played a key role in perpetuating racial and economic inequality by serving as exclusive aca-

361

demic and social training grounds for America's elite families. By definition, selective institutions are not open to all students but, rather, to those who meet demanding admissions standards. For much of their history, however, these institutions crafted admissions requirements that functioned to keep their student bodies white, Protestant, and rich as much as they served to ensure that admitted students were high academic achievers. Elite institutions tailored their entry requirements to specifically exclude some racial and religious minorities and those from modest socioeconomic backgrounds (Karabel, 2005; Soares, 2007).

Responding to outside pressures during the civil rights era, elite institutions endeavored to diversify their student populations (Bell, 1979). Beginning in the early 1970s, selective universities adopted race-based affirmative action policies (Bowen & Bok, 1998), as did roughly half of less-selective four-year institutions (Grodsky & Kalogrides, 2008; Grodsky & Kurlaender, 2010, 35).[1] Despite these efforts, black and Latino students remained underrepresented in selective institutions,[2a] as did students from low socioeconomic backgrounds (Davies & Guppy, 1997; Fischer & Massey, 2007).[2b] Affirmative action policies became even more critical to the diversification of selective colleges during the 1980s, as college selectivity was increasingly defined by SAT scores and as white-black and white-Latino differentials in standardized test scores persisted (Harris & Tienda, 2010).

By the mid-1990s, individual states began to construct additional roadblocks to the continuing diversification of selective colleges through affirmative action. Between 1996 and 2012, the consideration of race in college admissions was banned in numerous states even though the Supreme Court has ruled multiple times that public and private institutions may consider a student's race in deciding whether to grant admission.[3] The Court held race-based affirmative action to be constitutional as long as race is one of many factors considered (*Regents of the University of California v. Bakke,* 1978); is part of a multifaceted evaluation of prospective students' qualifications, known as "individualized, holistic review" (*Grutter v. Bollinger,* 2003); and is necessary and narrowly tailored to meet the educational goals of the institution (*Fisher v. University of Texas,* 2013), given that race-neutral alternatives are inadequate to do so (*Fisher v. University of Texas,* 2016). California, Florida, and Texas replaced race-conscious admissions policies with plans that base admission to public colleges on high school class rank, while Arizona, Michigan, Nebraska, New Hampshire, Oklahoma, and Washington banned affirmative action and now rely on alternative means to diversify student bodies.

By eliminating the use of race-sensitive admissions, state bans on affirmative action reduce access to selective colleges and universities for underrepresented minorities, thereby diminishing these students' opportunities to experience the social mobility dividends such institutions yield. Attendance at selective institutions is, on average, associated with exposure to more challenging coursework (Braxton & Nordvall, 1985), development of higher career

aspirations (Reitz, 1975), increased odds of graduation (Kane, 1998), and enrollment in graduate school (Zhang, 2005a). Graduates of selective colleges also tend to enjoy higher earnings (Brewer et al., 1999; Kane, 1998; Solmon & Wachtel, 1975; Thomas, 2003; Thomas & Zhang, 2005; Zhang, 2005b). Given evidence that public and private selective institutions yield comparable earnings returns (Zhang, 2005b), access to public selective institutions may be especially important to groups that possess modest economic resources.

While research has investigated the effects of affirmative action bans on racial and ethnic differences in whether and where students apply to college, studies primarily focus on the impact that bans have *within* the states that adopted them (Brown & Hirschman, 2006; Card & Krueger, 2005; Colburn et al*.,* 2008; Cortes, 2010; Dickson, 2006; Harris & Tienda, 2010). These studies offer important insights into the ways that bans may affect college application decisions. For example, Brown and Hirschman (2006) posit that "[a]ffirmative action programs may provide a signal of an institutional 'welcoming environment' that serves as a counterweight to the normal reluctance of prospective students to apply to institutions that may be perceived as intimidating" (106). Bans on affirmative action remove this counterweight and may discourage racial and ethnic minorities from applying to selective institutions. Brown and Hirschman assessed the effects of Washington State's Initiative 200 (I-200), which eliminated race-conscious admissions, and observed substantial declines in rates of transition to college among minority students, including Asian Americans, in the year following the ban, especially for the prestigious University of Washington (UW).[4] Whereas a portion of the initial decline in transition rates at UW was linked to lower acceptance rates for black, Latino, and American Indian applicants, the authors found that declines in applications by high school seniors from minority groups were "an important part of the explanation for the relative declines of minority enrollments after the passage of I-200" (122).

Less numerous are studies that take a national view to understand the consequences of bans on affirmative action. Yet, the national view is important, as state bans may send students to out-of-state schools when, otherwise, they would have gone to college in their home state. Indeed, the interpretation of affirmative action bans as indicative of unwelcoming campus environments (Brown & Hirschman, 2006; Hinrichs, 2012) may lead minority prospective students to pursue opportunities in other states where selective institutions can employ race-sensitive admissions, along with other efforts, to achieve greater racial, ethnic, and geographical diversity in their student populations. Thus, the ability to follow prospective students' applications to wherever they send them is important for fully understanding the impact of state-level restrictions on affirmative action. Consequently, our objective is to conduct a national investigation of the relationship between bans on affirmative action and applications to public selective colleges to understand whether and how bans contribute to racial and ethnic inequality in higher education.

Literature Review: A National View of the Consequences of State Bans on Affirmative Action

Few studies take a national perspective on the consequences of state bans on affirmative action with respect to where prospective students apply to college.[5] Long (2004) took a national approach to investigate the effects of bans in California and Texas on the kinds of in-state and out-of-state colleges to which high school graduates send SAT scores, which he used as an indicator of their applications to such colleges. Based on data from the College Board and National Education Longitudinal Study (NELS), he found that bans were associated with lower rates of application to the most selective in-state public colleges among black and Latino prospective students collectively but with higher rates of application among white and Asian American prospective students collectively.

Using NELS data on where students applied and enrolled, Howell (2010) estimated the consequences of implementing affirmative action bans nationwide for high school seniors in 1992 and found that the application decisions of black and Latino prospective college students collectively would change little. However, their enrollments at the most selective institutions would drop by 10.2 percent.

Research has also explored how affirmative action bans affect graduate education. Studies show that bans lower the representation of students of color in STEM fields (Garces, 2013) and medical schools (Garces & Mickey-Pabello, 2015). Mickey-Pabello and Garces (2018) found that part of the decline in minority student enrollment in medical schools is due to the negative impact of state bans on applications submitted by these students.

Although these studies are illuminating, there are several opportunities to extend the literature further. First, to our knowledge, only one national study of the relationship between state bans and college applications includes the college-going experiences of Asian Americans (Long, 2004), and none analyzes their experiences separately from those of whites. To be sure, Asian Americans are often portrayed as "model minorities" whose socioeconomic achievements exceed those of other racial minorities and whites, despite the myriad critiques of that construct. Although not underrepresented in higher education today as a panethnic group, Asian Americans, as racialized minorities, have had to contend with systemic discrimination in such areas as access to citizenship (*Ozawa v. United States; United States v. Thind*), liberty and freedom of movement (*Korematsu v. United States*) (Nagata, 1993), education (*Gong Lum v. Rice*) (Loewen, 1971/1988), and employment (US Commission on Civil Rights, 1992). As legal scholar Angelo N. Ancheta (2006) notes, over the course of US history, "Asian Americans have been 'near-blacks' in the past and 'near-whites' in the present, but that [quoting Okihiro (1994)] '[y]ellow is emphatically neither white nor black'" (4). Therefore, analyzing the experiences of Asian Americans apart from other groups provides a more complete

and nuanced picture of how bans on affirmative action impact racial and ethnic differences in application to selective colleges.

Moreover, questions about how Asian Americans are affected by affirmative action, and how they have supported or challenged it, have been integral to affirmative action debates (Kang, 1996; Poon et al., 2019; Takagi, 1990; Wu, 1995). In a study of elite college students, Warikoo (2016) found that Asian American and white students tend to utilize a color-blind perspective on race relations, whereas their black and Latino peers tend to understand them in terms of "unequal power relations between groups" (54). Yet, Warikoo observed that Asian American students' views on affirmative action, in particular, are mixed, contrasting with those of white students who are likely to support "the diversity bargain"— a perspective "in which white students support affirmative action insofar as it benefits themselves" by producing a diverse college environment for them to experience (74). Poon and colleagues (2019) found that Asian Americans have "varying, contextual, and, at times, contradictory frames on affirmative action" (214), some of which appear to vary along ethnic lines (Poon & Segoshi, 2018). Among those who oppose affirmative action, some assert an ethnocentric nationalist perspective, while others demonstrate an abstract liberalism that focuses more on class inequality than racial inequality. Among Asian Americans who support affirmative action, some adopt a "conscious compromise" perspective, similar to the diversity bargain, while others advocate for "radical systemic transformation" to fundamentally change the system (Poon et al. 2019, 220).

Furthermore, Asian Americans are central to ongoing legal challenges to affirmative action. Students for Fair Admissions, Inc. (SFFA), an organization that sued Harvard University, has argued that race-conscious admissions discriminate against Asian American applicants in particular, stating bluntly that "Harvard has rejected a significant number of Asian-American applicants *because they are Asian-American*" (*Students for Fair Admissions, Inc. v. President and Fellows of Harvard College,* 2020, 17). SFFA brought a similar case against the University of North Carolina at Chapel Hill (UNC–Chapel Hill). Myriad Asian American groups have weighed in on these lawsuits seeking to influence their outcomes, both in support of and in opposition to affirmative action. Given Asian Americans' centrality to these and other challenges to race-sensitive admissions, scholars have called for more research on "[Asian Americans and Pacific Islanders], race, and education" (Poon & Segoshi, 2018, 262). Our study contributes to that effort by analyzing the ways Asian American prospective college students may respond to state bans on affirmative action.

Second, while existing national studies analyze the experiences of members of underrepresented minorities as a single group, disaggregating underrepresented minorities allows us to observe whether bans on affirmative action impact constituent groups differently. The size of our data set allows us to estimate application models for black and Latino prospective students separately.

Third, studies that use data from NELS can observe only the two colleges respondents indicated they would most likely attend. We use data on a more recent cohort of high school seniors and have information on all the colleges to which they applied. More comprehensive data on college applications helps us better understand how bans on affirmative action impact where prospective college students seek admission.

Fourth, because we use a longitudinal education data set, we can consider group differences in the resources and academic preparation that students bring to the college-going process. Doing so clarifies group differences in college application and demonstrates whether the affirmative action policy context in which they lived during high school is associated with their college application decisions.

Finally, our investigation covers a period when colleges and universities that used affirmative action were more alike in their practices than they were previously, due to the 2003 *Grutter v. Bollinger* decision that created national standards, of a sort, for affirmative action policies to pass constitutional muster. In *Grutter,* the Supreme Court upheld the use of race-based affirmative action in admissions but placed restrictions on how race can be used: as one factor of a student's portfolio that is evaluated via "individualized, holistic review."[6] Therefore, we compare students who resided in states where race played no role in admissions decisions to students who lived in places where race could have been part of those decisions only when students were evaluated individually and holistically. In other words, the alternative to bans on affirmative action—the *implementation* of affirmative action—is clearer in our study than in studies in which prospective students applied to college prior to the 2003 *Grutter* decision, allowing us to make more precise estimates of the relationship between bans and application decisions.

Hypotheses

To understand the consequences of state-level restrictions on affirmative action, we evaluate hypotheses on how bans impact the application decisions of different racial and ethnic groups. The first hypothesis, the *minority discouragement hypothesis,* is from existing research and centers on how bans impact prospective students based on their status as members of racial and ethnic minority groups. We offer in contrast a set of new hypotheses that emphasize a group's beneficiary position vis-à-vis affirmative action.

Minority Discouragement Hypothesis

Studies suggest that state bans on affirmative action may act as signals to prospective students about the racial climate on college campuses. Under Brown and Hirschman's (2006) signaling hypothesis, bans are thought to impact how colleges and universities are perceived by members of racial minority groups. Bans not only remove the "symbolic beacon of a welcoming environment" that

affirmative action represents (108), but they raise for minority students the "prospect of fewer 'in-group' classmates or a general sense that minorities are no longer welcome" (110). Such signals may reduce applications to selective colleges among black and Latino prospective students, as we might expect, but they may also discourage applications from Asian American prospective students, even though these students generally do not benefit from affirmative action policies in terms of increased chances of admissions. Indeed, Brown and Hirschman (2006) observed just that in Washington State: "Although Asian Americans had the highest level of application to [UW], they also experienced a dip in their application rate . . . These patterns suggest a 'discouragement' effect for all applications by minority students after passage of I-200" (119). We refer to this as the *minority discouragement hypothesis,* which can be expressed as:

> H$_{\text{Minority Discouragement}}$: State bans on affirmative action are negatively associated with application to public selective colleges among racial and ethnic minorities—that is, among black, Latino, and Asian American prospective students.[7]

Signal to Beneficiaries Hypothesis and Signal to Nonbeneficiaries Hypothesis

In contrast to the minority discouragement hypothesis, we posit that whether a group is included in the class of beneficiaries of affirmative action policies is the factor most salient to what bans telegraph about group members' college destination opportunities. Because bans are explicitly designed to alter the opportunity structure in ways that differ between those who can and cannot benefit from race-sensitive admissions, the consequences that their adoption portend will vary not so much by minority versus majority status, as suggested by the minority discouragement hypothesis, but by their beneficiary position with respect to affirmative action policies. That Asian American prospective students occupy a different position than do black and Latino prospective students vis-à-vis affirmative action is illustrated by SFFA's allegations that affirmative action policies at Harvard University and UNC–Chapel Hill discriminate against Asian American applicants, allegations that the Supreme Court has agreed to consider in a consolidated case (Howe, 2022). Thus, we expect that bans on affirmative action convey one message to black and Latino prospective college students and an entirely different one to white and Asian American prospective students. In particular, we expect that bans signal to black and Latino prospective students, who would be beneficiaries of affirmative action, that their chances of admission to selective institutions are lower than they were prior to the adoption of restrictions on affirmative action, thereby reducing their applications to selective colleges. In contrast, we expect that bans encourage white and Asian American prospective students to apply to selective colleges. By prohibiting race-conscious admissions, bans signal to white and Asian American prospective students that their chances of admission are higher than when affirmative action policies were in place. These expectations

differ from those that flow from the minority discouragement hypothesis. The *signal to beneficiaries hypothesis* and the *signal to nonbeneficiaries hypothesis* can be expressed as:

H~Signal to Beneficiaries~: State bans on affirmative action are negatively associated with application to public selective colleges among black and Latino prospective students because bans signal a lower likelihood of admission for members of beneficiary groups.

H~Signal to Nonbeneficiaries~: State bans on affirmative action are positively associated with application to public selective colleges among white and Asian American prospective students because bans signal a higher likelihood of admission for members of nonbeneficiary groups.

Strength of Academic Performance Hypothesis

Additionally, we do not expect that members of nonbeneficiary groups respond uniformly to the adoption of bans on affirmative action. Rather, we hypothesize that those with strong academic performance are more responsive to bans than are those with more modest academic achievements. Whereas, all else equal, students with modest academic performance likely understand that their prior level of performance is a barrier to being admitted to a selective college, students with strong academic credentials expect to be seriously considered and therefore may view the permissibility or impermissibility of affirmative action policies as a meaningful factor in whether they are admitted. Thus, the *strength of academic performance hypothesis* is expressed as:

H~Strength of Academic Performance~: The positive relationship between bans on affirmative action and the odds of applying to a public selective college is stronger among members of nonbeneficiary groups (white and Asian American prospective students) at higher versus lower levels of academic performance.

Data and Methods

Data

Data for this study come from the restricted version of the Education Longitudinal Study (ELS), a nationally representative survey of tenth graders conducted by the National Center for Education Statistics (NCES) using a two-stage stratified probability sampling design (US Department of Education, National Center for Education Statistics, 2004). ELS was administered in 2002 to approximately 16,000 tenth-grade students in 750 schools across the US (Ingels et al., 2004).[8] The first follow-up, conducted in 2004, created a nationally representative sample of twelfth graders. Additional follow-ups were in 2006 and 2012. We selected respondents from the 2004 cohort of high school seniors who identified as non-Hispanic white, non-Hispanic black, Latino, or non-Hispanic Asian; who graduated from high school on time; and who had

valid information on whether and where they applied to college. These criteria resulted in our sample of 9,050 respondents.

Variables

We focus exclusively on applications to *public* selective institutions because they, unlike private colleges and universities, have been targets of state bans on race-sensitive admissions. All bans in effect during the study period restricted public institutions from using affirmative action. Only in Texas were private institutions also restricted from considering race in admissions, because the Texas attorney general interpreted the *Hopwood v. The University of Texas* (1996) decision, which overturned affirmative action in the state, as applying to both types of institutions, an interpretation disputed by many (Mickelson, 2002; Staff, 1997). Moreover, in other analyses we have found no evidence that bans push students from public to private selective institutions (Lutz et al., 2020).

To determine whether respondents applied to a public selective college, we used information from the third wave of ELS. This wave was collected in 2006, two years after respondents experienced on-time graduation from high school. It described all postsecondary institutions to which respondents applied. We linked those institutions to data from *America's Best Colleges* published by U.S. News & World Report (2006). We followed prior studies by identifying "selective colleges and universities" as those that are ranked as "Tier 1" institutions by U.S. News—that is, those in the top 25 percent of rankings (Bennett & Xie, 2003; Owings et al., 1998). In 2004, 118 colleges and universities were ranked as Tier 1 institutions, of which twenty-four were public. Thus, the dichotomous outcome variable indicates whether respondents applied to a public selective four-year college or university.

Predictor variables come from the base year (2002) or first follow-up (2004) of ELS. The racial-ethnic identity of respondents was measured in 2002. A categorical variable identifies non-Hispanic white, non-Hispanic black, Latino, and non-Hispanic Asian American students. A dummy variable indicates whether respondents, during their senior year of high school, resided in a state that bans affirmative action. Respondents who lived in California, Florida, Texas, and Washington are so classified, as these are states whose bans were in effect when ELS respondents applied to college. Although the ban on affirmative action was lifted in Texas in 2003, we treat Texas as a ban state because affirmative action was not used again at the University of Texas at Austin until 2005. Prospective applicants were likely aware of the university's delay in reimplementing affirmative action given that the university made public statements to that effect beginning as early as September 2003 (University of Texas Office of Public Affairs, 2003).[9]

We measure respondents' socioeconomic background with two variables. The first is a composite measure of family socioeconomic status (SES) that reflects family income, parental education, and parental occupation. The second variable reflects the number of siblings each respondent had and, pre-

sumably, with whom they shared parental resources (Blake, 1989). A number of variables describe respondents' academic preparation and performance. These include respondents' high school GPA, a dummy variable indicating whether respondents took Advanced Placement (AP) courses, SAT score (divided by 10 for better readability in tables), educational expectations, specifically whether they expected to earn at least a bachelor's degree, and indicators of their participation in three types of extracurricular activities (sports, academic, and school service).

Finally, we include a set of control variables: a dummy variable that reflects respondents' high school sector (public or private); a categorical variable that describes their high school urbanicity (urban, suburban, or rural); a dummy variable that reflects their sex (female or male); and a dummy variable that indicates respondents' immigrant generation (first or second generation compared to third or later generations).[10] First-generation respondents were born outside of the US; second-generation respondents were born in the US with at least one foreign-born parent; third-and-later generation respondents were born in the US to US-born parents. Immigrants and their children comprise a large proportion of Latino, Asian, and black students at selective US colleges (Bennett & Lutz, 2009; Charles et al., 2009; Espenshade & Radford, 2009; Massey et al., 2007). Because the adoption of state bans is not random, we attempt to distinguish the effect of restrictions on affirmative action from a state's general political climate. As Grodsky and Kalogrides (2008) noted, "the political environment in which public institutions operate can have profound effects on their recruitment and admissions strategies, [which] may be particularly true for affirmative action policies" (6). Therefore, we control for states' political ideology, measured as the estimated percentage of the active electorate that identified as politically conservative in 2003. Although state political ideology is measured one year prior to when ELS respondents applied to college, we do not expect a state's political ideology to meaningfully fluctuate in a single year. The methodology for calculating state estimates of political ideology was developed by Wright and colleagues (1985) with data from polls taken by CBS News and the *New York Times*. We obtained estimates from the State Politics and the Judiciary data set (Lindquist 2007).

Analytical Strategy

We begin by providing a descriptive analysis of the sociodemographic background, academic preparation, performance, and affirmative action policy contexts of black, Latino, Asian American, and white high school graduates. We then estimate the following logistic regression model that predicts application to a public selective college:

$$\text{Logit}(p_i) = \alpha + \beta_1(BanState_i) + \beta_2(S_i) + \beta_3(A_i) + \beta_4(C_i) + \varepsilon_i \tag{1}$$

where i indexes high school graduates and p reflects the probability that each will apply to a public selective college or university. Whether a respondent

resided in a state that banned affirmative action during their senior year is indicated by *BanState*. *S* is a vector of variables that reflect a respondent's socioeconomic background; *A* is a vector of variables that reflect a respondent's academic preparation and performance; *C* is a vector of control variables previously described.

Support for or against hypotheses is provided by β_1, which indicates the direction and strength of the association between residence in a ban state and the probability of applying to a public selective college. Because each hypothesis predicts different behavior for racial and ethnic groups, group-specific models are required to evaluate them. In particular, support for the minority discouragement hypothesis would come in the form of negative and statistically significant coefficients on β_1 for black, Latino, *and* Asian American prospective college students. In contrast, support for the signal to beneficiaries hypothesis would come in the form of statistically significant negative coefficients on β_1 for black and Latino prospective students, but not for Asian American prospective students. Support for the signal to nonbeneficiaries hypothesis would come in the form of statistically significant positive coefficients for white and Asian American prospective students, but not for black and Latino prospective college students. Group-specific models yield an additional benefit: they allow us to avoid building into our analyses the assumption that relationships between predictor variables and the odds of applying to college are the same for black, Latino, Asian American, and white prospective students. That is, group-specific models permit the direction and strength of those relationships to vary across groups, thereby reflecting group-specific experiences.

To evaluate our strength of academic performance hypothesis, we estimate the following equation:

$$\text{Logit}(p_i) = \alpha + \beta_1(BanState_i) + \beta_2(S_i) + \beta_3(A_i) + \beta_4(C_i) + \beta_5(BanState_i * SAT_i) + \varepsilon_i \quad (2)$$

where *BanState, S, A,* and *C* are defined as described above and *SAT* reflects a respondent's SAT score. Equation 2 adds an interaction term between residence in a ban state and a respondent's performance on the SAT. This model assesses whether the relationship between residence in a ban state and the probability of seeking entry into a public selective college is stronger among respondents with higher levels of academic performance, measured here by SAT score. Whereas a growing number of colleges and universities are now "test optional" and no longer require SAT scores, only a few had made the standardized test optional at the time high school graduates who were part of ELS were applying to college.[11] Evidence in support of the strength of academic performance hypothesis would come in the form of a statistically significant and positive coefficient on β_5. We estimate Equation 2 for all groups but expect to observe this pattern only for nonbeneficiary groups.

The final component of our analysis recognizes that although high school graduates may apply to college in any state, many students go to college in

their home state, whether as a function of preferences or constraints, and that public selective institutions do not exist in all states. These realities make our test of the signals to beneficiaries hypothesis with a national sample too conservative. The concern is that the application behavior of black and Latino prospective students in ban states may look similar to that of their counterparts in nonban states that lack public selective colleges as a function of the latter not having such an in-state institution. At the same time, test of the signals to nonbeneficiaries hypothesis with a national sample may be too liberal, the worry being that differences in the application behaviors of white and Asian American prospective students in ban states and their counterparts in nonban states without a public selective institution may be exaggerated, given that the latter do not have an in-state public selective institution to consider. To address both possibilities—the too-conservative test of the signals to beneficiaries hypothesis and the too-liberal test of the signals to nonbeneficiaries hypothesis—we reestimate equations 1 and 2 but limit the sample to respondents who, during their senior year, resided in states that have public selective colleges and universities.

We treat missing values via multiple imputation (Royston, 2009) and analyze multiply imputed data sets with Stata's "mi estimate" commands. Because complete information on the dependent variable is a criterion for inclusion in the analytic sample, there are no missing values on the outcome variable. The degree of missingness across predictor variables ranges from none (for 7 of 17 variables) to 31.4 percent for SAT scores. So that our results are reproducible, we follow White and colleagues (2011), who recommend setting m to at least 100 times the fraction of missing information (FMI). The largest FMI for a coefficient in our full sample models is 0.31; therefore, we create and analyze 35 multiply imputed data sets ($m = 35$). Additionally, we model the ELS complex survey design with Stata's "survey" commands to estimate correct standard errors and weight analyses so that results generalize to high school seniors in 2004 who graduated on time.

Limitations

The longitudinal nature of the ELS data set and the wealth of information it contains allows us to provide well-informed descriptions of whether and how attending high school in states with bans on race-sensitive admissions is associated with the odds that prospective college students apply to public selective institutions. However, these data do not permit us to make causal claims. That is, we cannot know with certainty that the associations between residence in ban states and application behavior are caused by the bans themselves. Although causal analyses are ideally suited to assess the impacts of public policies, well-designed descriptive analyses can and have furthered our understanding of social phenomena by contributing evidence to emerging bodies of knowledge without seeking to draw firm conclusions from a single study. Nev-

ertheless, increased confidence in the relationships we document in this study awaits additional research that would establish the causal effects, nationally, of bans on the application decisions of prospective college students.

Additionally, the ELS data set was not designed specifically to investigate prospective college students' reactions to bans on affirmative action. As such, ELS contains no information on prospective college students' awareness of, or thoughts and feelings about, bans on race-conscious admissions. However, we assume that the prospective students in the study were aware of whether the schools they sought to attend used affirmative action, given the personal stakes that attach to admissions decisions, as well as the existence of public conversations about the policy, particularly during the period covered by this study.

Results

Descriptive Findings

Table 1 presents descriptive statistics. The racial composition of the sample reflects the population of students who were high school seniors in 2004 and who graduated on time. Almost one-quarter (23.4 percent) of graduates lived in states with affirmative action bans. As a group, respondents came from families with slightly above-average SES levels. The measure of family SES averages zero for the full sample of ELS, whereas those in our sample had a mean of 0.08. The elevated family SES of sample members may have resulted from our selection of seniors who graduated on time. Most graduates attended public schools (91.1 percent) and expected to earn at least a bachelor's degree (71.3 percent). On average, they earned GPAs of 2.87 and reported combined SAT scores of 1008.1. About a third (33.2 percent) took at least one AP course, and more than half participated in a least one extracurricular activity.

Table 1 demonstrates the need to control for socioeconomic background, academic preparation, and other factors when estimating the relationship between residence in a ban state and the odds of applying to a public selective college. High school graduates who lived in ban states differed from their counterparts in nonban states across almost all the variables we include in our models. Respondents from ban states were more demographically diverse than those in nonban states, as reflected by their race, ethnicity, and immigrant generation; they had, on average, lower levels of family SES (-0.05 versus 0.12) and yet had, on average, more siblings with whom they had to share family resources (2.33 versus 2.17).

Differences in academic preparation across ban and non-ban states were mixed. High school graduates from ban states did not differ, on average, from others in SAT scores or educational expectations, but proportionally more of them did take AP courses (39.4 percent versus 31.3 percent). Yet, those from ban states had, on average, slightly lower GPAs (2.81 versus 2.89) and demon-

TABLE 1   *Means and percentage distributions, weighted*

Independent variable	Sample	By residence during senior year	
		Nonban state	Ban state
Racial and ethnic groups			
Black respondents	13.96	14.88	10.96*
Latino respondents	14.82	8.05	36.97***
White respondents	65.84	73.05	42.24***
Asian American respondents	5.38	4.03	9.83***
Affirmative action policy context			
In a ban state	23.40	–	–
Percent conservative in state	34.06	34.79	31.69***
	(0.14)	(0.17)	(0.22)
Socioeconomic background			
Family SES	0.08	0.12	-0.05***
	(0.02)	(0.02)	(0.04)
Number of siblings	2.21	2.17	2.33**
	(0.02)	(0.03)	(0.05)
Academic preparation			
GPA	2.87	2.89	2.81*
	(0.01)	(0.02)	(0.03)
AP courses	33.17	31.25	39.42***
SAT score	1008.05	1011.52	993.21
	(5.20)	(5.78)	(11.72)
Expects to earn BA degree	71.34	72.04	69.06
Sports activity	54.87	56.42	49.78***
School service activity	21.59	22.81	17.61***
Academic activity	15.89	15.93	15.74
Control variables			
First or second generation	15.55	10.89	30.81***
Female	52.82	52.85	52.69
Public high school	91.13	90.56	93.02*
Urban high school	28.22	25.52	37.07***
Suburban high school	51.47	52.33	48.64
Rural high school	20.31	22.15	14.29***

Notes: *p<.05, **p<.01, ***p<.001 (two-tailed tests). Standard errors are in parentheses. Unweighted n = 9,050 (rounded to the nearest 10 in accordance with NCES reporting requirements).

The following variables have missing values: percent conservative in state (0.77%); socioeconomic background (6.94%); number of siblings (18.96%); GPA (0.03%); SAT score (31.37%); expects to earn BA degree (6.99%); sports activity (10.50%); school service activity (8.08%); academic activity (8.05%); first or second generation (15.81%).

Source: Previously unpublished tabulation, US Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), Base-Year, First Follow-up, and Second Follow-up.

strated less participation in structured activities. Multivariate regression models provide a clearer picture of what these differences and similarities mean for respondents' odds of applying to a public selective college or university.

Multivariate Findings from a National Sample

Table 2 presents logit coefficients from regression models that evaluate hypotheses for each racial and ethnic group separately. It reveals several findings of note. The first is that among beneficiary groups, socioeconomic background did not predict application to a public selective college, net of other factors, though academic preparation did. Among black and Latino high school graduates, GPA had a positive relationship with seeking admission. A one-unit increase in GPA raised the log odds of applying to a public selective college by 0.77 and 0.72 for black and Latino prospective students, respectively, which multiplied their odds of doing so by 2.16 and 2.07, respectively. Taking AP courses was associated with a substantial increase in the probability that black, but not Latino, high school graduates applied to a public selective college. The probability of applying was 0.71 for black graduates who took at least one AP course compared to 0.29 for their same-race peers who took no AP courses. For Latino, but not black, high school graduates, higher scores on the SAT were associated with a higher likelihood of seeking entry into public selective institutions. For every 10-point increase in SAT score, the odds that Latino graduates applied to such institutions increased by 3.56 percent.[12] Young women of both groups were less likely than their male counterparts to apply to a public selective college. The probability that young black women applied to such institutions was 0.38, whereas the probability for young black men was 0.63. Similarly, the probability of applying to a public selective college for Latina high school graduates was 0.34, in contrast to 0.66 for their male counterparts.

Consistent with findings for black and Latino high school graduates, socioeconomic background did not predict application to a public selective college among Asian American students. Only among white students was there a statistically significant relationship between family social and economic resources and the pursuit of admission to a public selective institution. Among both white and Asian American graduates, GPA and scores on the SAT were positively associated with applying to a public selective college, as were participation in sports and AP coursework. Like young black women and Latinas, young white women were less likely than their male counterparts to apply to public selective colleges. However, there is no statistically significant gender differential among Asian American prospective college students.

Those interesting findings aside, table 2 presents no evidence in support of either the minority discouragement hypothesis or the first of our alternatives, the signal to beneficiaries hypothesis. Black and Latino high school graduates in states that banned affirmative action were not less likely than black and

TABLE 2   *Coefficients from additive logistic regression models that predict application to a public selective college among high school graduates by race and ethnicity, weighted*

Independent variable	Black high school graduates		Latino high school graduates		White high school graduates		Asian American high school graduates	
	Logit	*SE*	*Logit*	*SE*	*Logit*	*SE*	*Logit*	*SE*
Socioeconomic background								
Family SES	0.091	0.207	0.044	0.267	0.365***	0.109	0.059	0.157
Number of siblings	–0.061	0.116	–0.019	0.108	–0.043	0.048	–0.093	0.082
Academic preparation								
GPA	0.770**	0.237	0.721*	0.317	0.359*	0.146	0.497*	0.224
SAT score (divided by 10)	0.017	0.012	0.035***	0.010	0.035***	0.004	0.039***	0.008
AP courses	0.905**	0.315	0.520	0.285	0.350**	0.131	0.572	0.301
Sports activity	0.211	0.311	0.187	0.294	0.274*	0.128	0.152	0.248
School service activity	0.443	0.334	0.081	0.331	0.207	0.118	0.501	0.266
Academic activity	0.068	0.347	0.527	0.320	0.229	0.122	0.137	0.254
Controls								
Female	–0.508*	0.246	–0.664*	0.314	–0.221*	0.108	–0.158	0.201
First or second generation	0.385	0.370	0.261	0.335	0.168	0.202	0.315	0.440
Expects to earn a BA	1.075	0.805	0.947*	0.420	1.155**	0.380	0.856	0.784
Public high school	–0.330	0.382	–0.301	0.396	–0.054	0.131	1.098***	0.324
Suburban high school	0.532	0.297	–0.457	0.267	0.147	0.149	–0.151	0.230
Rural high school	–0.034	0.559	–0.298	0.696	–0.235	0.230	0.023	0.430
Percent conservative in state	–0.110***	0.025	–0.056	0.029	–0.021*	0.010	–0.028	0.027
Affirmative action policy context								
In a ban state during high school	–0.041	0.365	0.338	0.289	0.404**	0.146	0.504*	0.246
Constant	–2.941*	1.417	–6.543***	1.511	–7.621***	0.774	–7.851***	1.389
Model F	7.64***		7.85***		15.72***		11.29***	
Unweighted n	1,080		1,150		5,750		1,070	

Note: *p<.05, **p<.01, ***p<.001 (two-tailed tests). Sample sizes are rounded to the nearest 10 in accordance with NCES reporting requirements.

Source: Previously unpublished tabulation, US Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), Base-Year, First Follow-up, and Second Follow-up.

Latino graduates elsewhere to apply to a public selective institution. Although the coefficient for black graduates is negative (b = –0.041), it is not statistically significant.

However, there is evidence in support of our signals to nonbeneficiaries hypothesis, which posits that bans signal to members of nonbeneficiary groups that their chances of being admitted to selective colleges are better when race-sensitive admissions are restricted, thereby encouraging applications from them. Both white and Asian American high school graduates in ban states were more likely than their same-race counterparts elsewhere to apply to a public selective college. The likelihood that white graduates in ban states applied to a public selective college is estimated to be 49.8 percent higher than the odds that similar whites in nonban states did so, whereas the chances that Asian American graduates from ban states applied to a public selective institution is estimated to be 65.5 percent higher than the odds that their counterparts elsewhere did the same. Based on Wald tests, we can reject the hypothesis that the coefficients for the four racial and ethnic groups are equal ($p = 0.016$) and, likewise, reject the hypothesis that the coefficients for beneficiary and nonbeneficiary groups are equal ($p = 0.032$).

Table 3 presents logit coefficients from regression models that assess our strength of academic performance hypothesis by testing for an interaction between residence in a ban state and SAT scores. As expected, we observe a statistically significant interaction for nonbeneficiary groups (white and Asian American prospective students) but not for beneficiary groups (black or Latino students). For every ten-point increase in SAT score, the likelihood that white graduates from ban states applied to a public selective college is estimated to increase by 2.3 percent over the odds that their counterparts from nonban states did the same. And the odds that Asian American high school graduates in ban states sought entry into public selective colleges increased over their counterparts in nonban states by 5.9 percent for every ten-point increase in SAT scores.

The interactions in table 3 tell only part of the story, however, given that they summarize differences among respondents in the odds of applying to a public selective college at mean levels of SAT scores. Figure 1 depicts the predicted probability that white and Asian American high school graduates apply to a public selective college across the range of SAT scores while holding all other variables at their race-specific means. Although there are notable differences in probabilities of seeking admission to a selective college between white and Asian American graduates, with Asian American graduates being more likely to do so at every given SAT score, we focus on within-group differences by residence in ban and nonban states. At low values on the SAT, there is little difference in the predicted probability of applying to a public selective institution between respondents in ban and nonban states among white and Asian American prospective college students. However, consistent with our hypothesis, statistically significant differences emerge along the x-axis toward

TABLE 3   Coefficients from interactive logistic regression models that predict application to a public selective college among high school graduates by race and ethnicity, weighted

Independent variable	Black high school graduates		Latino high school graduates		White high school graduates		Asian American high school graduates	
	Logit	SE	Logit	SE	Logit	SE	Logit	SE
Socioeconomic background								
Family SES	0.087	0.208	0.062	0.272	0.365***	0.109	0.065	0.167
Number of siblings	−0.052	0.116	−0.018	0.109	−0.045	0.049	−0.097	0.083
Academic preparation								
GPA	0.770**	0.239	0.730*	0.315	0.373*	0.146	0.496*	0.230
SAT score (divided by 10)	0.013	0.012	0.028*	0.012	0.031***	0.00	0.019*	0.008
AP courses	0.902**	0.317	0.534	0.289	0.359**	0.132	0.554	0.301
Sports activity	0.231	0.312	0.181	0.292	0.280*	0.129	0.169	0.256
School service activity	0.417	0.331	0.074	0.332	0.201	0.118	0.529	0.270
Academic activity	0.083	0.345	0.530	0.317	0.224	0.123	0.126	0.255
Controls								
Female	−0.511*	0.246	−0.679*	0.307	−0.221*	0.108	−0.225	0.205
First or second generation	0.378	0.373	0.263	0.338	0.159	0.204	0.397	0.446
Expects to earn a BA	1.090	0.808	0.935*	0.416	1.164**	0.380	0.941	0.798
Public high school	−0.300	0.382	−0.287	0.392	−0.055	0.131	1.049***	0.312
Suburban high school	0.542	0.296	−0.453	0.267	0.135	0.150	−0.204	0.224
Rural high school	−0.045	0.575	−0.282	0.692	−0.250	0.231	0.053	0.441
Percent conservative in state	−0.110***	0.026	−0.055	0.028	−0.021*	0.010	−0.022	0.026
Affirmative action policy context								
In a ban state during high school	−1.965	2.331	−0.852	1.497	−2.167	1.126	−5.530***	1.249
Interaction								
In a ban state x SAT score (divided by 10)	0.021	0.024	0.012	0.014	0.023*	0.010	0.057***	0.011
Constant	−2.615	1.431	−5.852***	1.618	−7.188***	0.810	−5.954***	1.323
Model F	7.42***		7.48***		15.61***		13.95***	
Unweighted n	1,080		1,150		5,750		1,070	

Note: *p<.05, **p<.01, ***p<.001 (two-tailed tests). Sample sizes are rounded to the nearest ten in accordance with NCES reporting requirements.

Source: Previously unpublished tabulation from US Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), Base-Year, First Follow-up, and Second Follow-up.

FIGURE 1   *Probability of applying to a public selective college across SAT scores among white and Asian American high school graduates in states with and without a ban on affirmative action*
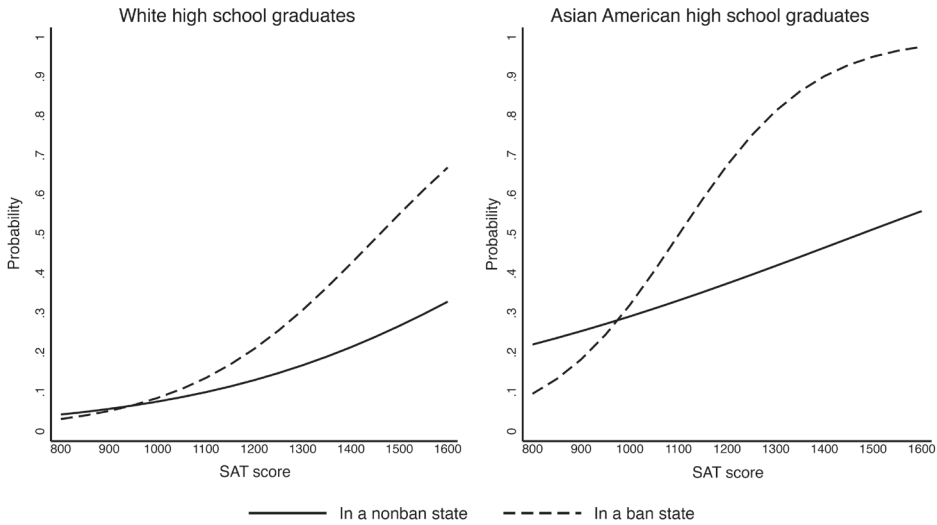
Note: All other variables are set to group-specific means.

Source: Previously unpublished tabulation, US Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), Base-Year, First Follow-up, and Second Follow-up.

higher scores. The gap grows larger across the range of scores for Asian American prospective college students compared to their white counterparts. For both groups, differences in probabilities across ban and nonban states are larger among respondents whose academic qualifications, as measured by SAT scores, position them as serious prospects for admission into a public selective institution. Wald tests indicate that we can reject the hypothesis that the interaction coefficients for the four racial and ethnic groups are equal ($p = 0.018$). However, additional tests point specifically to differences between Asian American and Latino graduates ($p = 0.018$) and between Asian American and white graduates ($p = 0.033$). We cannot formally distinguish between the interaction coefficients for white graduates and for black and Latino graduates, casting some doubt on whether white graduates differ from black and Latino graduates in the degree to which their probabilities of applying to a public selective college vary across ban and nonban states as a function of their performance on the SAT.

Multivariate Findings from States with Public Selective Institutions

Tables 4 and 5 display results for the subsample of high school graduates who resided in states that have public selective institutions. This sample restriction

makes for a less conservative evaluation of the signal to beneficiaries hypothesis yet provides no support for it, as neither the coefficient for black graduates nor the one for Latino graduates is statistically significant.

Limiting the sample to respondents who lived in states with public selective colleges also makes for a more conservative test of the signal to nonbeneficiaries hypothesis. It appears to provide no support for that hypothesis based on results from the additive models. But table 5 does show a positive and statistically significant interaction between residence in a ban state and SAT score for this restricted sample, just as it does for the national sample, indicating that white and Asian American high school graduates in ban states are increasingly more likely than their counterparts in nonban states to apply to public selective colleges the higher they score on the SAT. However, tests of equality of coefficients do not allow us to reject the possibility that the interaction coefficients are the same for each racial and ethnic group.

Discussion and Conclusion

With this study we contribute to the literature on the consequences of the retreat from affirmative action in college admissions, advancing it in several ways. First, we follow the applications of prospective college students to their target locations, whether they were to in-state or out-of-state institutions, thereby taking a national approach to the investigation of the relationship between state bans on affirmative action and racial-ethnic patterns in seeking admission to public selective colleges. Second, we offer three new hypotheses about the ways bans on affirmative action might shape the application decisions of prospective college students. We posit that rather than discouraging applications from all racial and ethnic minority (black, Latino, and Asian American) high school graduates, bans shape the application decisions of prospective college students depending on their beneficiary position—that is, by whether they stand to benefit by way of admissions from affirmative action. Through our signal to beneficiaries and signal to nonbeneficiaries hypotheses, we suggest that bans depress applications among groups that benefit from affirmative action (black and Latino prospective college students), while bans encourage applications to selective institutions among groups that do not stand to gain from race-sensitive admissions (white and Asian American prospective college students). Further, we hypothesize that the relationship between bans on affirmative action and the odds of applying to a public selective college is stronger among nonbeneficiary groups at higher versus lower levels of academic performance.

We find no support for our signal to beneficiaries hypothesis. We did not discern that black and Latino prospective students in ban states were less likely than their counterparts in nonban states to apply to public selective colleges, even when we restricted the sample to those who had the option of applying to such institutions in their home state. Perhaps the lack of support, particularly

PAMELA R. BENNETT AND AMY LUTZ

TABLE 4 *Coefficients from additive logistic regression models that predict application to a public selective college among high school graduates in states with public selective institutions by race and ethnicity, weighted*

Independent variable	Black high school graduates Logit	SE	Latino high school graduates Logit	SE	White high school graduates Logit	SE	Asian American high school graduates Logit	SE
Socioeconomic background								
Family SES	0.142	0.249	0.288	0.307	0.489***	0.116	0.048	0.209
Number of siblings	−0.083	0.117	−0.019	0.119	−0.035	0.053	−0.042	0.099
Academic preparation								
GPA	1.092***	0.290	1.110**	0.350	0.585***	0.169	0.738*	0.302
SAT score (divided by 10)	0.016	0.012	0.031**	0.011	0.033***	0.005	0.049***	0.009
AP courses	0.802*	0.342	0.527	0.301	0.293	0.153	0.983**	0.366
Sports activity	0.245	0.359	0.063	0.334	0.323*	0.151	0.101	0.273
School service activity	0.327	0.365	−0.032	0.388	0.185	0.137	0.302	0.296
Academic activity	−0.064	0.408	0.775*	0.351	0.352**	0.128	0.140	0.297
Controls								
Female	−0.107	0.292	−0.822*	0.337	−0.227	0.126	−0.048	0.231
First or second generation	0.198	0.479	0.192	0.364	0.062	0.217	0.377	0.594
Expects to earn a BA	1.673	0.908	1.024*	0.495	1.070*	0.423	2.338**	0.845
Public high school	−0.558	0.392	0.082	0.379	0.194	0.153	0.572	0.370
Suburban high school	0.417	0.354	−0.752*	0.294	0.102	0.159	−0.452	0.238
Rural high school	−0.166	0.594	−0.313	0.748	−0.458	0.237	−0.266	0.615
Percent conservative in state	−0.070	0.036	−0.053	0.036	0.044*	0.017	−0.050	0.025
Affirmative action policy context								
In a ban state during high school	−0.091	0.412	−0.114	0.335	−0.021	0.163	0.093	0.301
Constant	−5.278**	2.005	−7.060***	1.791	−10.024***	0.992	−9.891***	1.686
Model F	4.66***		5.35***		14.91***		11.18***	
Unweighted n	680		880		3,620		800	

Note: *p<.05, **p<.01, ***p<.001 (two-tailed tests). Sample sizes are rounded to the nearest 10 in accordance with NCES reporting requirements.

Source: Previously unpublished tabulation, US Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), Base-Year, First Follow-up, and Second Follow-up.

381

TABLE 5 Coefficients from interactive logistic regression models that predict application to a public selective college among high school graduates in states with public selective institutions by race and ethnicity, weighted

Independent variable	Black high school graduates		Latino high school graduates		White high school graduates		Asian American high school graduates	
	Logit	SE	Logit	SE	Logit	SE	Logit	SE
Socioeconomic background								
Family SES	0.138	0.252	0.298	0.312	0.489***	0.117	0.021	0.216
Number of siblings	−0.075	0.119	−0.017	0.120	−0.038	0.054	−0.051	0.097
Academic preparation								
GPA	1.097***	0.289	1.124**	0.353	0.614***	0.167	0.731*	0.305
SAT score (divided by 10)	0.010	0.013	0.024	0.015	0.027***	0.006	0.028**	0.011
AP courses	0.795*	0.339	0.533	0.304	0.310*	0.155	0.960**	0.364
Sports activity	0.259	0.361	0.061	0.334	0.331*	0.151	0.108	0.283
School service activity	0.303	0.362	−0.040	0.393	0.174	0.137	0.315	0.298
Academic activity	−0.049	0.407	0.771*	0.348	0.342**	0.129	0.135	0.302
Controls								
Female	−0.105	0.294	−0.833*	0.330	−0.224	0.125	−0.103	0.239
First or second generation	0.201	0.482	0.187	0.364	0.048	0.219	0.378	0.599
Expects to earn a BA	1.694	0.897	1.037*	0.507	1.079*	0.422	2.487**	0.893
Public high school	−0.524	0.394	0.096	0.377	0.194	0.150	0.525	0.369
Suburban high school	0.435	0.349	−0.745*	0.296	0.093	0.159	−0.455	0.237
Rural high school	−0.179	0.621	−0.302	0.746	−0.473*	0.237	−0.214	0.613
Percent conservative in state	−0.068	0.036	−0.052	0.036	0.046**	0.017	−0.041	0.025
Affirmative action policy context								
In a ban state during high school	−1.651	2.425	−1.097	1.808	−2.689*	1.230	−4.352**	1.404
Interaction								
In a ban state x SAT score (divided by 10)	0.017	0.025	0.010	0.017	0.024*	0.011	0.042**	0.013
Constant	−4.943*	2.017	−6.433***	1.902	−9.490***	1.043	−8.021***	1.760
Model F	4.66***		5.35***		14.91***		11.18***	
Unweighted n	680		880		3,620		800	

Note: *p<.05, **p<.01, ***p<.001 (two-tailed tests). Sample sizes are rounded to the nearest 10 in accordance with NCES reporting requirements.

Source: Previously unpublished tabulation, US Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), Base-Year, First Follow-up, and Second Follow-up.

among the restricted sample, results from inadequate power due to subsample sizes. Prior research (Long, 2004) has demonstrated a negative relationship between bans on affirmative action and applications to public selective colleges among black and Latino high school graduates when they are combined in a pooled sample, but no study that we are aware of, including our own, has shown that for black and Latino prospective students separately.

Support for the signal to nonbeneficiaries hypothesis comes from additive models using a nationally representative sample of high school graduates. Additional support comes from evidence that white and Asian American graduates in ban states are more likely than their counterparts in nonban states to apply to public selective colleges the higher they score on the SAT. The strongest evidence exists for Asian American graduates: the higher Asian American graduates scored on the SAT, the larger the difference in the probability of applying to a public selective college between those who resided in ban and nonban states. The evidence for white graduates is weaker, which raises the question of why white prospective college students whose academic credentials made them most competitive for admission to selective institutions might be less responsive than Asian American prospective students to the adoption of restrictions on affirmative action. It may be that white high school graduates, more so than Asian American graduates, have means to increase their chances of attending selective colleges and universities beyond bans on race-sensitive admissions, such as legacy admissions and participation in sports, both of which continue to be rewarded by selective institutions and are more prevalent among white than Asian American students (Alon, 2015; Morrison, 2021). At the same time, Asian American prospective students may be more responsive than white prospective students to the broadening of opportunities to enroll in selective institutions as a defense against workplace discrimination. Such a possibility is consistent with evidence from a nationally representative survey that documents substantially higher levels of perceived race-based discrimination in self-described unfair promotion decisions among Asian Americans compared to whites (Yu, 2020).

We reiterate that our use of the ELS data set imposes limitations on this study; namely, we cannot conclude with certainty that state bans on affirmative action have causal effects on the application decisions of prospective college students. However, our results combine with those of other research to provide a more comprehensive picture of how the retreat from affirmative action may operate to increase racial and ethnic inequality in higher education. Recent research suggests that bans on affirmative action are pursued as a response to racial threat—in particular, the perception that there are too few spaces in state flagship institutions for white students (Baker, 2019). That members of underrepresented minority groups face lowered chances of being admitted to public selective institutions in the presence of bans on affirmative action is the logical outcome of those policies.

What is less obvious is whether and how bans influence the application behavior of members of racial and ethnic groups who occupy different positions vis-à-vis affirmative action. Bans have been thought to discourage applications from groups depending on their minority versus majority status, which predicts reduced applications to selective colleges among black and Latino prospective students as well as Asian American prospective students. Recognizing that Asian Americans occupy a different beneficiary position relative to affirmative action policies than do blacks and Latinos advances a more disaggregated approach. Asian Americans' central role in recent legal challenges to affirmative action policies encourages the same. While they, like all racial and ethnic groups, can benefit from the diverse learning and social environments that affirmative action policies help create, in most instances Asian Americans do not benefit from affirmative action by way of increased chances of being admitted to selective institutions. There is reason, then, to anticipate that their responses to restrictions on affirmative action will differ from those of their black and Latino counterparts.

Results in support of the signal to nonbeneficiaries hypothesis illustrate how affirmative action bans exacerbate inequalities in higher education. Bans appear to operate as pull factors for white and Asian American prospective college students, drawing them into the application pools of selective institutions more than would otherwise be the case without restrictions on race-conscious admissions. Although bans do not appear to discourage applications by members of beneficiary groups, bans may, nevertheless, widen enrollment disparities between black and Latino prospective students, on the one hand, and white and Asian American prospective students, on the other, by encouraging white and Asian American high school graduates to place themselves in the applicant pools of the country's most elite colleges and universities while also making it more likely that they are admitted.

The consequences of state bans go beyond application and enrollment disparities by race and ethnicity. Followed to their logical conclusions, they may exacerbate racial and ethnic disparities in who receives the myriad benefits that flow from graduating from selective institutions. Beyond those considerations lie consequences for the representativeness of America's political, business, scientific, and artistic leadership, which are no less important today than they were in 2003 when, in the *Grutter* decision, Justice O'Connor wrote of the need for "the path to leadership [to] be visibly open to talented and qualified individuals of every race and ethnicity."

Our findings suggest additional avenues for research. Each of the hypotheses we tested rests on the assumption that bans on affirmative action send signals to prospective college students about their chances of being admitted to selective institutions or about racial climates on college campuses. For signals to work, however, they must be received and interpreted by their intended audience. Our data set contained no information on whether prospective col-

lege students received and interpreted signals that bans on affirmative action send. Future research should investigate the extent to which prospective college students are aware of, and how they make sense of, state bans on affirmative action, along with racial and ethnic variation in their awareness and sensemaking. Such work would further illuminate how restrictions on race-conscious admissions exacerbate inequalities in higher education.

Notes

1. All references to affirmative action refer to affirmative action in college admissions.
2a. A number of terms describe populations that originate from or hold identities based in Latin America, such as "Hispanic," "Latino" and, more recently, "Latinx," and "Latine." We use the term "Latino," but use "Hispanic" when using the census term "non-Hispanic" to refer to groups that do not originate or hold identities based in Latin America or Spain.
2b. Students from low socioeconomic family backgrounds were also underrepresented in selective colleges and universities, in part, due to their lack of application to these institutions, particularly as college tuition rose (Lucas, 1996). For a contemporary examination of why more low-income students do not apply to elite colleges, see Radford (2013).
3. See Blume and Long (2014) for an overview of state and judicial actions that imposed restrictions on race-sensitive admissions.
4. We use the term Asian Americans to refer to "a diverse group who either are descendants of immigrants from some part of Asia or are themselves such immigrants" (Xie & Goyette 2015, p. 415).
5. For national studies on the effects of bans on affirmative action and college enrollment and completion, see Cortes (2010), Backes (2012), Hinrichs (2014), and Lutz, Bennett, & Wang (2019, 2020).
6. In *Gratz v. Bollinger* (2003), the Supreme Court rejected the University of Michigan's use of affirmative action in undergraduate admissions that automatically awarded points to black, Latino, and Indigenous students.
7. We do not formulate hypotheses about the application behavior of Indigenous high school graduates because we are unable to test them given the number of Indigenous students in the data used for this study.
8. The number of respondents is rounded to the nearest tenth in all references to sample sizes.
9. The University of Texas at Austin could not use affirmative action in its admissions for fall 2004 because state law prevented the university from enacting new admissions policies for one year after they are approved. The fall 2005 cohort of freshmen became the first cohort admitted under the new admissions policy (Trinh & Moll, 2004).
10. ELS contains only a measure of sex. Respondents could identify as male or female. No measures of gender are available.
11. The National Center for Fair & Open Testing (2022), an advocacy group, tracks the adoption of test-optional policies. It identifies only two schools that had gone test optional during the time students in this study applied to college, although a few additional schools had done so prior to this, such as Bates College, which made the change as early as 1984 (Bates News, October 1, 2005).
12. The value of 3.56% results from $(100 \ [e^{0.035} - 1])$.

References

Alon, S. (2015). *Race, Class, and Affirmative Action.* New York: Russell Sage Foundation.

Ancheta, A. N. (2006). *Race, rights, and the Asian American experience* (2nd ed.). New Brunswick, NJ: Rutgers University Press. https://doi.org/10.36019/9780813540078

Backes, B. (2012). Do affirmative action bans lower minority college enrollment and attainment? Evidence from statewide bans. *Journal of Human Resources, 47*(2), 435–455. https://doi.org/10.3368/jhr.47.2.435

Baker, D. J. (2019). Pathways to racial equity in higher education: Modeling the antecedents of state affirmative action bans. *American Educational Research Journal, 56*(5), 1861–1895. https://doi.org/10.3102/0002831219833918

Bates News. (2005). 20-year Bates College study of optional SATs finds no differences. Lewiston, ME: Bates Communications Office. https://www.bates.edu/news/2005/10/01/sat-study/

Bell, D. (1979). *Bakke,* minority admissions, and the usual price of racial remedies. *California Law Review, 67*(1), 3–19. https://doi.org/10.2307/3480087

Bennett, P. R., & Lutz, A. (2009). How African American is the net black advantage? Differences in college attendance among immigrant blacks, native blacks, and whites. *Sociology of Education, 82*(1), 70–100. https://doi.org/10.1177/003804070908200104

Bennett, P. R., & Xie, Y. (2003). Revisiting racial differences in college attendance: The role of historically black colleges and universities. *American Sociological Review, 68*(4), 567–580. https://doi.org/10.2307/1519739

Blake, J. (1989). *Family size and achievement.* Berkeley: University of California Press. https://doi.org/10.1525/9780520330597

Blume, G. H., & Long, M. C. (2014). Changes in levels of affirmative action in college admissions in response to statewide bans and judicial rulings. *Educational Evaluation and Policy Analysis, 36*(2), 228–252. https://doi.org/10.3102/0162373713508810

Bowen, W. G., & Bok, D. C. (1998). *The shape of the river: Long-term consequences of considering race in college and university admissions.* Princeton, NJ: Princeton University Press. https://doi.org/10.1515/9781400882793

Braxton, J. M., & Nordvall, R. C. (1985). Selective liberal arts colleges: Higher quality as well as higher prestige? *Journal of Higher Education, 56*(5), 538–554. https://doi.org/10.1080/00221546.1985.11778717

Brewer, D. J., Eide, E. R., & Eherenberg, R. G. (1999). Does it pay to attend an elite private college? Cross-cohort evidence on the effects of college type on earnings. *Journal of Human Resources, 34*(1), 104–123. https://doi.org/10.2307/146304

Brown, S. K., & Hirschman, C. (2006). The end of affirmative action in Washington State and its impact on the transition from high school to college. *Sociology of Education, 79*(2), 106–130. https://doi.org/10.1177/003804070607900202

Card, D., & Krueger, A. B. (2005). Would the elimination of affirmative action affect highly qualified minority applicants? Evidence from California and Texas. *ILR Review, 58*(3), 416–434. https://doi.org/10.1177/001979390505800306

Charles, C. Z., Fischer, M. J., Mooney, M. A., & Massey, D. S. (2009). *Taming the river: Negotiating the academic, financial, and social currents in selective colleges and universities.* Princeton, NJ: Princeton University Press. https://doi.org/10.1515/9781400830053

Colburn, D. R., Young, C. E., & Yellen, V. M. (2008). Admissions and public higher education in California, Texas, and Florida: The post–affirmative action era. *Interactions: UCLA Journal of Education and Information Studies, 4*(1). https://doi.org/10.5070/D441000620

Cortes, K. E. (2010). Do bans on affirmative action hurt minority students? Evidence from the Texas Top 10% plan. *Economics of Education Review, 29*(6), 1110–1124. https://doi.org/10.1016/j.econedurev.2010.06.004

Davies, S., & Guppy, N. (1997). Fields of study, college selectivity, and student inequalities in higher education. *Social Forces, 75*(4), 1417–1438. https://doi.org/10.2307/2580677

Dickson, L. M. (2006). Does ending affirmative action in college admissions lower the percent of minority students applying to college? *Economics of Education Review, 25*(1), 109–119. https://doi.org/10.1016/j.econedurev.2004.11.005

Espenshade, T. J., & Radford, A. W. (2009). *No longer separate, not yet equal: Race and class in elite college admission and campus life.* Princeton, NJ: Princeton University Press. https://doi.org/10.1515/9781400831531

FairTest. (April 11, 2022). *Test optional growth chronology 2005–2022.* National Center for Fair & Open Testing. http://www.fairtest.org/sites/default/files/Optional-Growth-Chronology.pdf

Fisher v. University of Texas, 570 US 297 (2013). https://www.oyez.org/cases/2012/11-345

Fisher v. University of Texas, 579 US ____ (2016). https://www.oyez.org/cases/2015/14-981

Fischer, M. J., & Massey, D. S. (2007). The effects of affirmative action in higher education. *Social Science Research, 36*(2), 531–549. https://doi.org/10.1016/j.ssresearch.2006.04.004

Garces, L. M. (2013). Understanding the impact of affirmative action bans in different graduate fields of study. *American Educational Research Journal,* 50(2), 251–284. https://doi.org/10.3102/0002831212470483

Garces, L. M., & Mickey-Pabello, D. (2015). Racial diversity in the medical profession: The impact of affirmative action bans on underrepresented students of color matriculation in medical schools. *Journal of Higher Education, 86*(2), 264–294. https://doi.org/10.1080/00221546.2015.11777364

Gratz v. Bollinger, 539 U.S. 244 (2003). https://www.oyez.org/cases/2002/02-516

Grodsky, E., & Kalogrides, D. (2008). The declining significance of race in college admissions decisions. *American Journal of Education, 115*(1), 1–33. https://doi.org/10.1086/590673

Grodsky, E., & Kurlaender, M. (2010). The demography of higher education in the wake of affirmative action. In E. Grodsky & M. Kurlaender (Eds.), *Equal opportunity in higher education: The past and future of California's Proposition 209* (33–58). Cambridge, MA: Harvard Education Press.

Grutter v. Bollinger, 539 U.S. 306 (2003). https://www.oyez.org/cases/2002/02-241

Harris, A., & Tienda, M. (2010). Minority higher education pipeline: Consequences of changes in college admissions policy in Texas. *Annals of the American Academy of Political and Social Science, 627*(1), 60–81. https://doi.org/10.1177/0002716209348740

Hinrichs, P. (2012). The effects of affirmative action bans on college enrollment, educational attainment, and the demographic composition of universities. *Review of Economics and Statistics, 94*(3), 712–722. https://doi.org/10.1162/REST_a_00170

Hinrichs, P. (2014). Affirmative action bans and college graduation rates. *Economics of Education Review, 42,* 43–52. https://doi.org/10.1016/j.econedurev.2014.06.005

Hopwood v. The University of Texas, 78 F (3d) 932 (5th Cir 1996). https://cite.case.law/f3d/84/720/

Howe, A. (2022, January 24). Court will hear challenges to affirmative action at Harvard and University of North Carolina. *SCOTUSblog.* https://www.scotusblog.com/2022/01/court-will-hear-challenges-to-affirmative-action-at-harvard-and-university-of-north-carolina/

Howell, J. S. (2010). Assessing the impact of eliminating affirmative action in higher education. *Journal of Labor Economics, 28*(1), 113–166. https://doi.org/10.1086/648415

Ingels, S. J., Pratt, D. J., Rogers, J. E., Siegel, P. H., & Stutts, E. S. (2004). *Education Longitudinal Study of 2002: Base year data file user's manual, NCES 2004-405*. U.S. Department of Education, National Center for Education Statistics. https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2004405

Kane, T. J. (1998). Racial and ethnic preferences in college admissions. In C. Jencks & M. Phillips (Eds.), *The black-white test score gap* (431–456). Washington, DC: Brookings Institution Press.

Kang, J. (1996). Negative action against Asian Americans: The internal instability of Dworkin's defense of affirmative action. *Harvard Civil Rights–Civil Liberties Law Review, 31*(1), 1–48.

Karabel, J. (2005). *The chosen: The hidden history of admission and exclusion at Harvard, Yale and Princeton.* New York: Houghton Mifflin.

Lindquist, S. A. (2007). *State politics and the judiciary* v1 [Data set]. UNC Dataverse. https://doi.org/10.15139/S3/12150

Loewen, J. W. (1988). *The Mississippi Chinese: Between black and white.* Cambridge, MA: Harvard University Press. (Original work published 1971)

Long, M. C. (2004). College applications and the effect of affirmative action. *Journal of Econometrics, 121*(1–2), 319–342. https://doi.org/10.1016/j.jeconom.2003.10.001

Lucas, S. R. (1996). Selective attrition in a newly hostile regime: The case of 1980 sophomores. *Social Forces, 75*(2), 511–533. https://academic.oup.com/sf/article/75/2/511/2233424

Lutz, A., Bennett, P. R., & Wang, R. (2019). How affirmative action context shapes collegiate outcomes at America's selective colleges and universities. *Journal of Law and Social Policy, 31,* 1, 71–91. https://digitalcommons.osgoode.yorku.ca/jlsp/vol31/iss1/4

Lutz, A., Bennett, P. R., & Wang, R. (2020). State bans on affirmative action and talent loss among blacks and Latinos in the United States. *Ethnic Studies Review, 43*(2), 58–76. https://doi.org/10.1525/esr.2020.43.2.58

Massey, D. S., Mooney, M., Torres, K. C., & Charles, C. Z. (2007). Black immigrants and black natives attending selective colleges and universities in the United States. *American Journal of Education, 113*(2), 243–273. https://doi.org/10.1086/510167

Mickelson, R. A. (2002). Affirmative action in education. In D. L. Levinson, P. W. Cookson, & A. R. Sadovnik (Eds.), *Education and sociology: An encyclopedia* (29–42). New York: RoutledgeFalmer.

Mickey-Pabello, D., & Garces, L. M. (2018). Addressing racial health inequities: Understanding the impact of affirmative action bans on applications and admissions in medical schools. *American Journal of Education, 125*(1), 79–108. https://doi.org/10.1086/699813

Morrison, W. B. (2021). Country Club Sports: The Disparate Impact of Athlete Admissions at Elite Universities. *BYU Law Review* 46(3), 883–920.

Nagata, D. K. (1993). *Legacy of injustice: Exploring the cross-generational impact of the Japanese American internment.* New York: Plenum Press.

Okihiro, G. Y. (1994). *Margins and mainstreams: Asians in American history and culture.* Seattle: University of Washington Press.

Owings, J., Madigan, T., & Daniel, B. (1998). Who goes to America's highly ranked "national" universities? (NCES 98095). US Department of Education, Office of Educational Research and Improvement. https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=98095

Poon, O. A., & Segoshi, M. S. (2018). The racial mascot speaks: A critical race discourse analysis of Asian Americans and *Fisher vs. University of Texas. Review of Higher Education, 42*(1), 235–267. https://doi.org/10.1353/rhe.2018.0029

Poon, O. A., Segoshi, M. S., Tang, L., Surla, K. L., Nguyen, C., & Squire, D. D. (2019). Asian Americans, affirmative action, and the political economy of racism: A multidimensional model of raceclass frames. *Harvard Educational Review, 89*(2), 201–226. https://doi.org/10.17763/1943-5045-89.2.201

Radford, A. W. (2013). *Top student, top school? How social class shapes where valedictorians go to college.* Chicago: University of Chicago Press.

Regents of the University of California v. Bakke, 438 U.S. 265 (1978). https://www.oyez.org/cases/1979/76-811

Reitz, J. G. (1975). Undergraduate aspirations and career choice: Effects of college selectivity. *Sociology of Education, 48*(3), 308–323. https://doi.org/10.2307/2112457

Royston, P. (2009). Multiple imputation of missing values: Further update of ICE, with an emphasis on categorical variables. *Stata Journal, 9*(3), 466–477. https://doi.org/10.1177/1536867X0900900308

Soares, J. A. (2007). *The power of privilege: Yale and America's elite colleges.* Stanford, CA: Stanford University Press.

Solmon, L. C., & Wachtel, P. (1975). The effects on income of type of college attended. *Sociology of Education, 48*, 75–90. https://doi.org/10.2307/2112051

Staff, J. (1997, April 22). Texas after Hopwood: Revisiting affirmative action. *Session Focus,* no. 75-14. House Research Organization, Texas House of Representatives. https://hro.house.texas.gov/focus/hopwood.pdf

Students for Fair Admissions, Inc. v. President and Fellows of Harvard College, No. 19-2005 (1st Cir. 2020). Reply brief of appellant Students for Fair Admissions, Inc., Document 00117598105, Entry ID 6343686. http://media.ca1.uscourts.gov/pdf.opinions/19-2005P-01A.pdf

Takagi, D. Y. (1990). From discrimination to affirmative action: Facts in the Asian American admissions controversy. *Social Problems, 37*(4), 578–592. https://doi.org/10.2307/800583

Thomas, S. L. (2003). Longer-term economic effects of college selectivity and control. *Research in Higher Education, 44,* 281–313. https://doi.org/10.1023/A:1023058330965

Thomas, S. L., & Zhang, L. (2005). The effects of college major, quality, and performance. *Research in Higher Education, 46*(4), 437–459. http://dx.doi.org/10.1007/s11162-005-2969-y

Trinh, C., & Moll, T. (2004, June 23). Race-based admission decisions pass first-year mark. *The Daily Texan. https://thedailytexan.com* Retrieved July 22, 2021 from LexisNexis.

Yu, H. H. (2020). Revisiting the Bamboo Ceiling: Perceptions from Asian Americans on Experiencing Workplace Discrimination. *Asian American Journal of Psychology* 11(3), 158–67. https://psycnet.apa.org/record/2020-30725-001

University of Texas Office of Public Affairs. (2003, September 10). Statement on Reinstatement of Affirmative Action in Admissions [Press release]. http://web.archive.org/web/20040223155024/http://www.utexas.edu/opa/news/03newsreleases/nr_200309/nr_affirmative030910.html

US Commission on Civil Rights. (1992). *Civil rights issues facing Asian Americans in the 1990s.* Washington, DC: Government Printing Office. https://www.ojp.gov/pdffiles1/Digitization/135906NCJRS.pdf

US Department of Education, National Center for Education Statistics. (2004). *Education Longitudinal Study of 2002* [Data set]. https://nces.ed.gov/surveys/els2002/

U.S. News & World Report. (2006). *America's best colleges.* New York: Author.

Warikoo, N. K. (2016). *The diversity bargain: And other dilemmas of race, admissions, and meritocracy at elite universities.* Chicago: University of Chicago Press.

White, I. R., Royston, P., & Wood, A. M. (2011). Multiple imputation using chained equations: Issues and guidance for practice. *Statistics in Medicine, 30*(4), 377–399. https://doi.org/10.1002/sim.4067

Wright, G. C., Erikson, R. S., & McIver, J. P. (1985). Measuring state partisanship and ideology with survey data. *Journal of Politics, 47*(2), 469–489. https://doi.org/10.2307/2130892

Wu, F. H. (1995). Neither black nor white: Asian Americans and affirmative action. *Boston College Third World Law Journal, 15*(2), 225–284. https://lawdigitalcommons.bc.edu/twlj/vol15/iss2/1

Xie, Y., & Goyette, K. (2015). Demographic portrait of Asian Americans. In R. Farley & J. Haaga (Eds.), *The American people: Census 2000* (415–446). New York: Russell Sage Foundation.

Zhang, L. (2005a). Advance to graduate education: The effect of college quality and undergraduate majors. *Review of Higher Education, 28*(3), 313–338. http://doi.org/10.1353/rhe.2005.0030

Zhang, L. (2005b). Do measures of college quality matter? The effect of college quality on graduates' earnings. *Review of Higher Education, 28*(4), 571–596. http://doi.org/10.1353/rhe.2005.0053