

Racial and Ethnic Differences in College Application Behavior

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What We Studied

An important but ignored factor in a college access is the student's application decisions. We examine whether college application behavior influences racial gaps in college access, using two recent graduation cohorts from Texas. We found that racial and ethnic gaps in application rates, particularly for Hispanic students, are not explained by differential levels of college readiness, high school quality, or information regarding college admission processes. When applying to college, minorities are influenced by more than just matching their academic ability to the institution and prefer institutions with a large proportion of same race students and campuses where same race students from their high school have been successful in the past. Our results suggest that universities cannot rely on students to diversify campuses without intentional policy efforts to attract and retain minority students. These can include admissions policies that guarantee acceptance for high-performing students regardless of high school quality, such as Texas' Top 10% Rule.

Substantial disparities in college enrollment rates exist across racial and socioeconomic groups in the United States. Nationally, only 62 percent of black and 60 percent of Hispanic high school graduates enrolled in college the fall semester after high school graduation, compared to 71 percent of white graduates (National Center for Education Statistics 2010a, 2010b). A key goal of education policy is to help remediate this inequity by providing equal opportunity and access to all students. However, to develop better policy, one needs to understand the underlying causes of these disparities.

There are many possible explanations for gaps in college access. Selective admissions processes can limit college access among minorities if high school quality and high school outcomes are unequally distributed by race and ethnicity. Even before a student can enter an admissions process, she must apply – a process that may be particularly daunting for a potential first-generation college student. In this study, we first investigate racial and ethnic differences in the initial step in college enrollment – the application decision – using two full cohorts of recent Texas high school graduates. We do so in order to assess the differential roles of student demographics, high school quality, and student preparedness in the college application decision. We also allow for effects of race to differ based on student and high school characteristics.

Second, we examine the decision of where to apply conditional on applying. When deciding where to apply, students can incorporate a number of different elements into this decision, including their level of preparedness, the probability of acceptance, and campus characteristics. We focus on understanding the importance of student-campus fit by estimating the influence of academic match, campus demographics, and high school feeder patterns on behavior regarding where students apply to college.

How We Analyzed the Data

The data sources for this study were collected by the Texas Workforce Data Quality Initiative (WDQI) at the University of Texas at Austin, funded by the United States Department of Labor. This work was conducted at the Texas Education Research Center (ERC) at the University of Texas at Austin. The dataset included high school enrollment and performance measures for all Texas public school students who graduated in 2008 and 2009. High school measures of college readiness (such as type and number of courses completed and performance on high school exit exams) and basic demographics (race and ethnicity, eligibility for free lunch, English proficiency) were obtained from high school academic records. The WDQI database improves on data sets from prior studies of race/ethnicity and admissions by including all high school graduates rather than just those who expressed interest in college and including a sufficient minority population to disaggregate effects for blacks and Hispanics. In addition, links between high school and university administrative data sets allow for estimation of within high school differences by race and ethnicity, as well as measurement of a high school's historical feeder relationship with a university campus. Finally, the Texas context enables us to directly test the role of admissions uncertainty by comparing automatically admitted students to students who must undergo holistic admissions.

K-12 public school data were merged with college application data for all those who applied to Texas public colleges and universities. Because all Texas public universities use a common online application called *ApplyTexas*, we are able to observe application behavior to any Texas public university; we used these records to identify students who applied to any public four-year university within one year of high school graduation. The application data also provides additional information on family income, parent education, and college readiness, including SAT scores and eligibility for top 10% automatic admissions, which is not provided in the high school data set. We also can observe enrollment, financial aid, college grades, and college graduation data for all those who enrolled in any Texas public university.

Our analysis includes three steps. First, we examine the overall college applications rates of Texas high school graduates by race and ethnicity. We look at both application to any Texas public university and application to elite flagship campuses. Overall rates are influenced by many factors including differences in academic achievement, high school quality, and college resources.

To isolate inequalities associated with race/ethnicity, we next use regression analysis to estimate the differences in college application behavior, controlling for confounding factors. Specifically, we control for student college readiness through coursework and state test scores and family resources with indicators for free-lunch eligibility. Our strategy estimates differences in application behavior between white students and racial/ethnic minority students (black, Hispanic, and Asian) *who attended the same high school* and have similar college readiness. We also conduct analysis within specific high school grouping, such as schools with high minority enrollment and schools with high college-going rates for minority graduates, to test for differential effects.

Our third analysis applies a regression technique that estimates the effects of college characteristics on student application choices. Using the entire choice set of state universities and a rich data set of college characteristics, we estimate the influence of both academic and demographic college characteristics on where students choose to apply. We conduct this analysis separately for white, blacks, Hispanics, and Asians and compare the factors that influence each group of students.

What We Discovered

We find that inequality in college access and quality begins with the decision to apply to college and is influenced by college factors including student demographics and past high school feeder patterns.

- Hispanics have the lowest college enrollment rates. This is due to a lower propensity to apply to college. Hispanics are less likely to apply than their academic peers, and Hispanic enrollment is low despite having higher average college readiness than black students.

- Black students are *more* likely to apply to college than students of other races with similar college readiness and high school quality. This effect is concentrated among black students with low-college readiness.
- There are racial and ethnic differences in the selection of colleges, with blacks and Asians preferring campuses with students within their own racial group, and blacks and Hispanics responding to the prior experiences of their high school peers on the campus.

College Readiness by Race and Ethnicity

When we examine the data, we see that, on average, black and Hispanic students have both lower individual college readiness and lower average high school college readiness than white and Asian students. For example, black and Hispanic students attended high schools where, on average, fewer than 9 percent of students earned credit by AP exam and average SAT scores were below 950. Black and Hispanic students attended high schools with similar college readiness, but Hispanic students attended schools with a larger percent minority and FRL, on average. Black students had lower average individual college readiness than Hispanic students across AP coursework and exit exam scores.

College Application Rates by Race and Ethnicity

When we look at application behavior, we see that black students are substantially more likely to apply to an open enrollment campus, with 15 percent of them doing so, while only 5 percent of whites, 3 percent of Asians, and 2 percent of Hispanics do. In contrast, Asian students are much more likely to apply to multiple campuses, with 30 percent do, while only 11 percent of Hispanics, 17 percent of whites, and 18 percent of blacks are doing so. While 36.5 percent of Asians apply to a high-SAT campus (defined as the top quartile in the state in terms of median SAT score), only 5 percent of Asians apply to a low-SAT campus (defined as the bottom quartile in the state in terms of median SAT score). This pattern reverses among black students, with 16 percent applying to a low-SAT campus and only 9 percent applying to a high-SAT campus. Hispanics split evenly, with about 8 percent applying to a high-SAT campus and 8 percent applying to a low-SAT campus.

Regression Estimates of the Choice to Apply to College

We estimate that within high schools, a black student is 13.8 percentage points more likely to apply to college than a similar white student, while a Hispanic student is 6.1 percentage points less likely to apply than a similar white student. For Asian students, the within high school difference in application behavior is statistically significant and negative, suggesting that Asians are less likely to apply than white peers from the same high school by approximately 2 percentage points. These results indicate that the large Hispanic minority in Texas is least likely to apply to college, while black students are more likely to apply than equally qualified white students with similar high school characteristics.

Regression of Estimates of the Choice of Where to Apply

Much of the college access gap occurs at elite universities, where the study body is typically majority white and wealthy. To consider elite university applications, we estimate application to a Texas flagship campus – or to a school ranked above the Texas flagships by *US News and World Reports*. We find that black and Hispanic students are significantly less likely than whites to apply to an elite university. Asian students are significantly more likely to apply than white students, but a large portion of this effect is explained by differences in college readiness and high school quality.

We then examine what specific institutional attributes are appealing to students, conditional on applying to college. We estimate this model for all college applicants and top 10% college applicants (who are guaranteed admission to any public university in Texas, thereby removing any uncertainty about admission probabilities) across racial and ethnic groups. We find that students of all races and ethnicities are more likely to apply to universities that are closer to home (either within commuting or visiting distance), but Hispanic students are three times more likely than any other racial group to apply to a university that is easily commutable to their home (i.e., distance less than 60 miles). Controlling for academic match, Hispanic students are the most sensitive to distance, followed by Asians and whites, and black students are the least influenced by distance.

In terms of academic campus match, all races and ethnicities are more likely to apply to campuses where their SATs are below the campus mean, and less likely to apply to campuses where their SATs are above the campus mean. However, Hispanic and black students are more likely to apply to campuses that are a far reach academically, with average SATs 200 or more points above their own score, while whites are significantly less likely to apply to a campus that is a far reach. With higher average SAT scores, white and Asian students have fewer “reach” campuses than black and Hispanic students, but the evidence does not suggest that a lack of close academic match campuses explains racial and ethnic differences in application behavior.

Regarding social match, as measured by the racial demographic composition of the college campus, we observe that black, Hispanic, and Asian students are all more likely to apply to campuses with a higher concentration within their own racial and ethnic group. The effect is particularly large for Asian and black students. Whites’ application behavior is negatively associated with minority concentrations of all other racial and ethnic groups on campus.

Finally, Hispanic and black students are more likely to apply to a campus that has recently enrolled students from the same high school and recently graduated students from the same high school of the same race. Asians are positively influenced by both recent enrollment and recent graduation from their high school, but the race of the enrollers and completers is not relevant. White students are influenced by enrollment and completion of any race, as well as by enrollment specifically by whites. It appears that all students learn something about a college campus through the feeder relationship of their high school peers, but for black and Hispanic students, information about successful completion by same race and ethnicity of older peers is also important.

We find very little effect of automatic admissions on the application choices of black, Asian, and white students. In comparison, Hispanic students in the top 10% are the only minority group not significantly influenced by same-race enrollment on campus. Similarly, Hispanics in the top 10% are not significantly influenced by the feeder history of same-race students from their high school to the campus, while Hispanics subject to admissions uncertainty are more likely to apply to campuses where Hispanic students from their high school have recently completed a college degree. Also, salient in this analysis is the effect of college proximity on college application, in particular, for Hispanic students – top 10% Hispanic students are about three times more likely compared to other students to apply to a university if that institution is near their home. College proximity is not only an important predictor for college application for Hispanics students in general, but also for high achieving top 10% Hispanic students as well.

Policy Recommendations

Minority access to higher education is a growing concern across the nation. Obstacles to higher education for minorities will limit growth in human capital and competitiveness for the United States in the very near future. We study the college application decision as a pivotal first step in college access that precedes the processes of admissions and enrollment. Our study benefits from the use of a statewide student dataset that includes the full range of student ability and college readiness that exists within two high school graduation cohorts, and a single college application procedure that is common to most four-year universities in the state. We are also able to provide further insight into the decision process by analyzing campus preferences of applicants in a state where highly-qualified students are automatically admitted to the top public universities.

From a standpoint of population size, the growing Hispanic minority (soon to be a majority in Texas) is of great concern in Texas and across the nation. We consistently find that Hispanic students are least likely of all ethnic groups to apply to college overall and to elite flagship universities in particular. This finding is robust to controls for college readiness, high school quality, and high school fixed effects. The gap between Hispanic and white students in college application is consistent across levels of observable college readiness and high school quality. Even when Hispanic students attend high schools where a majority of students move on to college or where Hispanics are statistically high likely to achieve automatic admissions, Hispanic students are significantly less likely to apply to college than white students.

We find a more nuanced type of inequality in the college application behavior of black high school graduates, an issue not previously identified in studies that aggregate black and Hispanic students as a single group. On average, black students are actually more likely to apply to college than white and Hispanic students with similar levels of college readiness and high school quality. However, this is driven mostly by high application rates among less-prepared black students. Among the most qualified students, blacks have similar overall application rates to whites but are more likely to apply to flagship universities.

We also find that college application decisions for minorities are responsive to more than just the average academic performance of students on a campus. Black, Hispanic, and Asian students are more sensitive than whites to distance to college, and black, Hispanic, and Asian students are all influenced by the presence of same-race students on campus. Black and Hispanic students are also influenced by the historical feeder pattern of their high school to a campus, including past successful degree completion of same-race students from their high school. These social and information effects are mitigated only among high-income Hispanics and Hispanics who are guaranteed admission. Thus, minority application rates respond not only to student college readiness, but also the enrollment and outcomes of minority students on a campus. Automatic admissions might expand the application choices of Hispanics to include campuses with fewer Hispanics students, but black students are highly responsive to the racial composition of a campus even when they are guaranteed admissions to any campus.

Finally, we find that admissions policy interacts with race and ethnicity, potentially altering the application behavior of minority students. Most notably, black and Hispanic students who are eligible for automatic admissions are 20 percentage points more likely to apply to flagship campus than same-race/same-ethnicity peers who are not eligible, and also less likely to apply only to lower-tiered, open-enrollment campuses. Combined with prior evidence on racial differences in responses to the Top 10% Plan (Black, Cortes, and Lincove 2015, Cortes, K., and Lincove, A. 2016a, Cortes, K., and Lincove, A. 2016b), our results suggest that statewide, race-neutral admissions policy can also improve access and quality for qualified minority students.

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