

No. 14-981

**In The
Supreme Court of the United States**

ABIGAIL NOEL FISHER,
Petitioner,

v.

UNIVERSITY OF TEXAS AT AUSTIN ET AL.,
Respondents.

On Writ of Certiorari to the
United States Court of Appeals for the Fifth Circuit

**BRIEF OF THE AMERICAN EDUCATIONAL
RESEARCH ASSOCIATION ET AL.
AS *AMICI CURIAE*
IN SUPPORT OF RESPONDENTS**

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INTEREST OF *AMICI CURIAE*

Pursuant to Supreme Court Rule 37, the American Educational Research Association (AERA) et al. submit this brief as *amici curiae* in support of Respondents.¹ *Amici curiae* comprise several of the nation's leading research associations: the American Educational Research Association, the American Anthropological Association, the American Association for the Advancement of Science, the American Political Science Association, the American Sociological Association, the American Statistical Association, the Association for the Study of Higher Education, the Law and Society Association, the Linguistic Society of America, and the National Academy of Engineering. Individual statements of interest are contained in Appendix A.

Amici curiae have a longstanding interest in the accurate presentation of research relevant to the important questions of law raised by this case. *Amici curiae* are particularly concerned about the possible misapplication of research findings in this case and about the possibility that the Court might be influenced by the presentation of flawed research and unreliable findings, including potentially misleading assertions and analyses offered by Petitioner and her *amici curiae*. It is a well-accepted principle in science

¹ All parties have filed with the Court their written consent to the filing of all *amicus curiae* briefs in this case. Pursuant to Supreme Court Rule 37.6, counsel for *amici curiae* certify that this brief was not written in whole or in part by counsel for any party, and that no person or entity other than *amici curiae*, their members, or their counsel has made a monetary contribution to the preparation or submission of this brief.

that the integrity of research relies not only on the validity and reliability of research but also on intellectual honesty in proposing, performing, and reporting research, and it is critical for the Court to have access to information that represents the best knowledge available at the time.

Accordingly, this brief provides (1) summaries and citations to pertinent studies to assist the Court's understanding of the research evidence, and (2) critiques of empirical claims offered by Petitioner and her *amici*. This brief does not, however, attempt to provide a comprehensive review of the literature relevant to the instant case. The focus of the brief is updating the Court on some of the most recent research (primarily within the past five years) supporting the University's compelling interest in diversity, including diversity among minority students along dimensions such as geographic background and socioeconomic status. The brief also cites research demonstrating the narrow tailoring of the University of Texas at Austin's admissions policies consistent with strict scrutiny. However, the Court should take notice of the previous brief filed by *amici curiae* in *Fisher I* to provide a fuller picture of the literature, and this brief should be read in conjunction with other *amicus curiae* briefs filed in *Fisher II* that summarize research findings on narrow tailoring and support the constitutionality of the University's holistic admissions policy.

SUMMARY OF ARGUMENT

Building on an already well-established body of literature, the most recent research on student body diversity and higher education admissions fully supports the University's compliance with the requirements of strict scrutiny. Recent research underscores

the University’s compelling interest in promoting diversity along several dimensions, including race, ethnicity, and socioeconomic status. Research continues to show that diversity leads to important educational benefits. In particular, recent research demonstrates the benefits of promoting diversity within racial and ethnic minority groups along socioeconomic and other dimensions to reduce stereotyping and to improve campus racial environments.

Studies examining the harms associated with racial isolation reinforce the University’s diversity interest and the necessity of seeking a critical mass of minority students to combat racial isolation and tokenism. As the *Grutter* Court made clear, critical mass is defined in relation to the educational benefits of diversity and the harms that diversity can prevent, and not by rigid quotas or minority-specific seats.

Consistent with the Court’s prohibition on racial balancing and its insistence on individualized consideration in race-conscious admissions, educational research has not identified a fixed number or percentage that defines critical mass in every instance. Rather, recent literature indicates that considerations of critical mass must be dynamic, and must rely on institutional context and multiple factors affecting cross-racial interactions and campus climates to ensure that the benefits of diversity are attained.

Research also shows that purported harms to minority students associated with race-conscious admissions lack scientific foundation. Claims that stigma increases under affirmative action programs or that students suffer academic harms when their admissions credentials are “mismatched” with their institutions have been refuted by numerous studies.

Research also supports the conclusion that the University’s race-conscious admissions policy is narrowly tailored to its diversity interest. Contrary to arguments offered by Petitioner and various *amici*, recent research shows that race-conscious admissions policies like the University’s holistic review procedures are essential to achieving a diverse student body. Alternatives to race-conscious holistic review, such as the University’s percent plan or class-based admissions, by themselves do not yield sufficient racial and ethnic diversity to foster the educational benefits documented in the literature.

ARGUMENT

I. EDUCATION RESEARCH CONTINUES TO SUPPORT THE COMPELLING INTEREST IN STUDENT BODY DIVERSITY

In *Grutter v. Bollinger*, this Court ruled that student body diversity is a compelling governmental interest that can justify the use of race-conscious admissions in higher education. 539 U.S. 306, 327-33 (2003). Concluding that an institution’s diversity interest exists “by reference to the educational benefits that diversity is designed to produce,” the *Grutter* Court relied on extensive research findings demonstrating the manifold benefits of diversity — benefits that are “not theoretical but real.” *Id.* at 330. And, in *Fisher I*, the Court reaffirmed that pursuing “‘the educational benefits that flow from student body diversity,’ . . . that the University deems integral to its mission is, in substantial measure, an academic judgment to which some, but not complete, judicial deference is proper.” *Fisher v. University of Texas at Austin*

(*Fisher I*), 133 S. Ct. 2411, 2419 (2013) (citations omitted). Petitioner and her supporting *amici* in both *Fisher I* and the instant case have failed to undermine these core rulings, and independent scientific research developed during the course of the *Fisher* litigation has further solidified the University's diversity interest.

As reflected in *amicus curiae* briefs filed in *Fisher I*, studies across a variety of disciplines and methodologies have reinforced this Court's prior rulings and have expanded scientific understanding of diversity's benefits. *See, e.g.*, Brief for American Educational Research Association et al. as *Amici Curiae* in Support of Respondents; Brief of American Social Science Researchers as *Amici Curiae* in Support of Respondents; Brief of *Amicus Curiae* the American Psychological Association in Support of Respondents.

Moreover, in the intervening years since *Fisher I*, research has continued to identify student body diversity as the key to improving campus racial climates and to advancing the types of positive cross-racial interactions that lead to reduced prejudice and improved academic learning. *See* Affirmative Action and Racial Equity (Uma M. Jayakumar & Liliana M. Garces eds. 2015) (compiling legal analyses and scientific research on diversity and race-conscious admissions); Edna Chun & Alvin Evans, *Affirmative Action at a Crossroads*, 41 ASHE Higher Educ. Rep., no. 5, 2015 (summarizing legal developments and empirical research on higher education diversity); *see also* Mitchell J. Chang, *Quality Matters: Achieving Benefits Associated with Racial Diversity* (2011) (summarizing post-*Grutter* research on the benefits of

educational diversity), *available at* http://www.kirwaninstitute.osu.edu/reports/2011/10_2011_Achieving_BenefitsAssociatedwithDiversity.pdf.

Notwithstanding the broad literature supporting the University’s compelling interest, Petitioner and her *amici* continue to attack student diversity, particularly as it is operationalized through the concept of “critical mass.” Petitioner erroneously asserts that the interest is vague and incapable of narrow tailoring, and that the University’s articulation of its interest has been unstable and shifting. *See* Petr. Br. at 28-30. Moreover, Petitioner mischaracterizes the University’s interest in obtaining a more fully diverse student body along multiple dimensions — not simply racial or ethnic factors, but socioeconomic and other ones as well — as an improper form of “intra-racial” diversity. *Id.* at 30-37. None of these conclusions is supported by the record or the research literature.

A. Research Studies Continue to Show That Student Body Diversity Leads to Significant Educational Benefits and Prevents the Harms of Racial Isolation

In *Grutter*, this Court recognized the expansive body of scientific research on diversity, concluding that “numerous studies show that student body diversity promotes learning outcomes, and ‘better prepares students for an increasingly diverse workforce and society, and better prepares them as professionals.’” 539 U.S. at 330 (quoting Brief for American Educational Research Association et al. as *Amici Curiae*, at 3). Moreover, in *Fisher I*, the Court reaffirmed that “[t]he attainment of a diverse student body . . . serves values

beyond race alone, including enhanced classroom dialogue and the lessening of racial isolation and stereotypes.” 133 S. Ct. at 2418. The research literature has continued to grow during the past decade, and in the three years since the briefing for *Fisher I*, new research has helped expand scientific understanding of the mechanisms underlying diversity in higher education.

1. Student Body Diversity Promotes Cross-Racial Understanding, Educational and Classroom Benefits, and Professional Development

The *Grutter* Court found that student body diversity “promotes ‘cross-racial understanding,’ helps to break down racial stereotypes, and ‘enables [students] to better understand persons of different races.’” 539 U.S. at 330. Research continues to support these conclusions. Racially diverse educational settings are effective in reducing prejudice by promoting greater contact between students of different races — both informally and in classroom settings — and by encouraging relationships and friendships across group lines.² Moreover, “[b]ecause of the persistent power of

² The scientific literature in the area of intergroup contact and cross-racial interaction is so extensive that there are numerous “meta-analyses” synthesizing research from many separate studies and drawing overall conclusions based on the cumulative data and findings. See Thomas F. Pettigrew & Linda R. Tropp, *A Meta-Analytic Test of Intergroup Contact Theory*, 90 J. Personality & Soc. Psychol. 751, 766 (2006) (analyzing over 500 studies from a variety of institutional and informal settings, including college campuses, and concluding, inter alia, that positive intergroup contact reduces prejudice); Thomas F. Pettigrew & Linda R. Tropp, *How Does Intergroup Contact Reduce Prejudice? Meta-analytic Test of Three Mediators*, 38 Eur. J. Soc. Psychol. 922 (2008) (showing effectiveness of intergroup contact in reducing

race to shape life experiences, . . . diversity can create a rich and complex social and learning environment that can subsequently be applied as an educational tool to promote students' learning and development." Mitchell J. Chang, Nida Denson, Victor Saenz & Kimberly Misa, *The Educational Benefits of Sustaining Cross-Racial Interaction Among Undergraduates*, 77 J. Higher Educ. 430, 432 (2006).

Recent research also confirms that, although the diverse composition of a student body (often referred to as "structural diversity" or "compositional diversity") is essential to promote educational benefits, diversity must also be understood in tandem with other key contextual factors, such as the overall racial climate of a campus or the quality of cross-racial interactions, both positive and negative. For example, a 2015 study drew on a sample of over 14,000 undergraduate students from over 90 institutions and evaluated how measures of student "self-concept"

prejudice by diminishing anxiety and enhancing empathy between groups); Kristin Davies, Linda R. Tropp, Arthur Aron, Thomas F. Pettigrew & Stephen C. Wright, *Cross-Group Friendships and Intergroup Attitudes: A Meta-Analytic Review*, 15 Personality & Soc. Psychol. Rev. 332 (2011) (finding that cross-group friendships promote positive intergroup attitudes and that time spent together with individuals from other groups is strongly associated with improved attitudes); Nida Denson, *Do Curricular and Cocurricular Diversity Activities Influence Racial Bias? A Meta-Analysis*, 79 Rev. Educ. Res. 805 (2009) (finding that participation in diversity-related activities during college reduces racial bias among undergraduate students). *See generally* Linda R. Tropp & Elizabeth Page-Gould, *Contact Between Groups*, in APA Handbook of Personality and Social Psychology, Vol. 2: Group Processes, at 535-60 (Mario Mikulincer et al. eds. 2015) (summarizing intergroup contact literature).

(students' beliefs about their ability and confidence in an academic environment) and of "social agency" (the extent to which a student values political and social involvement) were influenced by cross-racial interactions and various moderating factors such as the quality of the interactions, perceptions of diversity within their college, and students' opinions on diversity. Nida Denson & Mitchell J. Chang, *Dynamic Relationships: Identifying Moderators that Maximize Benefits Associated with Diversity*, 86 J. Higher Educ. 1 (Jan./Feb. 2015). The study also found that the benefits associated with cross-racial interactions on students' academic self-concept and social agency depend on the quality of their interactions and their perceptions of their campus climate. The sheer number of cross-racial interactions, which might include strongly negative interactions, was less important than students' perceptions of the campus diversity climate in affecting their self-concept. For instance, those students who reported being less satisfied with the level of respect that their institution showed for the expression of diverse beliefs reported lower self-concept.

The Court has also recognized that a central benefit of student body diversity is that it "promotes learning outcomes." *Grutter*, 539 U.S. at 330. Numerous studies have shown that student body diversity fosters improvements in students' cognitive skills, including critical thinking and problem-solving, because students' exposure to individuals different from themselves, as well as to the novel ideas and situations that such exposure brings, challenges their thinking and leads to cognitive growth. *See, e.g.*, Anthony Lising Antonio, Mitchell J. Chang, Kenji Hakuta, David A. Kenny, Shana Levin & Jeffrey F. Milem, *Effects of Ra-*

cial Diversity on Complex Thinking in College Students, 15 Psychol. Sci. 507 (2004); Chang, Denson, Saenz & Misa, *supra*; Sylvia Hurtado, *The Next Generation of Diversity and Intergroup Relations Research*, 61 J. Soc. Issues 595 (2005); Jiali Luo & David Jamieson-Drake, *A Retrospective Assessment of the Educational Benefits of Interaction Across Racial Boundaries*, 50 J.C. Student Dev. 67 (2009). For instance, one study found that the positive effects of diversity included improvements in cognitive abilities (e.g., analytical problem-solving skills and complex thinking skills), socio-cognitive skills (e.g., cultural awareness and leadership), and democratic sensibilities (e.g., pluralistic orientation and the importance of civic contribution). Hurtado, *supra*, at 600-06. Moreover, analytical problem-solving skills were positively related to the quality of the informal interactions with diverse peers, as were gains in students' complex thinking skills. *Id.*; see also Nicholas A. Bowman, *College Diversity Experiences and Cognitive Development: A Meta-Analysis*, 80 Rev. Educ. Res. 4, 20 (2010) (meta-analysis examining twenty-three higher education studies and concluding that college diversity experiences are positively related to cognitive development)

In addition, this Court has “repeatedly acknowledged the overriding importance of preparing students for work and citizenship.” *Grutter*, 539 U.S. at 331. Accordingly, central elements of the University’s undergraduate academic mission are to prepare its students to be “leaders of the State of Texas” and to enable those students “to lead a multicultural workforce and to communicate policy to a diverse electorate.” Supp. J.A. at SJA24a (University’s Proposal

to Consider Race and Ethnicity in Admissions, June 25, 2004).

Improvements in civic engagement, including civic attitudes toward democratic participation, civic behaviors such as participating in community activities, and intentions to participate in civic activities, are well-documented products of diverse learning experiences. A recent meta-analysis synthesized twenty-seven prior studies examining the effects of diversity on civic engagement and reached the conclusion that college diversity experiences are positively related to increased civic engagement. Nicholas A. Bowman, *Promoting Participation in a Diverse Democracy: A Meta-Analysis of College Diversity Experiences and Civic Engagement*, 81 Rev. Educ. Res. 29, 46 (2011). Bowman's analysis also found that interpersonal interactions are more effective at promoting civic engagement than structured diversity experiences such as course work and intergroup dialogues, and highlighted the need to attain diverse student bodies to facilitate meaningful interactions among students of varied backgrounds. *Id.* at 49.

Among the other benefits of diversity are gains in "pluralistic orientation," a metric tied to capacities for thinking and social interaction that enable students to "engage in cooperative behaviors, manage controversial issues, and develop a high regard for others' perspectives, beliefs, and backgrounds." Mark E. Engberg & Sylvia Hurtado, *Developing Pluralistic Skills and Dispositions in College: Examining Racial/Ethnic Group Differences*, 82 J. Higher Educ. 416, 417 (2011). This study confirmed that students' positive interactions with individuals of other races were asso-

ciated with positive effects on their pluralistic orientation, *id.* at 429, and that for white students in particular, higher levels of racial diversity led to increased cross-racial interactions gains in pluralistic orientation, *id.* at 435-36.

In addition to the educational benefits that accrue to students enrolled in colleges and universities with diverse student bodies, this Court has recognized institutional benefits affecting the breadth of classroom discussions. *See Grutter*, 539 U.S. at 330 (“[C]lassroom discussion is livelier, more spirited, and simply more enlightening and interesting’ when the students have ‘the greatest possible variety of backgrounds.’”). These findings align with the University’s goal that student experiences “must include *classroom* contact with peers of differing racial, ethnic, and cultural backgrounds.” Supp. J.A. at SJA24a (University’s Proposal to Consider Race and Ethnicity in Admissions, June 25, 2004 (emphasis in original)).

For instance, an analysis of survey and focus group data from over 500 respondents at the University of Michigan documented how both general interactions and classroom interactions have contributed to improving the overall educational experience. Meera E. Deo, *The Promise of Grutter: Diverse Interactions at the University of Michigan Law School*, 17 Mich. J. Race & L. 63 (2011). This study found that most respondents were engaged in positive interactions with students from different racial backgrounds, and that the data revealed three core findings: “a) greater structural diversity [i.e., diversity in the student body] leads to increased classroom diversity and improved learning; b) classroom diversity results in open minds and engaging classroom conversations;

and c) more structural diversity leads to greater participation [by minority students] and less tokenism.” *Id.* at 97. The study concluded that more lively and engaging conversations occur when diversity discussions are included in the classroom, and improved learning occurs because abstract concepts are tied directly to concrete examples drawn from experience. *Id.* at 110-11; *see also* Richard Pitt & Josh Packard, *Activating Diversity: The Impact of Student Race on Contributions to Course Discussions*, 53 Soc. Q. 295, 312-13 (2012) (finding improved discussions and learning outcomes resulting from classroom diversity, where students of different races added varied personal experiences to the discussion); Kathleen M. Goodman & Nicholas A. Bowman, *Making Diversity Work to Improve College Student Learning*, in *Research-Driven Practice in Student Affairs*, at 37, 46 (Georgianna L. Martin & Michael S. Hevel eds. 2014) (“Creating a campus environment that provides students the opportunity to have sustained and repeated engagement in diverse coursework and interactions has the potential to lead to gains in critical thinking, intercultural effectiveness, socially responsible leadership, need for cognition, psychological well-being, and other college outcomes.”).

Recent research has also documented the necessity of diverse student bodies in helping promote intergroup dialogues within specifically designated courses. A 2013 study examined the effectiveness of a model curriculum on intergroup dialogues and employed both experimental and non-experimental methods involving over 1,400 students at nine universities nationwide. Patricia Gurin, Biren A. Nagda & Ximena Zuniga, *Dialogue Across Difference: Practice, Theory, and Research on Intergroup Dialogue* (2013).

The study found significant gains on multiple variables resulting from the diversity-based dialogues. During the course of an academic term, students who participated in the curriculum developed more insight into how members of other groups perceive the world; students also became more thoughtful about the structural underpinnings of inequality, and placed an increased value on diversity and collaborative action.

2. Research Studies Demonstrate the Harms of Racial Isolation and Tokenism

The University's compelling interest in student body diversity is rooted not only in obtaining the positive effects of diversity but also in avoiding and addressing the negative effects of racial isolation and tokenism: "[D]iminishing the force of . . . stereotypes is both a crucial part of [an institution's] mission, and one that it cannot accomplish with only token numbers of minority students." *Grutter*, 539 U.S. at 333. As an element of its overall diversity interest, the University has a clearly articulated goal "not to have large numbers of classes in which there are no students — or only a single student — of a given underrepresented race or ethnicity." Supp. J.A. at SJA25a (University's Proposal to Consider Race and Ethnicity in Admissions, June 25, 2004).

The University included race as an element of its holistic admissions policy because its percent plan was unable to fully ameliorate problems of racial isolation and the large number of classes and programs with token numbers of minority students. Prior to *Grutter*, 90% of the University's small undergraduate classes (5 to 24 students) designed to encourage student participation contained either zero or one African American student, while 43% of small classes had zero

or one Latino student. *Id.* at SJA25a-SJA26a. Moreover, in the year prior to *Grutter*, among its graduate programs (outside of Law), 77% of the University's 127 programs had zero or one African American student, while 45% had zero or one Latino student. *Id.* at SJA12a.

The research literature continues to demonstrate that minority students in racially isolated educational settings are at risk of significant harms, including stereotyping and discrimination, that can undermine their academic achievement. Isolation, subordination, and negative stereotyping are commonplace in settings where minority numbers are especially low and the norms and behaviors of majority groups dominate. See Mischa Thompson & Denise Sekaquaptewa, *When Being Different is Detrimental: Solo Status and the Performance of Women and Racial Minorities*, 2 Analyses Soc. Issues & Pub. Pol'y 183 (2002).

Problems of stereotyping that arise from race- and gender-based isolation pose serious problems, including fostering "stereotype threat," the well-documented harm that occurs when individuals feel pressured because of the fear that their academic performance could confirm a negative group stereotype, and the resulting pressure interferes with their intellectual functioning. Numerous studies have documented how stereotype threat contributes to diminished academic performance among racial and ethnic minorities, as well as women in mathematics and science fields. See, e.g., Christine R. Logel et al., *Unleashing Latent Ability: Implications of Stereotype Threat for College Admissions*, 47 Educ. Psychol. 42 (2012) (summarizing stereotype threat literature); Gregory M. Walton & Steven J. Spencer, *Latent Ability: Grades and Test*

Scores Systematically Underestimate the Intellectual Ability of Negatively Stereotyped Students, 20 Psychol. Sci. 1132 (2009) (meta-analyses of recent studies). See generally Claude M. Steele, Whistling Vivaldi: And Other Clues to How Stereotypes Affect Us (2010).

Moreover, recent national surveys of African American and Latino students have indicated that the isolation of underrepresented minority students exacerbates feelings of exclusion, reinforces stereotypes, and results in discrimination and bias. A 2012 analysis found that problems of exclusion and discrimination were considerably more extensive on low-diversity campuses compared to high-diversity campuses. Sylvia Hurtado & Adriana Ruiz, *The Climate for Underrepresented Groups and Diversity on Campus* (UCLA Higher Educ. Research Inst. June 2012), available at <http://heri.ucla.edu/briefs/urm-briefreport.pdf>. Among African Americans, 55.4% of students in low-diversity institutions reported some level of exclusion from campus events and activities, while only 20.3% of students in high-diversity institutions reported feelings of exclusion. *Id.* at 2-3. Similarly, 67.2% of African American students in low-diversity institutions reported being the target of discriminatory verbal comments, compared to 37.5% in high-diversity institutions; 40.2% of African American students in low-diversity institutions had experiences with offensive visual images, compared to 16.4% in high-diversity institutions. *Id.* A 2015 study found comparable patterns among Latino students. Sylvia Hurtado & Adriana Ruiz Alvarado, *Discrimination and Bias, Underrepresentation, and Sense of Belonging on Campus* (UCLA Higher Educ. Research Inst. Oct. 2015), available at <http://www.heri.ucla.edu/>

PDFs/Discrimination-and-Bias-Underrepresentation-and-Sense-of-Belonging-on-Campus.pdf. The study showed that among students at low-diversity campuses, 62.3% of Latino students reported personally experiencing discriminatory verbal comments, 44.3% felt excluded from events and activities, and 32.3% reported visually offensive images on campus — figures that were all significantly higher than those at high-diversity campuses. *Id.* at 2.

Recent research also indicates that stereotyping by white students can be exacerbated if they experience segregated pre-college and college environments. A 2015 study found that white students who were primarily socialized in segregated white environments prior to college are more likely to remain in white-dominant environments on campus, and also less likely to engage in casual cross-racial interactions. Uma M. Jayakumar, *The Shaping of Postcollege Colorblind Orientation Among Whites: Residential Segregation and Campus Diversity Experiences*, Harv. Educ. Rev. (forthcoming Winter 2015).

Further, overt discrimination coming in the form of racial animosity and violence have occurred with greater frequency on campuses that have been unable to achieve significant numbers of minority students. A 2012 study examined both FBI data and educational data to assess the extent of racial hate crimes on college campuses and found a significant relationship between minority underrepresentation and hate crime incidents. Rebecca L. Stotzer & Emily Hossellman, *Hate Crimes on Campus: Racial/Ethnic Diversity and Campus Safety*, 27 J. Interpersonal Violence 644 (2012). The authors found that “the percent of students who were Black or Latino at these institutions

of higher education had a significant relationship with reported hate crimes, namely, as the percentage of Black and Latino students increased, the overall reported ethnic/race-based hate crimes decreased.” *Id.* at 654-55. Although the authors indicate that student numbers, campus climate, and other factors may be causal, the authors suggest that, “when the percentage of Blacks and Latinos are too low, then there is actually increased risk of hate crime because of their token status.” *Id.* at 656.

It is because of these and other acute problems of tokenism and racial isolation — in tandem with promoting the positive effects of diversity — that the University has made attaining a “critical mass” of minority students such a central feature of its educational mission.

B. “Critical Mass” is Not a Fixed Number or Percentage and Must Be Assessed Contextually in Evaluating the Educational Benefits of Diversity

Petitioner and her *amici curiae* nevertheless continue to criticize the University’s use of “critical mass” to justify its individualized consideration of race, arguing that critical mass must be specifically enumerated to pass constitutional muster. Under *Grutter*, however, critical mass does not correspond to a rigid numerical figure, but is “defined by reference to the educational benefits that diversity is designed to produce.” 539 U.S. at 330. In alignment with the Court’s legal prohibition on quotas and racial balancing in advancing the diversity interest, the research literature has not identified a fixed number or percentage to de-

fine critical mass. Nor does this Court need such a figure to assess the constitutionality of the University's policy.

Consistent with *Grutter* and *Fisher I*, the determination of critical mass ultimately must take into account the University's evaluation and articulation of the educational benefits that it seeks to achieve — in accordance with an overall mission that includes training its graduates to be leaders of Texas's racially and ethnically diverse population, as well as the context in which the benefits are sought. Accordingly, a reviewing court, while employing meaningful strict scrutiny analysis, can assess an institution's diversity admissions goals by attending to the *process* by which it establishes a numerical goal or range, not just the numbers alone.

A recent research-based analysis of critical mass shows that critical mass should be examined dynamically, and is contingent upon several factors beyond simple numerical targets, including a campus's racial climate, its historical legacies and institutional signals, impediments to productive interactions, and the nature of cross-racial interactions. Liliana M. Garces & Uma M. Jayakumar, *Dynamic Diversity: Toward a Contextual Understanding of Critical Mass*, 43 Educ. Researcher 115, 117-21 (2014).

Relying on multiples lines of diversity-related research, Garces and Jayakumar propose that critical mass should be seen as a "dynamic diversity" formulation: a multifactor analysis that takes into account the symbiotic relationship between the composition of the student body and the campus learning and living environments. For instance, campus climate, which reflects community members' attitudes, behaviors,

and perceptions of discrimination and intergroup contact, is highly relevant to and dependent upon the composition of the student body. *Id.* at 118. Research has shown that a positive racial climate is essential to fostering cross-racial interactions, and perceptions of campus climate also moderate how students experience such interactions, in both positive and negative ways. *See, e.g.,* Denson & Chang, *supra*.

Similarly, historical legacies and institutional signaling are highly relevant to campus climate and to recruitment and admissions policies designed to constitute a diverse student body. Garces & Jayakumar, *supra*, at 118. Distinct from the remediation of past discrimination — a goal that is separate from the diversity interest and that is not implicated in the instant case — an institution’s consideration of historical legacies is germane to the admissions process because they can directly affect the racial climate and students’ perceptions of how welcoming a campus may be. In the case of the University of Texas, the state’s unfortunate history of legal segregation and exclusion, as well as the disincentives to minority students to attend the University, can be highly relevant in determining critical mass. Indeed, the University’s percent plan is predicated on residential patterns and historical segregation in the state’s K-12 system, and the University’s goal of diversifying its student body along additional dimensions such as socioeconomic status reflects close attention both to historical context and to present conditions in Texas. Resp. Br. at 4-5; *see also* Julian Vasquez Heilig & Jennifer Jellison Holme, *Nearly 50 Years Post-Jim Crow: Persisting and Expansive School Segregation for African American, Latina/o, and ELL Students in Texas*, 45 Educ.,

& Urb. Soc’y 609 (2013) (analyzing persistent patterns of segregation in Texas public schools).

Moreover, attention to the nature of cross-racial interactions and to impediments that might prevent productive interactions can be taken into account in determining critical mass. Garces & Jayakumar, *supra*, at 118. The University has already documented problems of tokenism and racial isolation in many of its programs and classes, and these problems are particularly acute for African American students. Thus, on a number of levels, the University has not come close to attaining a critical mass of African Americans, let alone one that is diverse along other dimensions such as economic class.

Research indicates that the ability of colleges and universities to produce diverse student bodies is conditioned on the widely varying population compositions in different states and recruitment areas, as well as by differing programs with varying academic goals. As in many other aspects of higher education, no single answer is possible for all schools or programs. The University has made a contextual assessment of the educational benefits it has so far achieved and has determined that it has fallen short of attaining critical mass. Indeed, in many classes and other settings, its minority numbers remain at token — or zero — levels.

C. The University’s Goal of Pursuing Diversity Along Multiple Dimensions Complies with Precedent and is Supported by Recent Research

Petitioner’s critique of the compelling interest prong of strict scrutiny also relies on her characteri-

zation of the University's diversity interest as an unconstitutional form of "intra-racial" diversity, in which the University seeks to enroll minority students of varying backgrounds and experiences, including students who have higher socioeconomic backgrounds and who attend schools from which they might not be admitted through the University's percent plan. In launching this critique, Petitioner ironically criticizes the University for stereotyping racial minority students, while simultaneously treating minority students as fungible and asserting that promoting diversity along non-racial lines is unnecessary, because "[t]hese wealthy minority students have the same experiences and viewpoints as the majority of UT's freshman class. The only difference is their race or ethnicity." Petr. Br. at 37. Notwithstanding Petitioner's own reductionism regarding minority students, her argument is unsupported, both legally and empirically.

The University is engaging in precisely the type of educational goal setting that this Court has endorsed and encouraged in *Grutter* and *Fisher I*. The University seeks a student body that is diverse along multiple dimensions — race, ethnicity, and socioeconomic status included. Whether framed as "intra-racial" diversity or "diversity within diversity," the University's goal of seeking minority students of varying backgrounds and along multiple points on the socioeconomic spectrum helps undermine the stereotyping of minority students as a monolithic group and promotes more variegated cross-racial interactions and classroom discussions. See Devon W. Carbado, *Intraracial Diversity*, 60 UCLA L. Rev. 1130 (2013); Vinay Harpalani, *Diversity Within Racial Groups and the*

Constitutionality of Race-Conscious Admissions, 15 J. Const. L. 463 (2012).

Moreover, recent education research fully supports the University's position of promoting diversity along multiple dimensions, and analyses suggest that socioeconomic diversity in tandem with racial diversity can lead to improved cross-group interactions and learning. In a recent study, for instance, researchers examined the relationships between the socioeconomic diversity of the undergraduate student body and experiences with cross-class interaction on the one hand and cross-racial interaction and engagement with curricular/co-curricular diversity activities on the other. Julie J. Park, Nida Denson & Nicholas A. Bowman, *Does Socioeconomic Diversity Make a Difference? Examining the Effects of Racial and Socioeconomic Diversity on the Campus Climate for Diversity*, 50 Am. Educ. Research J. 466 (2013).

Drawing on a sample of nearly 15,000 students at 88 institutions throughout the United States, the Park et al. study found that individual students who reported higher levels of cross-class interaction had significantly higher levels of cross-racial interactions and co-curricular diversity activities. Although the socioeconomic diversity of the student body did not have direct effects on student involvement in diversity activities or cross-racial interactions, the study found that socioeconomic diversity did have indirect effects on these activities via cross-class interactions. In other words, a socioeconomically diverse institution is associated with more frequent interactions across class lines, and these interactions are associated both with more frequent interactions across racial lines and with more diversity activities by students.

The Park et al. study further concluded that “having socioeconomic diversity is *not* a replacement for a racially diverse student body.” *Id.* at 489 (emphasis in original). Instead, “forms of socioeconomic diversity add distinctly and uniquely to student experiences with diversity and the behavioral dimension of the campus racial climate.” *Id.* Thus, according to the study, “[w]hile racial and socioeconomic diversity are interrelated, they are not interchangeable concepts.” *Id.* at 490. These findings and conclusions fully support the University of Texas’s goal of obtaining meaningful numbers of minority students who are also diverse along socioeconomic lines, because increases in the positive effects of cross-racial interactions and diversity activities may be attained through increased cross-class interactions.

D. Research Refutes Claims that Minority Students are Harmed by Race-Conscious Admissions

The University’s interest in student body diversity remains compelling, notwithstanding the contentions of Petitioner and her *amici curiae* that race-conscious admissions policies harm minority students and engender such high costs that they cannot be constitutionally justified. For example, Petitioner proposes, without empirical support, that race-conscious admissions “demean the dignity and worth of a person” and thus stigmatize minority students, Petr. Br. at 47; she also states, with no empirical citations, that the “‘mismatch’ effects of racial classification are also well-documented,” *id.* n.9. These arguments have the support of few researchers, and the scant research supporting these claims has been contradicted by bet-

ter-designed and more recent research. Multiple studies confirm that purported problems of stigma due to race-conscious admissions and the educational harms resulting from the so-called mismatch of minority students at selective institutions have not been established by the studies said to prove them and are contradicted by more sound research.

Recent studies have undercut the largely speculative hypothesis that minority students will feel more stigmatized because of race-conscious admissions policies. For instance, one recent study compared students enrolled in universities with race-conscious admissions policies with students enrolled in universities in states that had barred race-conscious admissions, and posed several questions focusing on both “internal stigma” (minority students’ own feelings of inferiority) and “external stigma” (non-minority students’ questioning of minority students’ abilities and qualifications). Deirdre M. Bowen, *Brilliant Disguise: An Empirical Analysis of a Social Experiment Banning Affirmative Action*, 85 Ind. L.J. 1197 (2010). The study found that approximately three-fourths of students in states that bar race-conscious admissions felt pressure to prove themselves because of their race, compared to fewer than half of the students who were in schools with race-conscious admissions, indicating that feelings of internal stigma were less likely in schools with race-conscious admissions. *Id.* at 1223-24. Only about one-quarter of the students at schools with race-conscious admissions reported that non-minority students had questioned their qualifications,

compared to nearly one-half of the students who were enrolled in states with bans. *Id.* at 1224-25.³

Recent research also undermines the so-called mismatch hypothesis proposed by Petitioner and *amici* opposing race-conscious admissions. *See* Petr. Br. at 47 n.9; Brief of Richard Sander in Support of Neither Party, at 16-28. This hypothesis predicts both lower graduation rates and reduced economic gains for minority students who attend selective institutions because some of their admissions credentials do not match their institution's average. The assertion is that these students would have fared better if they had attended less selective institutions. Only a handful of researchers have reached such conclusions, and their studies yield results that are not only inconsistent with the findings of most scientists who have studied the issue but also have been shown to suffer from serious methodological flaws. *See* William C. Kidder & Richard O. Lempert, *The Mismatch Myth in U.S. Higher Education: A Synthesis of the Empirical*

³ Enhanced stigma also appears absent at the professional school level. A study focusing on elite law schools examined stigma among students at seven public law schools, four of which employed race-conscious admissions and three of which did not. Angela Onwuachi-Willig, Emily Houh & Mary Campbell, *Cracking the Egg: Which Came First—Stigma or Affirmative Action?*, 96 Calif. L. Rev. 1299 (2008). The study found low levels of the “stigma of dependence” (internal stigma), and the stigma that was reported was no more common in the four schools with race-conscious admissions than in the three schools without race-conscious admissions. *Id.* at 1332. Most students also reported no negative effects of external stigma, and there was no significant difference between student responses at the two groups of law schools. *Id.* at 1332-33.

Evidence at the Law School and Undergraduate Levels, in *Affirmative Action and Racial Equity* 105, 114-22 (Uma M. Jayakumar & Liliana M. Garces eds. 2015); William C. Kidder & Angela Onwuachi-Willig, *Still Hazy After All These Years: The Data and Theory Behind “Mismatch,”* 92 Tex. L. Rev. 895 (2014) (book review of Richard H. Sander & Stuart Taylor Jr., *Mismatch* (2012) and summary of literature undermining mismatch hypothesis). A specific review of just some of the recent studies reveals that the mismatch hypothesis remains unproven.

For instance, a national study focusing on minority students who entered selective public institutions in 1999 found that “black male students who went to more selective institutions graduated at *higher*, not lower rates than black students in the same GPA interval who went to less selective institutions.” William G. Bowen, Matthew W. Chingos & Michael S. McPherson, *Crossing the Finish Line: Completing College at America’s Public Universities* 209 (2009) (emphasis in original) (also finding no evidence of mismatch for Latinos and concluding that the positive relationship between graduation rates and selectivity was even stronger for Latinos). A similar study examining educational outcomes for a cohort of college freshmen attending twenty-eight selective institutions nationwide found no evidence supporting the mismatch hypothesis with respect to first-year grades or dropout rates. Mary J. Fischer & Douglas S. Massey, *The Effects of Affirmative Action in Higher Education*, 36 Soc. Sci. Res. 531 (2007). Instead, the study found that the effect of diversity admissions on first-semester grades “was *positive*, precisely opposite the direction predicted by the mismatch hypothesis” *id.* at 539 (emphasis in original); with respect to dropouts, “the

degree of an individual's likely benefit from affirmative action is *negatively* related to the likelihood of leaving school," *id.* at 541 (emphasis in original).

State-level studies have reached similar conclusions. For instance, a Texas-specific study focusing on minority students enrolled in various public universities compared undergraduate graduation rates at Texas universities expected to be "better matched" for minority students and found that minority graduation rates at these institutions were lower than the graduation rates at institutions where students supposedly would be mismatched and expected to underperform, thus contradicting the predicted effects of mismatch. Kalena E. Cortes, *Do Bans on Affirmative Action Hurt Minority Students? Evidence from the Texas Top 10% Plan*, 29 Econ. Educ. Rev. 1110 (2010).⁴

⁴ Studies of purported mismatch in professional school settings also lack empirical foundation. *Amicus curiae* Sander, relying largely on his own work on law schools, has proposed that race-conscious admissions have harmed the academic performance of African American law students and have contributed to lower graduation rates and lower passage rates on bar examinations. Studies critiquing Professor Sander's 2004 article on law school mismatch, see Richard H. Sander, *A Systemic Analysis of Affirmative Action in American Law Schools*, 57 Stan. L. Rev. 367 (2004), have undermined these claims. See, e.g., Ian Ayres & Richard Brooks, *Does Affirmative Action Reduce the Number of Black Lawyers?*, 57 Stan. L. Rev. 1807 (2005); David L. Chambers, Timothy T. Clydesdale, William C. Kidder & Richard O. Lempert, *The Real Impact of Eliminating Affirmative Action in American Law Schools: An Empirical Critique of Richard Sander's Study*, 57 Stan. L. Rev. 1855 (2005); Jesse Rothstein & Albert H. Yoon, *Affirmative Action in Law School Admissions: What Do Racial Preferences Do?*, 75 U. Chi. L. Rev. 649 (2008). A recent analysis of law school admissions nationwide compared race-conscious affirmative action policies with class-based policies and found that race-conscious plans would be more effective

The stigma and mismatch arguments offered by Petitioner and her *amici curiae* ignore the extensive data showing that minority students gain significant educational and economic benefits through their attendance at selective institutions — including higher graduation rates and increased earnings and labor force participation following graduation. The Court recognized these basic findings over twelve years ago, *see Grutter*, 539 U.S. at 330 (citing William G. Bowen & Derek Bok, *The Shape of the River* (2000)), and findings from education and economic research continue to support this point. *See, e.g.*, Bowen et al., *Crossing the Finish Line*, *supra*, at 209-15 (minority students who attend public flagship universities are more likely to graduate than comparable students at less selective institutions); Mark C. Long, *Changes in the Returns to Education and College Quality*, 29 Econ. Educ. Rev. 338 (2010) (educational attainment and college quality raise earnings, with larger increases in the effects of education on earnings and labor force participation for men, blacks, and Latinos). For instance, one recent study found that black and Latino students who attend more selective universities have higher subsequent wages compared to rigorously matched underrepresented minority students who had the same range of admission offers but chose to enroll at less selective (i.e., less “mismatched”) institutions. Stacy Dale & Alan Krueger, *Estimating the*

in increasing minority representation in the upper tier of law schools, and that there would be no statistically significant changes in the graduation and bar passage rates in any demographic group, suggesting no mismatch effects. Alice Xiang & Donald B. Rubin, *Assessing the Potential Impact of a Nationwide Class-Based Affirmative Action System*, 30 Stat. Sci. 297 (2015).

Effects of College Characteristics over the Career Using Administrative Earnings Data, J. Hum. Resources 323, 325-26 (2014). In fact, students from all backgrounds who attend more racially diverse U.S. universities have higher later earnings than students from universities with similar institutional characteristics but lesser levels of diversity. Barbara L. Wolfe & Jason Fletcher, *Estimating Benefits from University-Level Diversity* (Feb. 2013), available at <http://www.nber.org/papers/w18812>. These and other studies reinforce the wisdom of the Court’s declaration in *Grutter* that “the skills needed in today’s increasingly global marketplace can only be developed through exposure to widely diverse people, cultures, ideas, and viewpoints.” 539 U.S. at 330.

II. RESEARCH SUPPORTS UPHOLDING THE UNIVERSITY’S ADMISSIONS POLICY AS NARROWLY TAILORED

Education research further supports the University’s argument that its holistic admissions policy is narrowly tailored to the compelling interest in student body diversity. Empirical findings addressing the narrow tailoring requirement are discussed in greater depth in other *amicus curiae* briefs, including the Brief of American Social Science Researchers as *Amici Curiae* in Support of Respondents. In this brief, the AERA et al. highlight just some of the relevant research, primarily in response to claims raised by Petitioner and her *amici curiae*. The literature cited here indicates that the University’s admissions policy is essential to help achieve its diversity interest, because race-neutral alternatives such as the University’s top-

ten-percent admissions policy and class-based admissions policies are insufficient to attain the critical mass of minority students necessary to fully realize the benefits of diversity.

A. Race-Conscious Admissions are Necessary to Complement the University's Percentage-Based Admissions Plan

Petitioner contends that the University's holistic admissions policy is unnecessary because sufficient minority student enrollments can be achieved through a race-neutral alternative: Texas's plan that guarantees admission to a state university to students finishing in the top ten percent of their high school graduating classes. This Court has already recognized several of the major limitations of percent plans, having noted their inapplicability to graduate and professional school admissions and recognizing the barriers they impose to "conducting the individualized assessments necessary to assemble a student body that is not just racially diverse, but diverse along all the qualities valued by the university." *Grutter*, 539 U.S. at 340.

Recent research also identifies problems with percentage-based policies, which in Texas must rely on the state's racial and ethnic demographic mix, including patterns of residential segregation in many areas of the state and their effects on secondary school enrollments. Empirical evidence shows that the percent plan yields significant but insufficient numbers of racial and ethnic minority students. *See generally* Stella M. Flores & Catherine L. Horn, *Texas Top Ten Percent Plan: How It Works, What Are Its Limits, and Recommendations to Consider* (2015) (summarizing recent

literature and findings on Texas and other state percent plans), *available at* http://www.ets.org/Media/Research/pdf/flores_white_paper.pdf.

For instance, a 2012 study examined outreach and recruitment measures under the plan, as well as application and enrollment patterns of eligible high school students, and found differential rates among racial groups: white students enrolled at considerably higher rates at the Texas flagship institutions (University of Texas and Texas A&M) than African American or Latino students. Catherine L. Horn & Stella M. Flores, *When Policy Opportunity is Not Enough: The Complexity of College Access and Enrollment*, 3 J. Applied Res. Children 1 (2012). Specifically, over the twelve-year period from 1998 to 2010, an average of approximately 60% of eligible white students enrolled at a flagship campus, compared to approximately 45% of the eligible Latino students and just over 30% of eligible African American students. *Id.* at 15-16. The authors thus concluded that “the Top Ten Percent Plan has not proven to be a successful stand-alone race-neutral alternative in the creation of diverse student bodies from which the benefits of that diversity can be reaped.” *Id.* at 19; *see also* Mark C. Long & Marta Tienda, *Winners and Losers: Changes in Texas University Admissions Post-Hopwood*, 30 Educ. Eval. & Pol’y Analysis 255 (2008) (examining administrative data to assess changes in admission and enrollment probabilities at state institutions and concluding that the percent plan is an ineffective proxy for race-conscious admissions).

Similarly, a 2010 study analyzing both changes in the size of high school graduation cohorts and institutional carrying capacity showed that the ten-percent

plan did not restore Latino and African American representation at the University of Texas at Austin or at Texas A&M University to levels that existed before race-conscious admissions were banned, even after four years. Angel Harris & Marta Tienda, *Minority Higher Education Pipeline: Consequences of Changes in College Admissions Policy in Texas*, 627 *Annals Am. Acad. Pol. & Soc. Sci.* 60 (2010). Harris and Tienda also found that black and Latino application rates to the University and to Texas A&M declined after race-conscious admissions were banned; although rates rebounded after the percent plan went into effect, they still fell below levels that existed prior to the ban. *Id.* at 65.

A 2012 study focusing on Latinos underscores earlier findings. Angel L. Harris & Marta Tienda, *Hispanics in Higher Education and the Texas Top 10% Law*, 4 *Race & Soc. Probs.* 57 (2012). The study found that Latino application rates to the Texas flagships fell after race-conscious affirmative action was banned, with annual losses in Latino applicants ranging from nearly 204 to 390 at the University of Texas and from over 350 to nearly 500 at Texas A&M. *Id.* at 65-66. Moreover, Latino admission rates to both flagships fell after the ban on affirmative action and reached its lowest point under the percent-plan system. *Id.*

In addition, recent studies employing simulations of race-neutral plans employed in other states suggest that the implementation of such plans would have negative effects on minority student enrollments. For instance, a 2010 study found that implementing race-neutral admissions across the nation would decrease minority enrollment at selective four-year colleges by

10.2%. Jessica S. Howell, *Assessing the Impact of Eliminating Affirmative Action in Higher Education*, 28 J. Labor Econ. 113, 116 (2010). A 2014 study examining national data also found comparable declines in minority enrollments in highly selective colleges in states banning race-conscious affirmative action; moreover, the study found that the decline in the use of affirmative action in states with bans also negatively affected students who live in adjacent states that lack highly selective colleges, such as Nevada, Arizona, and Idaho. Grant H. Blume & Mark C. Long, *Changes in Levels of Affirmative Action in College Admissions in Response to Statewide Bans and Judicial Rulings*, 36 Educ. Eval. & Pol'y Analysis 228 (2014).

Despite these documented weaknesses, the State of Texas has chosen to retain the top-ten-percent plan, and the University has chosen to implement its holistic admissions policy in conjunction with its percent plan. The efficacy of University's individualized consideration of race is borne out by the numbers, which are fully documented in the record. Since its implementation, the University's admissions policy challenged here, in conjunction with the percentage plan, has yielded increases in minority admissions and enrollments, and minority students admitted through holistic admissions represent greater socioeconomic diversity than might otherwise be available.

B. Race-Neutral Alternatives Such as Admissions Plans Focused on Socioeconomic Status are Not as Effective as Race-Conscious Plans

Studies have also demonstrated the limits of other suggested race-neutral alternatives, such as favoring applicants of lower socioeconomic status (SES) or with

low family income. While encouraging the admission of students from lower economic classes may itself be a desirable end, these alternatives are not as effective as race-conscious admissions in achieving diversity and could lead to reductions in the numbers of minority students in selective colleges and universities. Although the percentage of low-income families is typically higher among minority groups than among whites in an institution's target area, the alignment is far from perfect; relying on class-based admissions may therefore yield a more socioeconomically diverse student body, but not necessarily one that is racially diverse. As one study noted, "the presence of minorities among all low-income students in the United States, and especially among those graduating from high school with sufficient grades and test scores to be admitted to college, would be too small to generate a level of minority representation anywhere close to its current level." Harry J. Holzer & David Neumark, *Affirmative Action: What Do We Know?*, 25 J. Pol'y Analysis & Mgmt. 463, 476 (2006). Other researchers have similarly observed that "[t]he correlation between race and family income, while strong, is not strong enough to permit the latter to function as a useful proxy for race in the pursuit of diversity." Alan Krueger et al., *Race, Income and College in 25 Years: Evaluating Justice O'Connor's Conjecture*, 8 Am. L. & Econ. Rev. 282, 309 (2006).

A 2015 analysis demonstrates that employing race-neutral economic or socioeconomic models does not necessarily yield racially diverse student bodies comparable to those produced by explicitly race-conscious models. Sigal Alon, *Race, Class and Affirmative Action* at 160-187 (2015). Drawing on student data

from the 1990s and early 2000s, Alon conducted multiple simulations looking at variables (alone and in combination) such as family income, wealth and assets, and parental education level, and compared these simulations to results produced by race-conscious affirmative action. Alon found that, in replacing race-based affirmative action with socioeconomic affirmative action, the share of minority students fell dramatically, declining “nearly one-third, from 16 percent to around 10 percent.” *Id.* at 174. Alon thus concluded that “no race-neutral model of preferential treatment can match the level of racial and ethnic diversity achieved by race-based affirmative action.” *Id.* 249; *see also* Xiang & Rubin, *supra*, at 308 (statistical analysis of law school admissions concluding that “without affirmative action specifically targeting black students, attaining racial diversity in top law school tiers would be very difficult” and “that adopting an SES-based system would not maintain racial diversity”).

Similarly, recent computational simulations of admissions and enrollment processes have produced results that suggest a fundamental misalignment between promoting racial diversity and employing class-conscious means to achieve those ends. A study using a technique known as agent-based modeling drew on data that could incorporate family income, parental education, and parental occupation into simulated admissions processes to compare socioeconomic admissions with race-conscious admissions. Sean F. Reardon, Rachel Baker, Matt Kasman, Daniel Klasik & Joseph Townsend, *Can Socioeconomic Status Substitute for Race in Affirmative Action College Admissions Policies? Evidence From a Simulation Model*

(2015), *available at* http://www.ets.org/Media/Research/pdf/reardon_white_paper.pdf. The study found, *inter alia*, that reasonable SES-based affirmative action policies do not mimic the effects of race-based policies on racial diversity, and produced lower levels of racial diversity. The study also found little evidence of systemic mismatch induced by affirmative action policies; on average there were only small effects on the mean achievement of students' peers.

CONCLUSION

For the foregoing reasons, the judgment of the Court of Appeals upholding the constitutionality of the University of Texas at Austin's race-conscious admissions policy should be affirmed.

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November 2015

APPENDIX A

STATEMENTS OF INTEREST AND ORGANIZATIONAL DESCRIPTIONS OF *AMICI CURIAE*

Founded in 1916, the **American Educational Research Association (AERA)** is the national scientific association for more than 25,000 members engaged in research on education. AERA aims to advance knowledge about education, encourage scholarly inquiry related to education, and promote the use of research to improve education and serve the public good. The scientists and scholars in this interdisciplinary field consider fundamental problems that relate to education across the life span and contexts of learning. Researchers consider all aspects of education from the processes of teaching and learning, curriculum development, and the social organization of schools and educational institutions to the effects of education on cognitive and social capacity, human development, workforce preparedness, and health and at-risk behaviors. AERA embraces the role of improving the nation's education research capacity by promoting application of scientific standards, and by providing training programs, research and mentoring fellowships, and seminars on advanced methodological and statistical techniques. AERA publishes seven peer reviewed journals, issues Standards for Reporting on Empirical Social Science Research in AERA Publications, promotes the highest standards for research integrity through its Code of Ethics, and produces (in collaboration with the American Psychological Association and the National Council on

Measurement in Education) the *Standards for Educational and Psychological Testing*. AERA has 12 research divisions, including in Postsecondary Education and Measurement and Research Methodology.

The **American Anthropological Association (AAA)** is the world's largest association for professional anthropologists, with over 10,000 members. Founded in 1902, AAA covers archaeology, biological, cultural, and linguistic anthropology. 75% of members are employed in higher education or are students, and 25% of members work in the public, private, and non-governmental sectors. AAA publishes 22 journals, offers career planning and professional development services, supports university departments, awards several prizes and fellowships, sponsors summer internships, a summer field school, and stages research conferences in the Fall and Spring each year. AAA has a public education initiative that highlights the contributions made by anthropological research to important and enduring topics such as race and migration. The Association belongs to a number of inter-organizational collaborations, including the World Council of Anthropological Associations, the International Union of Anthropological and Ethnological Sciences, the Consortium of Social Science Associations, the National Humanities Alliance, and the American Council of Learned Societies.

The **American Association for the Advancement of Science (AAAS)**, founded in 1848, is the world's largest general scientific society, representing 250 affiliated societies and academies of science, and serving 10 million individuals. AAAS fulfills its mis-

sion to “advance science and serve society” through initiatives in science policy; international programs; science education; public engagement; and publication of the journal *Science*. AAAS is committed to promoting the highest quality standards for the conduct of science and engineering. AAAS supports accurately presenting valid and reliable science in all matters (including by filing an *amicus* brief in *Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579 (1993)). Consonant with core scientific principles, AAAS maintains that any scientific claim should be regarded skeptically until it has been subject to rigorous peer scrutiny. AAAS also expects scientific studies to reflect intellectual honesty in reporting research. Furthermore, AAAS is strongly committed to broadening participation in science, technology, engineering, and mathematics (STEM); a board-appointed committee advises AAAS in working toward this goal.

Founded in 1903, the **American Political Science Association (APSA)** is the leading professional organization for the study of political science and serves more than 13,000 members in more than 80 countries. With a range of programs and services for individuals, departments, and institutions, APSA brings together political scientists from all fields of inquiry, regions, and occupational endeavors within and outside academe to deepen our understanding of politics, democracy, and citizenship throughout the world.

The **American Sociological Association (ASA)** is the national professional and scholarly association of sociologists in the United States. Founded in 1905, the Association is dedicated to advancing sociology as a scientific discipline and profession serving the pub-

lic good. With over 14,000 members, ASA encompasses sociologists who are faculty members at colleges and universities, researchers, practitioners, and students. Most sociologists holding doctoral degrees from accredited universities are ASA members. About 20 percent of ASA members pursue scientific careers in government, business, or non-profit organizations. ASA publishes nine leading peer-reviewed journals covering research in the discipline, including the *American Sociological Review*, *Sociology of Education*, and *Sociological Methodology*. Since 1967, ASA has had a dedicated scholarly section on sociology of education. In addition, since 1969, the Association has had a Code of Ethics adopted by the membership that specifies standards of scientific responsibility and integrity.

The **American Statistical Association (ASA)**, founded in 1839, is the world's largest community of statisticians. The ASA supports excellence in the development, application and dissemination of statistical science through meetings, publications, membership services, education, accreditation, and advocacy. Its members serve in industry, government, and academia in more than 90 countries.

Founded in 1976, the **Association for the Study of Higher Education (ASHE)** fosters scholarly inquiry of the highest standards of excellence for the purpose of increasing knowledge about and understanding of higher education. ASHE works to advance research and scholarly inquiry on all aspects of higher education, including teaching and learning, curriculum, students, faculty, organization, policy and social analysis, and finance. The Association's more than

2,000 members include faculty actively involved in research and teaching; policymakers and institutional leaders who contribute to framing, dissemination, and use of research; and researchers in training. The Association promotes the development of the next generation of higher education scholars, policymakers, and leaders committed to excellence, relevance, and impact in research, teaching, educational programming, and provision of equity in opportunities to learn. Through its annual conference and its peer-reviewed journals and report series, the Association advances research into key higher education issues.

Founded in 1964, the **Law and Society Association (LSA)** is dedicated to advancing knowledge about law, legal processes, and the interrelationship of law and social, political, economic, and cultural life. The Association promotes rigorous interdisciplinary social scientific research regarding how legal policy and practice affect individuals and institutions as well as how social and political forces shape law. LSA also encourages humanistic inquiry so important for shaping research questions and for interpreting the significance of empirical findings. Committed to scholarship of the highest standards, since 1966, the Association has published the *Law & Society Review* — a peer reviewed journal highly ranked both among social science and law journals. LSA currently includes approximately 1,400 members with training in law, sociology, political science, psychology, anthropology, economics, history, linguistics, literature, communication, and related fields; many members have dual J.D. and Ph.D. degrees. Nearly all members are employed in university and research institute settings.

Founded in 1924, the **Linguistic Society of America (LSA)** is the major professional society in the U.S. that is exclusively dedicated to the advancement of the scientific study of language. Language is a defining characteristic of the human species and impacts virtually all aspects of human experience. For this reason, linguists seek not only to discover properties of language in general and of languages in particular, but also strive to understand the interface of the phenomenon of language with culture, cognition, history, literature, and other fields of scholarship. The LSA plays a critical role in supporting and disseminating linguistic scholarship, as well as facilitating the application of current research to scientific, educational, and social issues concerning language. With over 4,000 members, the LSA speaks on behalf of the field of linguistics and also serves as an advocate for sound educational and public policies that affect all segments of society.

The **National Academy of Engineering (NAE)** is a non-profit, private organization that was created in 1964 under the Congressional charter of the National Academy of Sciences. NAE has over 2,000 peer-elected members and foreign associates; election to membership is considered one of the highest professional honors that an engineer can achieve. The members of NAE are leaders in business, academia, and government. In 1999, NAE began a “Diversity in Engineering” initiative whose mission is to increase the diversity of the U.S. engineering workforce by developing a strong domestic talent pool. The NAE has influenced the nature and content of engineering education through its Frontiers of Engineering Education symposia and its programs on undergraduate engineering education, K-12 engineering education,

and diversity in the engineering workforce that have resulted in numerous reports and resource websites such as EngineerGirl.org and LinkEngineering.org. The NAE believes that encouraging and sustaining a diverse population of engineers is one of the major challenges facing the profession and the nation today, and that the scientific evidence supports the conclusion that diversity in higher education is critical to creating and maintaining a diverse engineering workforce and leadership.