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Amy Lutz
Maxwell School of Citizenship and Public Affairs, Syracuse University

Pamela R. Bennett
School of Public Policy at the University of Maryland, Baltimore County

Rebecca Wang
Maxwell School of Citizenship and Public Affairs, Syracuse University

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How Affirmative Action Context Shapes Collegiate Outcomes at America's Selective Colleges and Universities

AMY LUTZ, PAMELA R BENNETT & AND REBECCA WANG*

Au cours des années 1990 et au début des années 2000, le contexte de l'action positive aux États-Unis a changé. L'action positive dans l'enseignement supérieur a été bannie dans plusieurs États. La Cour suprême a statué dans la décision *Grutter* (2003) que l'action positive, bien que constitutionnelle, doit être mise en application en évaluant les candidats et candidates de manière holistique. Dans cet article, nous utilisons deux ensembles de données pour examiner le lien entre le contexte de l'action positive et les résultats scolaires à certains collèges et universités choisis aux États-Unis, avant et après la décision *Grutter*, dans des États ayant banni l'action positive et d'autres l'ayant permise. En effet, les étudiantes et étudiants issus de minorités sous-représentées ont eu des notes plus élevées après la décision *Grutter* qu'avant celle-ci, ce qui démontre que la méthode d'évaluation holistique exigée par *Grutter* pourrait améliorer les résultats de ces étudiant.e.s. En revanche, nous n'avons rien trouvé qui soutienne l'idée proposée par les critiques de cette politique, soit que l'interdiction de l'action positive fait que les étudiant.e.s noirs et latinos des institutions choisies ont de meilleurs résultats.

During the 1990s and early 2000s, the affirmative action context in the United States changed. Affirmative action in higher education was banned in several states, and the Supreme Court ruled in *Grutter* (2003) that affirmative action, while constitutional, should be implemented via holistic evaluation of applicants. In this article, we use two datasets to examine how affirmative action context relates to academic outcomes at selective colleges and universities in the United States before and after the *Grutter* decision and in states with and without bans on affirmative action. Underrepresented minority students earned higher grades in the period after the *Grutter* decision than before it, indicating that the holistic evaluation method required by *Grutter* may enhance educational outcomes for these students. In contrast, we find no support for the idea, proposed by critics of the policy, that banning affirmative action leads to better collegiate outcomes for Black and Latino students at selective institutions.

IN THE UNITED STATES, AFFIRMATIVE ACTION in higher education has become a key arena for policymaking and legal challenges.[1] Passage of the *Civil Rights Act* in 1964 prohibited colleges

* Amy Lutz is an Associate Professor of Sociology in the Maxwell School of Citizenship and Public Affairs at Syracuse University. Pamela R Bennett is an Associate Professor in the School of Public Policy at the University of Maryland, Baltimore County (UMBC). Rebecca Wang is a doctoral student in Sociology at the Maxwell School of Citizenship and Public Affairs at Syracuse University. This research was supported by the National Science Foundation [Award #1228207]. We thank Seth Ovadia, Assistant Director of Institutional Research and Assessment at Syracuse University, for providing us with access to Academic Insights Data.

[1] This article considers only affirmative action in college and university admissions. For readability, we use various terms for affirmative action: race-sensitive admissions, race-conscious admissions, and racial preferences in admissions.

and universities that receive federal funding from engaging in discriminatory behaviour.[2] The next year, in a commencement address at Howard University, President Lyndon B Johnson acknowledged the need to go beyond non-discrimination policies to engage in affirmative actions to realize the goal of equal opportunity.[3] Colleges and universities began implementing race-sensitive admissions in the 1960s in order to provide underrepresented minorities greater access to selective institutions.[4]

Affirmative action was challenged in the courts soon after its implementation. In 1978, the Supreme Court held in its *Bakke* decision that affirmative action in admissions was constitutional under the rationale that the promotion of diversity at colleges and universities is an important state interest. However, the use of quotas as a means to achieve diversity was held to be unconstitutional.[5] Later Supreme Court decisions, including *Gratz v Bollinger*,[6] *Grutter v Bollinger*,[7] and *Fisher v The University of Texas*,[8] upheld the legality of affirmative action to achieve diversity, but again ruled against a rigid, mechanistic use of race through, for example, automatic points in admissions decisions.

The 2003 *Gratz* and *Grutter* cases brought against the University of Michigan are of note because they resulted in Supreme Court decisions that, nationally, placed limits on how affirmative action can be practised. In those decisions, the Court held that colleges and universities may give admission advantages to members of underrepresented minority groups only as part of holistic, individualized reviews of all applicants (see *Grutter)* in contrast to an automatically awarded boost to admission scores of students from particular groups (see *Gratz*). In addition to federal limits on affirmative action, in some states affirmative action was more severely restricted by legislative, executive, and judicial action, which has resulted in affirmative action being banned altogether in those states.

Relatively little research exists on how changes in the permissibility of affirmative action relate to collegiate outcomes. Although there is a growing body of research on the consequences of these restrictions for access to selective colleges by underrepresented minorities, we know less about how these changes relate to performance in and graduation from selective institutions among these groups. Therefore, we seek to contribute to the literature on race, affirmative action legal context, and education by investigating the following research question: *How do racial and ethnic differences in collegiate outcomes vary across affirmative action contexts?* We define affirmative action contexts in two ways: (1) nationally before and after the 2003 *Gratz* and *Grutter* Supreme Court decisions, and (2) in states with and without bans on affirmative action. Below, we provide additional details on the Supreme Court's decisions and state bans that altered the permissibility of affirmative action and explain how those changes may relate to racial and ethnic differences in collegiate outcomes. We then offer hypotheses and describe our data and analytical strategy. After

[2] *Civil Rights Act of 1964*, Pub L No 88-352, 78 Stat 241 (1964); Neil Rudenstine, "Student Diversity and Higher Learning" in Gary Orfield, ed, *Diversity Challenged: Evidence on the Impact of Affirmative Action* (Cambridge: Harvard Education Publishing Group, 2001) at 33.

[3] Lyndon B Johnson, *Public Papers of the Presidents of the United States: Lyndon B. Johnson, 1965*, book II, entry 301, at 635-640 (Washington, DC: Government Printing Office, 1966).

[4] Adalberto Aguirre, Jr, "Education and Affirmative Action" in James A Beckman, ed, *Affirmative Action: An Encyclopedia* (Westport, CT: Greenwood Press, 2004) at 308.

[5] *Regents of the University of California v Bakke*, 438 US 265 (1978).

[6] 539 US 244 (2003).

[7] 539 US 306 (2003) [*Grutter*].

[8] 570 US 297 (2013); 136 S Ct 2198 (2016).

presentation of the findings, we attempt to make sense of what the results suggest about the relationship between affirmative action, race-ethnicity, and education.

I. AFFIRMATIVE ACTION POLICY CONTEXTS AND THEIR IMPLICATIONS FOR RACIAL-ETHNIC DIFFERENCES IN COLLEGIATE OUTCOMES

In 2003, the United States Supreme Court ruled on the constitutionality of affirmative action in college and university admissions in the *Grutter v Bollinger* and *Gratz v Bollinger* cases. In doing so, the Court altered the context for race-sensitive admissions at the national level. In *Grutter*, the court upheld the constitutionality of affirmative action, but noted that racial and ethnic preferences should be given only in the context of holistic, flexible, individualized evaluation of all applicants. In *Gratz*, the Court held as unconstitutional preference systems that automatically give boosts, for example by awarding additional points, to members of underrepresented minority groups. Since 2003, an applicant's race can be considered as a plus factor in admissions, so long as that consideration is part of an individualized, holistic review rather than systematically applied. Holistic review varies by institution, but theoretically it is a review of a myriad of academic and social factors rather than just test scores and grades. It may include such things as consideration of an essay, extracurricular activities, volunteer work, or a description of the obstacles that an applicant has overcome.

Although the Supreme Court established that affirmative action in college and university admissions is permissible under the US Constitution, nothing in the Constitution requires institutions of higher education to consider an applicant's race or ethnicity, nor is there any federal legislation that requires it. In the absence of federal requirements, states and individual colleges and universities are free to decide whether they will use affirmative action. Indeed, the context for race-sensitive admissions was altered at the state level when affirmative action was banned in numerous states through judicial, legislative, and executive action.

In 1992, Cheryl Hopwood and three other White students applied for admission to the University of Texas School of Law. When they were denied admission they sued the State of Texas and law school officials, arguing that they would have been admitted into the law school were it not for affirmative action.[9] In 1996, in a judgment predating *Grutter* and *Gratz,* the 5th Circuit Court invalidated the affirmative action policy used by the University of Texas Law School that created lower score thresholds for "Blacks and Mexican Americans" to fall within the presumptive admit or discretionary consideration categories. The court, in expansive terms, held that the use of race as a factor in law school admissions violated the equal protection clause of the Fourteenth Amendment. That decision, *Hopwood v The University of Texas*, also had the effect of striking down the use of affirmative action in public colleges and universities in Louisiana and Mississippi. The case was also interpreted by some to invalidate affirmative action policies in private colleges and universities in Texas.[10] However, the broad prohibition on the consideration of race in *Hopwood* was altered by the Supreme Court's holding in *Grutter* and *Gratz* that a consideration of race, in the context of an individualized, holistic assessment, did not offend the Constitution.

[9] Douglas Laycock, "The Lawsuit" (November 2001), online: *Texas Law* <tarlton.law.utexas.edu/hopwood-v-texas/lawsuit> [perma.cc/F4PU-SZ5W].

[10] 78 F (3d) 932 (5th Cir 1996); Roslyn Mickelson, "Affirmative Action in Education" in Peter W Cookson, Jr & Alan R Sadovnik, eds, *Education and Sociology: An Encyclopedia*, (London: RoutledgeFalmer, 2002) at 33.

In addition to the legal challenges to affirmative action, several states have moved through political processes to ban affirmative action. In 1996 California voters passed Proposition 209, called the "California Civil Rights Initiative." Proposition 209 banned the use of affirmative action by state government institutions, including colleges and universities. The vote followed a decision by the Regents of the University of California the previous year to ban affirmative action within the University of California system.[11] Two years later, voters in Washington State banned affirmative action in public education, contracting, and employment by passing Initiative 200; however, the ban was recently repealed by the legislature.[12]

A year later, in 1999, Governor Jeb Bush put forth Executive Order 99-281, known as the One Florida Initiative, to ban affirmative action in public employment, contracts, and higher education in the state.[13] Affirmative action in college and university admissions was replaced with a top 20% program that allows admission at public institutions for students in the top 20% of their high school class, although not necessarily the school of the student's choice. In 2006, voters in Michigan banned affirmative action in higher education and public employment by passing Proposal 2[14] just three years after the Supreme Court endorsed the affirmative action policy of the state's premier law school, the University of Michigan, in *Grutter*.[15] In 2008, voters in Nebraska passed a ballot initiative, Initiative 424, banning affirmative action in higher education that went beyond admissions to include preventing race-targeted recruitment and scholarships.[16] The second decade of the twenty-first century saw the adoption of affirmative action bans by other states in three consecutive years: Arizona in 2010, New Hampshire in 2011, and Oklahoma in 2012. In its 2014 decision in *Schuette v Coalition to Defend Affirmative Action*, the Supreme Court held that the equal protection clause of the Constitution did not prevent states from enacting such bans.[17]

A. AFFIRMATIVE ACTION POLICY CONTEXTS DEFINED

The Supreme Court decisions and state-level actions reviewed above created distinct affirmative action policy contexts. Prior to the 2003 Supreme Court decisions, colleges and universities that wished to diversify their cohorts of admitted students could implement race-sensitive admissions, and they could do so in a systematic way. For instance, they could, as the University of Michigan did for its undergraduate admissions, boost the chances of admission for *every* Black, Latino, and American Indian applicant. Following the *Gratz* and *Grutter* cases, however, such boosts could come only in the context of holistic, individualized reviews.

The shift to a more rigorous, labour-intensive, and comprehensive admissions process may mean that colleges are more selective in creating their incoming cohorts than they had been previously. If so, we would expect this shift to create cohorts of students who were better prepared for or better able to adapt to the rigours of selective colleges and universities than were students

[11] Mickelson, *supra* note 10 at 33.
[12] Scott Jaschik, "Washington State Plans to Restore Affirmative Action" *Inside Higher Ed* (6 May 2019), online: <insidehighered.com/admissions/article/2019/05/06/washington-state-legislature-votes-restore-affirmative-action> [perma.cc/5SGS-JQBG].
[13] Exec Order No 99-281, online: <lrl.texas.gov/scanned/archive/1999/5838.html> [perma.cc/EJ3C-9QM2].
[14] Michigan Civil Rights Initiative (MCRI), Proposal 2 (Michigan 06-2) (2006).
[15] *Grutter*, *supra* note 7.
[16] Alissa Skelton, "Initiatives May Ban Nebraska Affirmative Action Programs if Approved by Voters" *Daily Nebraskan* (29 October 2008), online: <dailynebraskan.com/initiative-may-ban-nebraska-affirmative-action-programs-if-approved-by/article_b5bdf88b-d68b-55b4-946f-98ed3f9dc9e4.html> [perma.cc/KXM5-DTJC].
[17] 572 US 291 (2014).

admitted through previous practices. This expectation holds both for students admitted without the benefit of affirmative action, as well as for those admitted with the assistance of race-sensitive admissions. We might, then, expect underrepresented minority students who were admitted after the *Grutter* and *Gratz* decisions to have better collegiate outcomes than those admitted prior to these decisions. Therefore, the pre- and post-*Grutter* periods represent the two national affirmative action contexts we consider. (We utilize the *Grutter* case to label these contexts because that case contains the Supreme Court's endorsement of individualized holistic reviews of applicants).

A similar, though different, logic applies to changes in affirmative action at the state level. When race-sensitive admissions were banned in some states, two policy contexts were created—states where affirmative action is permitted and states where the consideration of race is prohibited. Critics of affirmative action expect that minority students admitted to selective colleges and universities where the policy is banned will be more qualified to meet the challenges selective colleges and universities present, given that admission is based on traditional indicators of merit, such as grades and SAT (Scholastic Aptitude Test) scores, without the additional consideration of race and ethnicity. Therefore, they expect minority students in states that prohibit affirmative action will have better collegiate outcomes than those in states that permit race-conscious admissions. We seek to assess this expectation.

B. RELATIONSHIP BETWEEN AFFIRMATIVE ACTION POLICY CONTEXTS AND COLLEGIATE OUTCOMES

The literature on academic mismatch is relevant to our research question regarding how changes in the permissibility of affirmative action relate to collegiate outcomes. Abigail Thernstrom and Stephan Thernstrom, among others, hypothesize that affirmative action creates a "mismatch" between the abilities of minority students and the academic demands of selective colleges and universities, which ultimately thwarts those students' academic success.[18] This implies that restrictions on affirmative action lead to better collegiate outcomes. Yet, there is little evidence to support this view, primarily because there is little evidence that mismatch negatively affects minority students' academic outcomes at selective institutions.[19]

Indeed, research suggests that attending a selective institution leads to better academic performance among underrepresented minorities. William Bowen and Derek Bok in their 1998 landmark study found that minority students at selective institutions were more likely to graduate than those in other types of colleges and universities.[20] Sigal Alon and Marta Tienda, testing the hypothesis that "mismatched" students do better at nonselective institutions, found instead that members of all racial and ethnic groups who attend selective institutions are more likely to

[18] Abigail Thernstrom & Stephan Thernstrom, *No Excuses: Closing the Racial Gap in Learning* (New York: Simon and Schuster, 2003); Richard Sander & Stuart Taylor, Jr, *Mismatch: How Affirmative Action Hurts Students It's Intended to Help, and Why Universities Won't Admit It* (New York: Basic Books, 2012).

[19] Sigal Alon & Marta Tienda, "Diversity, Opportunity, and the Shifting Meritocracy in Higher Education" (2007) 72:4 American Sociological Review 487; Kalena E Cortes, "Do Bans on Affirmative Action Hurt Minority Students? Evidence from the Texas Top 10% Plan" (2010) 29:6 Economics of Education Review 1110.; Camille Charles et al, *Taming the River: Negotiating the Academic, Financial, and Social Currents in Selective Colleges and Universities* (Princeton: Princeton University Press, 2009).

[20] William G Bowen & Derek Bok, *The Shape of the River: Long-term Consequences of Considering Race in College and University Admissions* (Princeton: Princeton University Press, 1998).

graduate within six years than their same-race peers at nonselective colleges and universities.[21] Likewise, Tatiana Melguizo in her 2010 study of the Gates Millennium Scholarship recipients, a "highly motivated" group of students, found that among students of colour, those who attend selective colleges and universities are more likely to graduate than those who attend nonselective institutions.[22] In their study of students at twenty-eight selective colleges and universities, Mary Fischer and Douglas Massey reported that mismatched students received higher grades than other students.[23]

Although Camille Charles and colleagues observed no significant impact of race-sensitive admissions on the academic effort and performance of Black and Latino students, they found that how affirmative action is carried out and perceived on campus matters.[24] The authors investigated whether Claude Steele and Joshua Aronson's concept of stereotype threat affects performance among minority students.[25] Stereotype threat refers to the psychological burden placed on minority students by the existence of stereotypes regarding low academic ability among their group, along with students' fears of confirming them. Charles and colleagues found that minority students face increased stereotype threat at selective colleges and universities where there are large gaps between the mean SAT scores of minority students and the institutional average. They further found that stereotype threat negatively impacts the academic performance of minority students.

Results from Charles and colleagues have implications for the current study. Since we expect that Black and Latino students admitted to selective colleges and universities after the *Grutter* decision are likely to be more academically prepared than previous cohorts, racial and ethnic gaps in SAT scores may be smaller than they have been historically. As a result, stereotype threat and its effects on academic performance may be smaller among cohorts admitted after the *Grutter* decision compared to prior cohorts. This provides further reason to expect that collegiate outcomes for minority students may be better in the post-*Grutter* versus the pre-*Grutter* period.

The risk of experiencing stereotype threat and its negative effects on performance may also vary across affirmative action contexts at the state level. Stereotype threat may be more prominent in states where affirmative action is permitted because those opposed to the policy assume that underrepresented minority students inappropriately gain admission to selective schools through the policy. One would anticipate that where affirmative action is banned, the risk of stereotype threat is lower than where race-conscious admissions are permitted. This line of reasoning would predict that students in ban states may be expected to perform better in selective colleges and universities than those in states where affirmative action is allowed.

In addition to academic mismatch and stereotype threat, changes in the affirmative action context itself might spark changes in the policies of colleges and universities that are aimed at retaining minority students. Such changes in institutional commitments may impact the chances that minority students graduate. For example, Catherine Horn and Stella Flores found that in states with affirmative action bans many selective public institutions have focused attention on

[21] Sigal Alon & Marta Tienda, "Assessing the 'Mismatch' Hypothesis: Differences in College Graduation Rates by Institutional Selectivity" (2005) 78:4 Sociology of Education 294.
[22] Tatiana Melguizo, "Are Students of Color More Likely to Graduate From College If They Attend More Selective Institutions? Evidence From a Cohort of Recipients and Nonrecipients of the Gates Millennium Scholarship Program" (2010) 32:2 Educational Evaluation and Policy Analysis 230.
[23] Mary J Fischer & Douglas S Massey, "The Effects of Affirmative Action in Higher Education" (2007) 36:2 Social Science Research 531.
[24] Charles, *supra* note 19.
[25] Claude M Steele & Joshua Aronson "Stereotype Threat and the Intellectual Test Performance of African Americans" (1995) 69:5 Journal of Personality and Social Psychology 797.

recruitment and retention.[26] Their efforts include creating a supportive environment for minority students and providing them with greater financial aid. Horn and Flores found that these efforts are associated with higher graduation rates among African-American students at selective public institutions relative to previous years.

In sum, the United States has witnessed important changes in the mechanism by which racial and ethnic minorities have historically gained access to selective postsecondary institutions. Yet, we know little about how those changes relate to racial disparities in academic performance in selective colleges and universities or the likelihood of earning a credential from them. This article seeks to contribute to the literature on law, race, and education by examining the relationship between affirmative action contexts and racial-ethnic differences in collegiate outcomes. Our findings suggest that affirmative action contexts can have important educational consequences in terms of grades and graduation from selective institutions.

II. METHOD

A. HYPOTHESES

Based on national and state-level changes in the permissibility of affirmative action, we test several hypotheses about the ways in which these changes relate to racial-ethnic differences in collegiate outcomes at selective postsecondary institutions. All hypotheses are about students at selective colleges and universities.

H1: It is anticipated that Black and Latino students in the post-*Grutter* period will have a higher GPA than those in the pre-*Grutter* period. Due to restrictions imposed by the *Grutter* decision on how affirmative action can be implemented, we expect that Blacks and Latinos admitted to selective colleges and universities will be more academically prepared than those who were admitted to such institutions before the decision. In other words, we expect the individualized, holistic review method of evaluating prospective students to produce incoming classes of Black and Latino students that are more competitive than those admitted prior to *Grutter*, given that they survived an evaluation process intended to distinguish among applicants at a substantially finer level. Black and Latino students attending selective colleges and universities after *Grutter* may also benefit from institutional changes aimed at retaining minority students that were initiated as a result of the new affirmative action context. These institutional changes may also facilitate better academic performance.

H2: Based on the same logic, it is hypothesized that Black and Latino students who attended selective colleges and universities after the *Grutter* decision will have a greater likelihood of graduating than those in such institutions before the decision.

H3: It is hypothesized that there will be no change in GPA or the likelihood of graduating among White students across the pre- and post-*Grutter* periods. Although we expect the new admissions processes demanded by *Grutter* to produce cohorts of admitted Black and Latino students that are more selective than previous cohorts, we do not anticipate the same consequence for White

[26] Catherine L Horn & Stella M Flores, *Percent Plans in College Admissions: A Comparative Analysis of Three States' Experiences* (Cambridge, MA: The Civil Rights Project at Harvard University, 2003).

students because Whites were evaluated in ways similar to that required by *Grutter* prior to that decision.

H4: Consequently, it is expected that racial-ethnic gaps in GPA and the likelihood of graduating will be smaller among the post-*Grutter* than the pre-*Grutter* periods. That is, unchanged selectivity of White students and increased selectivity of Black and Latino students are expected to reduce differences in academic performance and graduation rates among these groups.

H5: Opponents of affirmative action expect bans on race-sensitive admissions to produce better-qualified cohorts of underrepresented students due to the reliance on traditional indicators of merit. Therefore, we evaluate the hypothesis that racial and ethnic differences in academic performance and odds of graduating will be smaller in states that prohibit affirmative action than in states that permit it.

B. DATA

To test the hypotheses above, we use two datasets from the National Center for Education Statistics. The two datasets collectively contain information on students who attended selective colleges and universities in the four affirmative action contexts we identified. Analyzing data from the National Educational Longitudinal Study of 1988 (NELS)[27] with information from the Educational Longitudinal Study of 2002 (ELS)[28] allows us to compare the academic performance and odds of graduating among students who attended selective colleges and universities during the pre- and post-*Grutter* periods. The advantage of using NELS and ELS is that they have nearly identical variables, and the relevant waves of data were collected just before and after the *Grutter* Supreme Court decision, creating a natural experiment. Moreover, because students in NELS and ELS come from almost every state in the country, we can compare students in states that have and do not have bans on affirmative action.

NELS is a nationally representative survey that was administered in 1988 to approximately 24,600 eighth graders in 1,040 schools, along with their parents, teachers, and principals. Surveys were administered to the same students in 1990, 1992, 1994, and 2000. Students who transferred to different schools or who dropped out of school were followed. Information appropriate to their experiences was collected, including academic transcripts. The restricted version of NELS also includes the Integrated Postsecondary Education Data System (IPEDS) institution code for every postsecondary institution attended by students.

ELS, another nationally representative survey, was administered in 2002 to approximately 16,200 tenth graders in 750 schools, with follow-ups in 2004, 2006, and 2013. Like NELS, the restricted version of ELS provides rich data with identical or nearly identical questions on areas relevant to this research, along with the IPEDS institution code for all postsecondary institutions that respondents attended.

Using the IPEDS institution codes, we matched *US News and World Report* rankings to all postsecondary institutions in NELS and ELS. We identify selective colleges and universities as

[27] US Department of Education, National Center for Education Statistics, *National Education Longitudinal Study: 1988-1994, Methodology Report, NCES 96-174* (1996).
[28] US Department of Education, National Center for Education Statistics, *Education Longitudinal Study of 2002: Base Year Data File User's Manual, NCES 2004-405* (2004).

those that are ranked as Tier 1 institutions by *US News and World Report*. Tier 1 institutions are those that fall in the top 25% of rankings.[29]

We selected the following respondents for analysis: those whose participation in the surveys continued to the wave in which college completion was measured (*i.e.*, 2000 in NELS and 2013 in ELS); those who identified as White, Black, or Latino; those who attended a selective institution as their first tertiary institution; and those with valid information on dependent (or outcome) variables—cumulative GPA and graduation. For the analysis of college graduation, these criteria result in a sample of 580 respondents in NELS and 680 respondents in ELS who were high school seniors in 1994 and 2004, respectively, and who went on to attend a selective college or university as their first institution. For our analysis of collegiate cumulative grade point average, we include only those students who did not transfer to a nonselective institution, which results in a sample of 380 respondents in NELS and 610 respondents in ELS.

We defined variables from the two datasets in the same way to make variables comparable. Additionally, we attended to the existence of incomplete information in the two datasets in the same way. We have valid information from respondents on most variables. However, on some variables, information is missing for up to 24.54% of respondents. In cases where information has not been provided by the respondent and is missing, we use an estimate of that information. Estimates are calculated based on other related information that we have for the respondent, as well as information from other respondents who are in similar situations.[30] As is standard practice, we calculated estimates for missing values on independent variables only; we did not impute dependent variables. Finally, because respondents in NELS and ELS were recruited based on a sampling design that used stratification and clustering rather than a simple random sample, we statistically account for this stratification and clustering in order to ensure proper hypothesis testing.[31] All analyses are weighted with NCES-provided sample weights.

1. VARIABLES

i. Dependent Variables

We use two dependent variables in this analysis of respondents' outcomes at selective colleges and universities—graduation and cumulative grade point average. *Graduation* is a dichotomous variable based on transcript data that indicates whether a student graduated from a selective college or university (1) or not (0). If a student transferred to and graduated from a nonselective college or

[29] For a similar approach, see Pamela R Bennett & Yu Xie, "Revisiting Racial Differences in College Attendance: The Role of Historically Black Colleges and Universities" (2003) 68:4 American Sociological Review 567 at 570.

[30] Multiple imputation is the method we use to deal with missing information utilizing the *mi estimate* command in the Stata statistical software program. When imputing missing values, we replace every missing value with an estimated value, thus creating a dataset with full and complete information. To obtain the best estimates, the process of estimating missing values is repeated multiple times. Each repetition produces slightly different estimates, leading to slightly different complete datasets. Ian White, Patrick Royston, and Angela Wood advise repeating the imputation process one hundred times the fraction of missing information in the data. See Ian R White, Patrick Royston & Angela M Wood, "Multiple Imputation Using Chained Equations: Issues and Guidance for Practice" (2011) 30:4 Statistics in Medicine 377. For our data, the fraction of missing information is 0.23; therefore, we repeated the imputation process 23 times, thereby producing 23 NELS-imputed datasets and 23 ELS-imputed datasets. When analyzing those data, Stata produces estimates of coefficients for each dataset then averages them to provide a single set of coefficients. We analyze the NELS and ELS datasets separately; therefore, we obtain a single set of coefficients for NELS and a single set of coefficients for ELS. Those coefficients are presented in Tables 2 through 5.

[31] We use Stata's *survey* command to estimate correct standard errors.

university, they are coded (0) as not having graduated from a selective college or university. *Cumulative Grade Point Average* ranges from 0 to 4 and indicates a student's cumulative GPA at the end of their collegiate studies. It, too, is taken from the transcript data.

ii. Independent Variables

Affirmative Action Ban State (BSTATE) is a dichotomous variable that indicates whether the student lived in a state that banned affirmative action during high school (1) or not (0). At the time respondents applied to college or university, the following states had bans on affirmative action: California, Florida, Texas, and Washington. Although the 2003 *Grutter* decision allowed Texas to return to using affirmative action, the state did not do so until 2005, after respondents in ELS had been accepted to college or university. Therefore, we treat Texas as a ban state. Other states that adopted bans after respondents enrolled in college or university, such as Michigan and Nebraska, are not treated as states with bans for the purposes of this investigation. Because respondents in NELS applied to college before affirmative action was banned in any state, this variable in the NELS analysis refers to the states that would later have bans on affirmative action (California, Florida, Texas, and Washington).

Race-Ethnicity (RE) is a dichotomous variable that indicates whether a respondent identifies as non-Hispanic Black or Latino (1) or non-Hispanic White (0). Non-Hispanic Blacks and Latinos are combined into one category because of their small sample size and because both are beneficiaries of affirmative action.

iii. Control Variables

To best estimate racial-ethnic gaps in collegiate outcomes, we control for gender, social and economic background, academic preparation, and collegiate experiences.

Female is a dichotomous variable that indicates whether the student is female (1) or male (0).[32] *Parental SES* is a composite measure of parental socioeconomic status created by NCES that includes measures of parental income, education, and occupation. *Public High School* is a dichotomous variable that indicates whether the student attended a public (1) or private (0) high school. We treat these variables as measures of students' social and economic background (BACK).

We use two indicators of academic preparation (AP) in the analysis. *High School GPA* indicates a student's high school grade point average. The variable ranges from 0 to 4. *Advanced Placement Courses* is a dichotomous variable that indicates whether a student took at least one Advanced Placement course in high school (1) or none (0).

Individual and institutional factors related to students' collegiate experiences are relevant to students' academic performance in and graduation from college or university.[33] Individual factors are those tied to students, whereas institutional factors are those shaped by the policies and practices of postsecondary institutions that create the kind and quality of interactions students have on campus. *In-State College or University* is a dichotomous variable that indicates whether the college or university respondents attended is in their home state (1) or not (0); it reflects Vincent

[32] The NELS and ELS datasets have measures of sex, but not gender. 'Male' and 'Female' are the only categories available.

[33] Vincent Tinto, *Leaving College: Rethinking the Causes and Cures of Student Attrition* (Chicago: University of Chicago Press, 1987).

Tinto's concept of adjustment. Tinto suggests that students who attend college or university in their home states are likely to be more involved with their families, their friends, and engage in activities they participated in prior to college than students who attend college or university outside their home state.[34]

Participation in Extracurricular Activities is a dichotomous variable that reflects whether a respondent was a member of a college or university organization or participated in any extracurricular activity associated with the college or university (1) or not (0); this variable reflects Tinto's concept of social integration. *Academic Mismatch* is defined as the difference between a student's individual SAT score and the mean SAT for the institution they attended. To calculate this variable, we first obtained institutional mean SAT scores from a third data set—Academic Insights—and attached them to the institutions that appear in NELS and ELS. We then subtracted each respondent's SAT score from the mean SAT score for the institution attended.[35] We include these measures in the set of variables we call Collegiate Experiences (CE).

C. ANALYTICAL STRATEGY

We estimate the following ordinary least squares (OLS) regression models to predict cumulative grade point average in the pre-*Grutter* (NELS) and post-*Grutter* (ELS) periods:

MODEL 1: $Y_i = \beta_0 + \beta_1 RE_i + \varepsilon_i$
MODEL 2: $Y_i = \beta_0 + \beta_1 RE_i + \beta_2 BACK_i + \beta_3 AP_i + \beta_4 CE_i + \beta_5 BSTATE_i + \varepsilon_i$
MODEL 3: $Y_i = \beta_0 + \beta_1 RE_i + \beta_2 BACK_i + \beta_3 AP_i + \beta_4 CE_i + \beta_5 BSTATE_i + \beta_6 RE_i * BSTATE_i + \varepsilon_i$

First, we estimate a model with race-ethnicity alone. This allows us to determine whether there are racial-ethnic gaps in grade point averages. Model 2 includes additional independent and control variables that predict GPA and that may help to explain racial-ethnic disparities in collegiate academic performance documented in Model 1. These are variables that measure a respondent's social and economic background, academic preparation, collegiate experiences, and whether they attended college or university in a state that bans affirmative action. In Model 2, we add an interaction term between race-ethnicity and ban state to determine whether racial gaps in GPA varied across ban and non-ban states. Although no states had bans on affirmative action before students in the NELS cohort applied to college or university, we include BSTATE in the model for this group because doing so allows us to estimate parallel models for the pre-*Grutter* and post-*Grutter* periods. For the NELS cohort, the BSTATE variable will indicate whether students in states that would later have bans on affirmative action are different in their collegiate outcomes than students in other states. Finally, we re-estimate Models 1 through 3 using logistic regression models to predict the likelihood of graduating from a selective college or university.

[34] *Ibid.*
[35] Where institutional mean is not available, we use the median SAT score. Where neither the mean nor the median SAT score is available, we use the mean or median ACT score and convert it to mean SAT score.

III. RESULTS

A. DESCRIPTIVE RESULTS

Table 1 shows descriptive statistics from the NELS and ELS datasets. The table also shows the amount of missing data for each variable prior to imputing missing values. Recall that respondents in NELS attended college or university during the pre-*Grutter* period, whereas respondents in ELS attended college or university after the *Grutter* decision.

Table 1. Means and percentage distributions by cohort: NELS 1992-2000 and ELS 2006-2012

	Pre-*Grutter* (NELS)		Post-*Grutter* (ELS)	
Independent variable	Pct./Mean	S.E.	Pct./Mean	S.E.
Race-Ethnicity				
Non-Hispanic White	86.39		83.70	
Non-Hispanic Black and Latino	13.61		16.30	
Missing	0.00		0.00	
Background				
Female	47.67		52.14	
Missing	0.00		0.00	
Parental Socioeconomic Status	0.79	0.04	0.71	0.03
Missing	6.59		5.32	
Attended Public High School	75.64		77.60	
Missing	0.00		0.00	
Academic Preparation				
High School GPA	3.27	0.04	3.60	0.02
Missing	16.56		5.51	
Took AP Courses in High School	84.06		86.59	
Missing	1.17		5.51	
Collegiate Experiences				
At In-State College or University	53.73		59.77	
Missing	4.60		1.00	
Any Extracurricular Activity	61.49		92.75	
Missing	1.51		1.19	
Academic Mismatch	3.01	1.00	3.34	0.65
Missing	23.80		6.00	
AA Ban State	21.91		17.28	
Missing	0.00		0.00	
N	580		680	

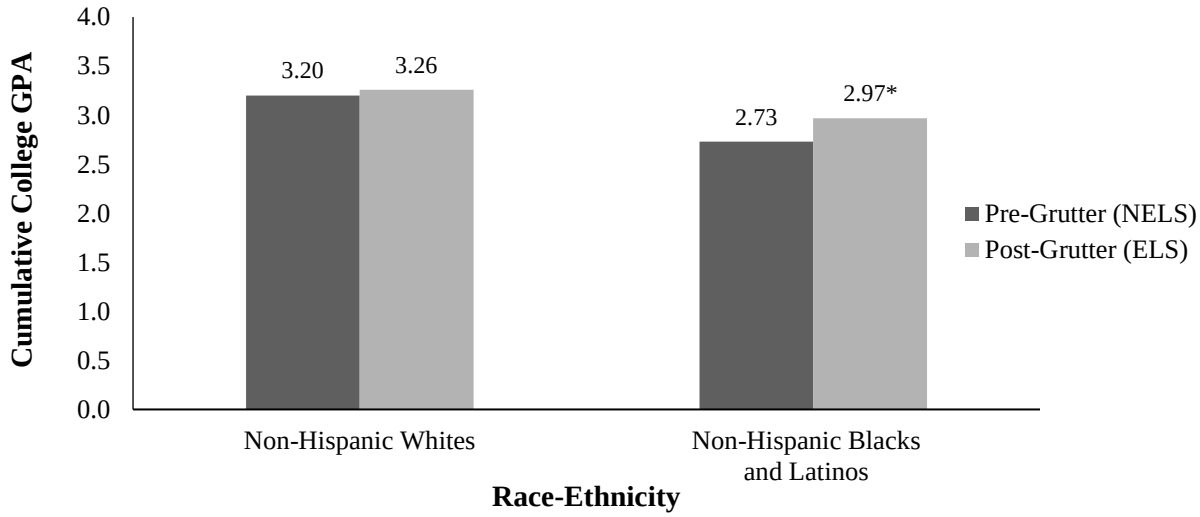
Note: Data are weighted and rounded to the nearest ten as per NCES requirements.

The race-ethnicity variable indicates the percent of each group that were high school seniors in 1994 (pre-*Grutter*) and 2004 (post-*Grutter*) and that went on to attend a selective college or university as their first institution. On average, Blacks and Latinos make up a larger share of students at selective colleges and universities in the post-*Grutter* period than in the pre-*Grutter*

period. Parental SES is somewhat lower, but academic preparation, as evidenced by high school GPA and Advanced Placement course-taking, is higher among those in the post-*Grutter* period compared to those in the pre-*Grutter* period. Yet, there is a larger degree of academic mismatch among those who attended selective colleges and universities after the *Grutter* decision than before it (3.34 compared to 3.01). Where there is a larger difference between the two cohorts is in participation in collegiate extracurricular activities. Among students in selective colleges and universities in the post-*Grutter* period, 92.8% of respondents participated in collegiate extracurricular activities, while only 61.5% of students in the pre-*Grutter* period did so.

Figure 1 shows cumulative grade point averages and makes within-group comparisons across national affirmative action contexts. White students earned similar GPAs in the two affirmative action contexts. However, Black and Latino students who attended selective colleges and universities in the post-*Grutter* period earned GPAs that were higher than those earned by their counterparts prior to the *Grutter* decision (2.97 compared to 2.73, respectively). The difference in Black and Latino grade point averages in the two contexts is statistically significant.

Figure 1. Academic Performance in College or University by Race-Ethnicity and Cohort



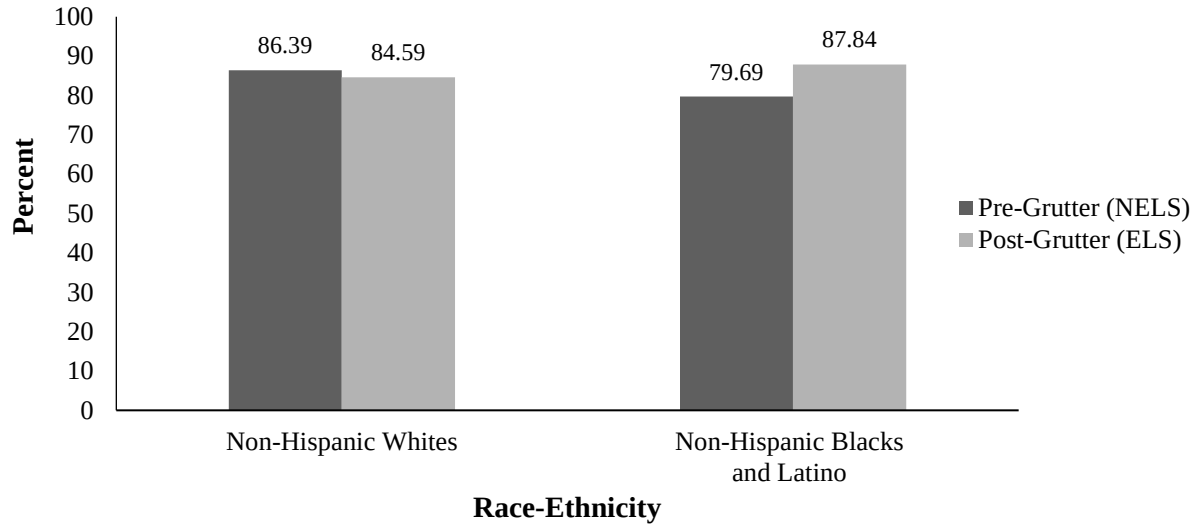
Note:

NELS N=380; ELS N=610.

*p≤.05, ** p≤.01, *** p≤.001 for tests of whether differences between NELS and ELS cohorts are statistically significant within race-ethnic groups.

Figure 2 shows the percentage of students who graduated and, again, makes within-group comparisons across national affirmative action contexts. There are no statistically significant differences between the pre- and post-*Grutter* periods in the percentage of Whites or Blacks and Latinos that graduated. Therefore, Figure 1 provides initial support for the expectation that the use of holistic review required by the *Grutter* decision may have contributed to enhanced academic outcomes, as measured by GPA among Blacks and Latinos. However, Figure 2 suggests this may not extend to graduation.

Figure 2. Percent of College Attendees Who Graduated by Race-Ethnicity and Cohort



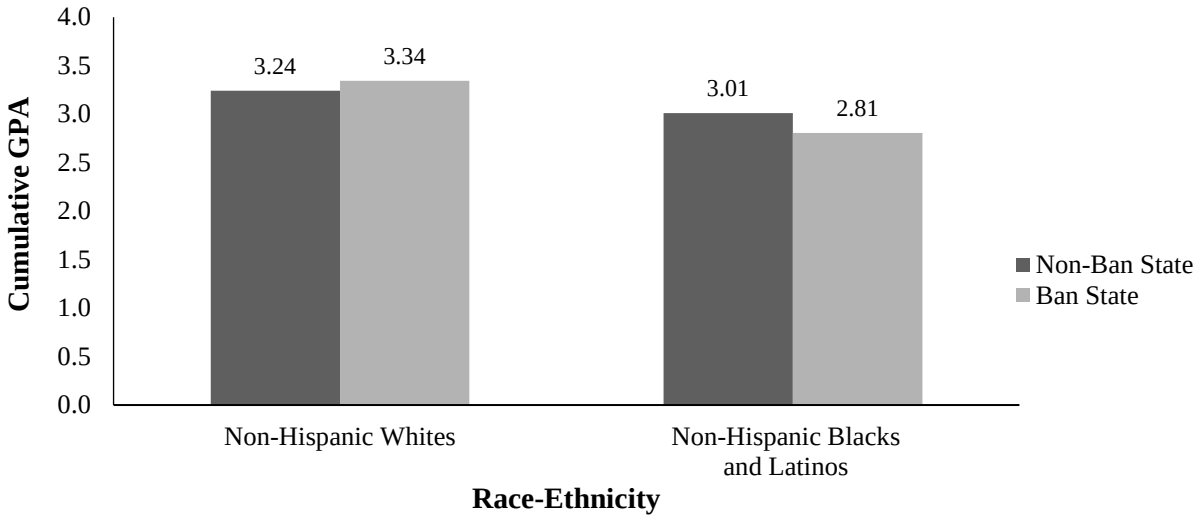
Note:

NELS N=580; ELS N=680.

*p≤.05, ** p≤.01, *** p≤.001 for tests of whether differences between NELS and ELS cohorts are statistically significant within race-ethnic groups.

Figures 3 and 4 explore differences in collegiate outcomes across affirmative action contexts at the state level by comparing states with and without bans on race-sensitive admissions. Figure 3 shows cumulative grade point average by race-ethnicity for only the post-*Grutter* period (*i.e.*, ELS cohort) because affirmative action bans were not in effect during the time that NELS respondents enrolled in college or university. Overall, grade point averages are similar in states with and without affirmative action bans. Among Black and Latino students, a small difference exists, but the difference is not statistically significant. Moreover, the gap is in the direction opposite to that expected by critics of affirmative action. GPAs for Black and Latino students are slightly lower in states that prohibit affirmative action than in states that permit it. Figure 4 shows the percent of students that graduated from a selective college or university by race-ethnicity. Graduation rates are similar for Whites across state-level affirmative action contexts, as they are for Blacks and Latinos. Thus, Figures 3 and 4 do not provide initial support for the hypothesis that Blacks and Latinos in states with affirmative action bans perform better academically or are more likely to graduate than in places where affirmative action can be practised. The multivariate analysis will allow us to further test hypotheses by taking into account students' social and economic background, their academic preparation, degree of academic mismatch, and collegiate experiences.

Figure 3. Cumulative College GPA by Race-Ethnicity in States With and Without Bans on Affirmative Action in College and University Admissions, Pre-*Grutter* (ELS) Cohort

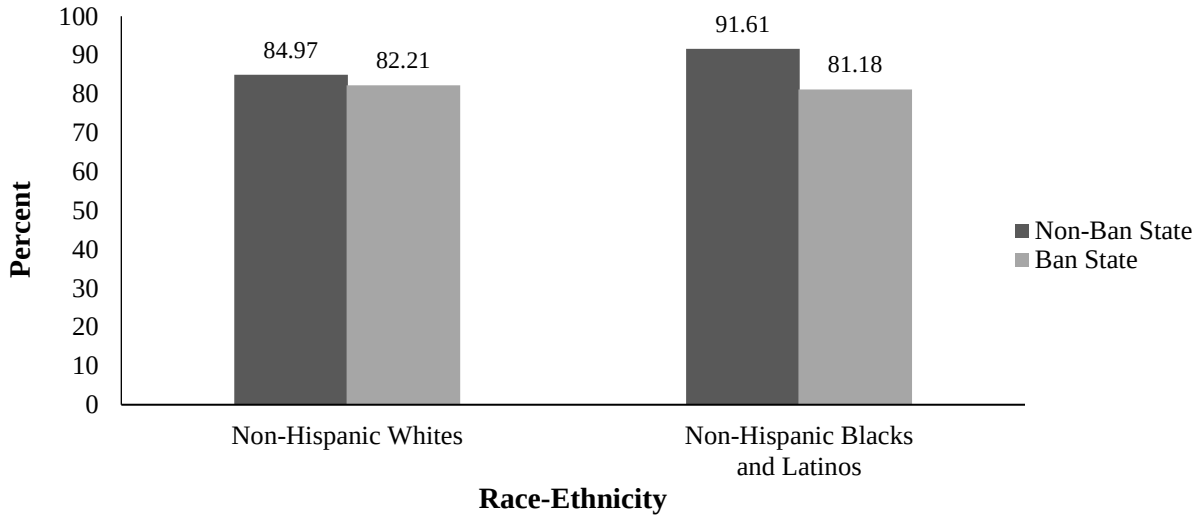


Note:

ELS N=610.

*p≤.05, ** p≤.01, *** p≤.001 for tests of whether differences between students from states with and without bans on affirmative action. (Differences between ban and non-ban states are not statistically significant).

Figure 4. Percent Graduated by Race-Ethnicity in States With and Without Bans on Affirmative Action in College and University Admissions, Pre-*Grutter* (ELS) Cohort



Note:
ELS N=680.

*p≤.05, ** p≤.01, *** p≤.001 for tests of whether differences between students from states with and without bans on affirmative action. (Differences between ban and non-ban states are not statistically significant).

B. MULTIVARIATE ANALYSIS

In Tables 2 through 5, we focus on how racial-ethnic differences in collegiate outcomes change across affirmative action contexts. Table 2 presents results from OLS regression models that predict cumulative grade point average in the pre-*Grutter* period (NELS cohort). The first model shows that there is a racial-ethnic gap in grade point average that is statistically significant, with Blacks and Latinos having, on average, lower GPAs than Whites. In Model 2, academic mismatch is associated with lower grade point averages while a higher grade-point average in high school is associated with higher grades in college or university. These and other variables added in Model 2 compared to Model 1 do not fully explain the gap in collegiate GPA between Whites and Blacks and Latinos, though the gap is reduced by 38% (from -0.47 to -0.29). Model 3 adds an interaction between race-ethnicity and ban states to test whether Black and Latino students at selective colleges and universities in states that later banned affirmative action (California, Florida, Texas, and Washington) had higher grade point averages than Black and Latino students in states that never restricted the policy. The interaction is not statistically significant. To be sure, any difference we might have observed could not be attributed to the enactment of bans on affirmative action, given no bans were in place when NELS respondents applied to college or university. But these results tell us that students in these two groups of states were not different in their collegiate academic performance due to other reasons.

Table 2. OLS Regression Models that Predicting GPA among Students at Selective Colleges and Universities, Pre-*Grutter* (NELS Cohort:1992-2000)

	Model 1		Model 2		Model 3	
Variable	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Race-Ethnicity						
Non-Hispanic White (ref.)						
Non-Hispanic Black or Latino	-0.470***	0.095	-0.290	0.101	-0.284	0.124
Background						
Female			0.089	0.070	0.089	0.070
Parental Socioeconomic Status			0.064	0.047	0.064	0.047
Attended Public High School			0.031	0.070	0.031	0.069
Academic Preparation						
High School GPA			0.163	0.058	0.163	0.058
Took AP Courses in High School			0.023	0.085	0.023	0.084
Collegiate Experiences						
At In-State College or University			-0.065	0.069	-0.066	0.070
Any Extracurricular Activity			0.000	0.074	0.000	0.074
Academic Mismatch			-0.009	0.002	-0.009	0.002
AA Ban State			-0.007	0.076	-0.003	0.080
Interaction						
Non-Hispanic Black or Latino x AA Ban State					-0.018	0.172
Constant	3.200	0.035	2.544	0.294	2.566	0.197
F-Statistic	24.35***		9.210***		8.440***	

Note: Data are weighted. N = 380, rounded to nearest ten as per NCES requirements.
*p ≤ 0.05, **p ≤ 0.01, ***p ≤ 0.001

Table 3 presents the same models as in Table 2, but for students at selective colleges and universities during the post-*Grutter* period (ELS cohort). Model 1 shows that there is a racial-ethnic gap in GPAs. On average, Blacks and Latinos in selective colleges and universities earned GPAs that were 0.29 points lower than those earned by Whites. Although statistically significant, the gap is smaller than the one observed for the pre-*Grutter* period (-0.29 compared to -0.47). The additional variables in Model 2 completely explain the racial-ethnic gap in grade point average, which contrasts with the pre-*Grutter* period. Moreover, several independent and control variables predict GPA in the post-*Grutter* period, whereas only mismatch and high school grades predict collegiate GPA in the pre-*Grutter* period. Mismatch is negatively related to GPA in the post-*Grutter* period, as it was in the pre-*Grutter* period. However, being female, parental socioeconomic status, and high school GPA are positively associated with collegiate GPA. The variable indicating whether a student is from a state that banned affirmative action is not statistically significant. Model 3 includes an interaction between race-ethnicity and whether the student is from a state that banned affirmative action to test whether Blacks and Latinos achieve higher GPAs from states that ban affirmative action than from states that did not. The interaction is not statistically significant. However, one may wonder whether the effect of coming from a ban state is operating through academic mismatch, given that mismatch is related to collegiate academic performance. To check this possibility, we re-estimated Models 2 and 3 without the mismatch variable. When mismatch is excluded, neither the ban state variable nor the interaction term is statistically significant.

Table 3. OLS Regression Models that Predict GPA among Students in Selective Colleges and Universities, Post-*Grutter* (ELS Cohort: 2006-2012)

	Model 1		Model 2		Model 3	
Variable	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Race-Ethnicity						
Non-Hispanic White (ref.)						
Non-Hispanic Black or Latino	-0.289***	0.059	0.001	0.073	0.045	0.080
Background						
Female			0.217***	0.044	0.224***	0.043
Parental Socioeconomic Status			0.106*	0.050	0.102*	0.049
Attended Public High School			-0.057	0.050	-0.059	0.050
Academic Preparation						
High School GPA			0.527***	0.118	0.530***	0.117
Took AP Courses in High School			0.063	0.081	0.069	0.081
Collegiate Experiences						
At In-State College or University			-0.070	0.047	-0.064	0.047
Any Extracurricular Activity			0.100	0.106	0.085	0.106
Academic Mismatch			-0.007**	0.002	-0.007**	0.002
AA Ban State			-0.025	0.061	0.017	0.073
Interaction						
Non-Hispanic Black or Latino x AA Ban State					-0.165	0.118
Constant	3.257***	0.036	1.095*	0.428	1.084*	0.422
F-Statistic	24.280***		13.070***		12.070***	

Note: Data are weighted. N = 610, rounded to nearest ten as per NCES requirements.
*p ≤ 0.05, **p ≤ 0.01, ***p ≤ 0.001

Table 4 presents results of logistic regression equations predicting graduation from a selective college or university among students during the pre-*Grutter* period. Model 1 shows that there is no statistically significant difference between Whites compared with Blacks and Latinos in the odds of graduating. Model 2 adds independent and control variables to the model. Of these, participation in extracurricular activities predicts graduation from a selective college or university. With racial and ethnic differences in these and other variables controlled, the coefficient for Blacks and Latinos becomes positive instead of negative but remains statistically non-significant. These findings indicate that Blacks and Latinos are as likely as their White counterparts to graduate from a selective institution. Finally, Model 3 adds an interaction term between race-ethnicity and ban state. The interaction is not statistically significant, indicating that Black and Latino students from states that later banned race-sensitive admissions (California, Florida, Texas, and Washington) were no more likely than Blacks and Latinos in other states to graduate.

Table 4. Logistic Regression Models That Predict Graduation from a Selective College or University, Pre-*Grutter* (NELS Cohort: 1992-2000)

	Model 1		Model 2		Model 3	
Variable	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Race-Ethnicity						
Non-Hispanic White (ref.)						
Non-Hispanic Black or Latino	-0.481	0.370	0.173	0.437	-0.029	0.577
Background						
Female			0.371	0.407	0.386	0.410
Parental Socioeconomic Status			0.382	0.236	0.378	0.237
Attended Public High School			0.047	0.446	0.071	0.442
Academic Preparation						
High School GPA			0.385	0.204	0.387	0.205
Took AP Courses in High School			0.358	0.400	0.374	0.397
Collegiate Experiences						
At In-State College or University			-0.276	0.395	-0.293	0.393
Any Extracurricular Activity			1.078**	0.367	1.092**	0.370
Academic Mismatch			-0.014	0.014	-0.013	0.013
AA Ban State			-0.434	0.369	-0.547	0.409
Interaction						
Non-Hispanic Black or Latino x AA Ban State					0.534	0.774
Constant	1.848***	0.172	-0.505	0.819	-0.514	0.814
F-Statistic	1.680		3.270***		3.000***	

Note: Data are weighted. N = 580, rounded to nearest ten as per NCES requirements.
*p ≤ 0.05, **p ≤ 0.01, ***p ≤ 0.001

Table 5 presents the same models at Table 4 but for the post-*Grutter* period (or ELS cohort). Model 1 shows no racial-ethnic gap in the chances of graduating. When independent and control variables are added in Model 2, the coefficient for Blacks and Latinos is positive and statistically significant, indicating a net Black and Latino advantage over similar Whites in the odds of graduating among students who attended selective colleges and universities after the

Grutter decision. (No such advantage is observed in the pre-*Grutter* period). Whereas high school grade point average is positive and statistically significant, mismatch does not predict graduation from a selective college or university. The coefficient for the interaction term in Model 3 is not statistically significant, which indicates that Black and Latino students from ban states were no more likely to graduate than their same-race and same-ethnic counterparts in non-ban states.

Table 5. Logistic Regression Models That Predict Graduation from a Selective College or University, Post-*Grutter* (ELS Cohort: 2006-2012)

	Model 1		Model 2		Model 3	
Variable	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Race-Ethnicity						
Non-Hispanic White (ref.)						
Non-Hispanic Black or Latino	-0.274	0.315	0.801*	0.390	1.053*	0.411
Background						
Female			-0.364	0.256	-0.337	0.259
Parental Socioeconomic Status			0.339	0.270	0.308	0.272
Attended Public High School			-0.151	0.235	-0.153	0.235
Academic Preparation						
High School GPA			1.215**	0.422	1.231**	0.424
Took AP Courses in High School			0.350	0.357	0.370	0.359
Collegiate Experiences						
At In-State College or University			0.284	0.306	0.304	0.308
Any Extracurricular Activity			0.015	0.488	-0.025	0.502
Academic Mismatch			0.001	0.012	0.001	0.012
AA Ban State			-0.598	0.370	-0.452	0.438
Interaction						
Non-Hispanic Black or Latino x AA Ban State					-0.666	0.743
Constant	1.703***	0.152	-2.974	1.635	-3.033	1.643
F-Statistic	0.760		1.880*		1.850*	

Note: Data are weighted. N = 680, rounded to nearest ten as per NCES requirements.
$^{*}p \leq 0.05$, $^{**}p \leq 0.01$, $^{***}p \leq 0.001$

IV. DISCUSSION AND CONCLUSION

As described earlier, in the 1990s and early 2000s, the affirmative action context changed in the United States. Affirmative action in college and university admissions was banned in several states beginning in the mid-1990s. The Supreme Court's decisions in the *Grutter* and *Gratz* cases, while upholding affirmative action, simultaneously imposed significant limitations in how it could be implemented. The timing of the NELS and ELS datasets provided us with a natural experiment with which to examine graduation and cumulative grade point average before and after the 2003 Supreme Court cases and to test whether affirmative action context relates to collegiate outcomes at selective institutions.

We draw two conclusions from our findings. The first is that affirmative action context matters; Black and Latino students at selective colleges and universities demonstrate better collegiate outcomes in the post-*Grutter* period than they did prior to the *Grutter* decision. On

average, Blacks and Latinos in the cohort that attended college or university before *Grutter* had a 2.73 GPA, whereas those that enrolled after *Grutter* had a 2.97 GPA. Although Blacks and Latinos had lower GPAs than Whites in both periods, net differences exist only in the pre-*Grutter* period. That is, Blacks and Latinos who enrolled in selective institutions after the *Grutter* decision earned grades as high as Whites given that they had the same social, economic, and academic resources and collegiate experiences. Similarly, proportionally more Blacks and Latinos who attended selective colleges and universities after *Grutter* graduated than before that decision (87.84% vs. 79.69%, respectively). Moreover, regression results indicate that Blacks and Latinos who had, on average, the same socioeconomic backgrounds and academic preparation as did Whites were, in the pre-*Grutter* period, as likely as Whites to graduate, but they were *more* likely than Whites to graduate in the post-*Grutter* period.

The second conclusion we reach is that banning affirmative action is not associated with enhanced educational outcomes among underrepresented minorities at selective institutions. Despite claims made by critics of affirmative action, we find no evidence that bans are associated with better academic performance or higher odds of graduating among Blacks and Latinos in selective colleges and universities.

Our findings also speak to the primary mechanism through which critics of affirmative action claim the policy hurts the collegiate outcomes of underrepresented minority students. Those troubled by race-sensitive admissions worry that they create mismatch between the academic preparation of Blacks and Latinos and the academic demands of the selective institutions they attend. Indeed, we observe a negative and statistically significant relationship between mismatch and GPA in both periods. Yet, we observe no relationship between mismatch and the odds of graduating from a selective college or university. Thus, our results from two nationally representative datasets is fully consistent with existing studies in showing that while mismatch may somewhat lower students' level of academic performance, it does not appear to hamper their ability to earn a credential from a selective institution.

In addition to creating cohorts of more selective students, changes in the affirmative action context may have created changes in policies at American colleges and universities that affect student success. While our analysis does not directly consider institutional changes that may have been spurred by the *Grutter* and *Gratz* decisions and state bans on affirmative action, it is possible that selective colleges and universities responded to those changes by strengthening efforts to retain minority students. If schools anticipated that the shift from systemic considerations of race to holistic reviews could make it more difficult to accept underrepresented students, they may have set their sights on retaining the students that they have and that they could admit. Such changes might include providing underrepresented minority students with more academic and financial support, which could help them persist to graduation and may boost their grades. These changes may partially explain the better academic outcomes of underrepresented minority students that we document in the post-*Grutter* compared to the pre-*Grutter* period.

There are limitations to this study. Ideally, we would like to have had a larger sample to analyze. We cannot rule out the possibility that our failure to find statistically significant associations between state affirmative action bans and academic outcomes may be due to a lack of statistical power. Additionally, other things besides the *Grutter* decision happened during our natural experiment that might have caused Black and Latino students to achieve better collegiate outcomes in the post-*Grutter* period compared to those in selective colleges and universities prior to the decision. While there is reason to believe that the individualized, holistic review method of evaluating prospective students demanded by *Grutter* leads to better collegiate outcomes for Black

and Latino students, we cannot rule out other explanations, such as higher education initiatives aimed at retention unrelated to the *Grutter* case.

Despite these limitations, our research suggests that affirmative action, when implemented via individualized, holistic reviews, may enhance two important educational outcomes for underrepresented minorities at selective institutions. This way of practising affirmative action is associated with improvements in GPA and the odds of graduating among Blacks and Latinos. Indeed, in the post-*Grutter* period, Black and Latino students were more likely than similar Whites to graduate from a selective institution. In contrast, wholesale bans on affirmative action, are not associated with better collegiate outcomes for Black and Latino students as critics of race-sensitive admissions have claimed. Thus, this study suggests that affirmative action is an effective tool for addressing racial inequality in higher education and the empirical results reported here support the decision of the US Supreme Court to refine how affirmative action is practised, rather than abandon it wholesale.