

BRIDGING THE RESEARCH TO PRACTICE GAP

Achieving Mission-Driven Diversity and Inclusion Goals

A Review of Research Findings and Policy Implications
for Colleges and Universities



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Teresa E. Taylor, Jeffrey F. Milem, and Arthur L. Coleman



EducationCounsel
Policy | Strategy | Law | Advocacy

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About the College Board's Access & Diversity Collaborative

Bridging the Research to Practice Gap was prepared on behalf of the College Board's Access & Diversity Collaborative by EducationCounsel LLC. Since its establishment in 2004, the Collaborative has established itself as the "go to" resources on policy, practice, legal and strategic guidance to colleges, universities, and state systems of higher education to support their independent development of their mission-based diversity goals and their strategies to achieve them. Building on the success of its first decade, the Collaborative seeks to serve as a resource for pragmatic policy and practice guidance and a convenor for thought leadership and collaborative engagement on policy and practice development.

The Collaborative is sponsored by a dozen national higher education organizations and a diverse group of more than 40 public and private colleges and universities. For more information on the Collaborative, please contact Brad Quin (bquin@collegeboard.org) and visit the ADC website: <http://diversitycollaborative.collegeboard.org/>.

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Introduction

Enrolling and educating a diverse student population is a fundamental interest for many institutions throughout the United States. But, as state and federal developments illustrate, this interest can raise questions from the public and the courts that institutions must be prepared to address. The good news is that institutions have a variety of sources to guide their efforts and address these questions, including decades' worth of research studies.

Research and evaluation are essential to help institutions define their diversity-related goals, identify optimal strategies to achieve them, and assess impact over time.¹ A strong research foundation can provide more effective and efficient allocation of scarce resources, more confidence in educational judgments, and – for those institutions that pursue “race-conscious” policies – the evidence required by the courts as justification of the need to consider race.

Though empirical foundations have always been relevant to institutional decisions and legal evaluations of those decisions, *Fisher v. University of Texas at Austin* underscored their importance as the U.S. Supreme Court has continued to emphasize the need for evidence-based justifications for race-conscious institutional practices. Two issues have gained special attention: (1) the relationship between the necessity of race-conscious practices and the availability and effectiveness of race-neutral alternatives; and (2) the relationship between the race-conscious practices and their impact on the achievement of diversity-based educational goals. Only with strong research foundations will institutions be able to address these issues effectively, something that the research community has also noted.²

The challenge today is to learn from and leverage existing research, translating general findings to specific contexts and for different audiences. That effort can help ensure that an institution's mission-driven diversity and inclusion goals are clearly defined, effectively pursued, and legally permissible.

With a special (though not exclusive) focus on racial and ethnic diversity, this paper is intended to support those efforts by:

- 1. Surveying the current research landscape related to student diversity in higher education for areas of strength and areas in need of further exploration;**
- 2. Suggesting prospective research directions that may inform action within individual institutions and in the broader higher education community; and**
- 3. Identifying policy and practice implications for institutions in a shifting political and legal landscape.**

This paper is focused on assisting individual colleges and universities as they work to enhance their own research efforts, informed by the broader landscape of common principles and interests at play in the broad higher education community. Broad-based findings are often an important starting point for institutional action. For example, a well-established line of research that diversity can have a positive impact on teaching and learning, on students' skills development and civic participation, and on the American workforce as a whole³ was the foundation for the U.S. Supreme Court's 2003 endorsement of the fact that the educational benefits of diversity are “substantial” and “real.”⁴ At the same time, moving forward, *actionable* studies on access, diversity, and inclusion are particularly needed to shape practitioners' efforts on the ground and inform national and institutional decision making.

However, common baselines do not translate into one-size-fits-all solutions. (And general findings alone are unlikely to be enough in most legal settings, in part because context can affect how the benefits of diversity play out.⁵) America is home to more than 6,000 unique institutions, and the strategies employed to achieve access, diversity, and inclusion goals can reflect that. More must be done to design research studies that contextualize findings and provide guidance on how those findings may be applied or extended to other settings.

Although this is not an easy task, it is also not impossible. As this paper's conclusion emphasizes, alignment across institutional programs, functions, and offices can establish important foundations for creating the greatest potential for achieving diversity goals, with important educational, management, and cost benefits.

Research encompasses many methods and approaches, ranging from rigorous peer reviewed quantitative and qualitative studies to more informal documentation of experiences and interactions (and everything between). Case studies; student, faculty, administrator, and alumni surveys and interviews; and analyses of data developments and trends are a few of the types of research efforts that can be informative. The multidisciplinary nature of the research agenda requires the contributions of many stakeholders, including researchers, practitioners, legal counsel, and institutional leaders, to ensure that studies are designed, carried out, and shared in a manner that has the greatest possible impact on institutional practices. We hope that this paper can play a role in invigorating those efforts.

This paper is divided into 3 sections:

- Section I describes its development.
- Section II – the heart of the paper – reviews the current research landscape, organized under a common planning framework of goals, objectives, enrollment strategies, and curricular/co-curricular strategies on campus. Each subsection ends with recommendations for institutional action.
- Section III focuses on alignment across programs and policies to create a coherent, effective institutional strategy to achieve its goals.

Throughout Sections II and III, we offer recommendations for policy, practice, and research. Detailed endnotes support each section.

Section I: This Paper's Development Process

The development of this paper involved several years of research and analysis, complemented by extensive engagement with higher education leaders and practitioners, researchers, and legal counsel on policy and legal issues related to access and diversity in higher education.

At its core, this paper was shaped by a comprehensive literature review of more than 1,000 sources to assess the overall state of the field, identify areas of strength, and develop a clearer understanding of the gaps and needed next steps. The review was oriented around the immediate “real world” questions that institutions of higher education face and related issues inherent in the pursuit of the educational benefits of diversity. We, therefore, focused on studies that had been used or recommended by a range of experts and stakeholders. For example, we reviewed all studies cited in the 92 amicus briefs filed in the U.S. Supreme Court's first hearing of *Fisher v. University of Texas at Austin*; studies cited in relevant published literature reviews; and studies recommended by researchers with demonstrated expertise in the study of the educational benefits of diversity. We also paid close attention to new studies published from 2014 to early 2016 that presented promising foundations for institutional action. During our review, we disregarded articles that represented solely secondary research, only provided commentary, focused on how to conduct research, lacked an abstract, or were irrelevant to questions associated with the educational benefits of diversity.

To complement and inform that analysis, the College Board's Access and Diversity Collaborative (ADC) sought significant input from its organizational and institutional sponsors and other stakeholders to ensure that the information would be relevant and actionable.⁶

This paper identifies trends within this body of research and highlights studies that have particularly strong potential relevance for institutional policy and practice. We have based our conclusions on the strength and rigor of the research that was reviewed, and we have aimed to recommend only those action steps that are supported by available evidence. Where possible, we have distinguished findings that have a large body of research behind them from those that are based on a smaller but still promising number of studies. Some areas have received more research attention than others, and not every finding here has decades of work behind it.

At the same time, our review is not perfectly comprehensive, nor does it account for every article, book, or report published on this topic. It necessarily focuses on *published* studies and articles. Because institutions' own internal research efforts are often (appropriately) confidential, conclusions here are necessarily limited about the relative strength or weakness on particular points within the public, published diversity research landscape.

On a similar note, we emphasize that institutional leaders, practitioners, and researchers should take care to translate and adapt research findings to their unique contexts. Though published studies can and should inform how an institution defines and pursues diversity and seeks to reap its benefits, these findings may or may not play out in the same way in different settings. Connecting general findings to specific contexts is an essential step to building an effective – and legally sustainable – diversity strategy. In Justice O'Connor's words, “context matters.”

Finally, given institutions' need to meet legal obligations, this paper focuses in particular on research regarding race and ethnicity.

Section II: The Current Research Landscape

This section summarizes the current research landscape, including areas of strength and gaps within the body of published research on the educational benefits of diversity. It aims to inform current institutional discussions oriented toward the development of sustainable and effective diversity policies and practices as well as to identify actionable questions for a broader research agenda. It is organized under a common policy planning framework followed by many institutions of higher education. Discussion of each element begins with a text box that includes a summary of our findings, followed by a more detailed discussion of important research insights and areas for further exploration. The framework and our findings are:

A. Institutional goals related to the educational benefits of diversity

1. The educational benefits of diversity are well documented, most often in undergraduate settings.
2. Adverse effects associated with a lack of diversity – such as racial isolation or tokenism and stereotypes based on race, gender, income, or first-generation status – are also generally well documented.
3. Though all students can benefit from diversity, benefits may flow differently for different types of students. Different students require different types of experiences and supports to benefit from campus diversity.
4. More research is needed to examine how general conclusions about educational benefits of diversity play out in different institutional contexts, disciplines, and fields.

B. Defining and measuring success in achieving institutional goals

1. Adequate representation of different groups in the student body is a prerequisite for achieving the educational benefits of diversity but is not sufficient on its own.
2. A clear relationship exists between campus climate and achievement of goals associated with the educational benefits of diversity. Positive campus climate and opportunities that foster meaningful interactions inside and outside the classroom are research-based benchmarks.
3. Alumni and employer perspectives can confirm the importance of the educational benefits of diversity.
4. Determining sufficient numbers of students with diverse backgrounds and characteristics is inherently context-specific. What works at any one institution will depend on an array of many factors, such as mission, historical setting, student demographics, academic focus, and geographic reach.

C. Enrollment strategies

1. Each element of the enrollment process (outreach, recruitment, admission, financial aid/scholarships) can play an important role in achieving diversity goals.
2. Race-conscious enrollment practices – in concert with race-neutral efforts – have been shown to have a positive impact on obtaining a racially diverse class in certain settings. But these determinations are inherently institution- and context-specific.
3. Admissions can be an essential strategy for achieving diversity goals.
 - a. Individualized, holistic review is used by a variety of institutions and has been demonstrated to be effective in advancing diversity-related goals.
 - b. The relative success of “automatic” or “guaranteed” admission policies (i.e., “percent plans”) has been shown to depend heavily on context such as state demographics and segregated K-12 schools.

4. Research on the relationship between financial aid and scholarships and the achievement of diversity goals is limited, but significant research reflects the essential role financial aid plays in attracting and retaining low-income students.
5. Research on the relationship between outreach and recruitment and the achievement of diversity goals is growing, and some studies have demonstrated the effectiveness of certain recruitment strategies that may include a racial focus.
6. Strategies designed to attract low income and first-generation students may complement those focused on racial and ethnic minorities. That relationship, however, does not establish that those strategies are in all settings effective substitutes for race-conscious strategies. Again, context matters.

D. Strategies in and outside the classroom

1. Pedagogy and curricular offerings can be important strategies to achieve an institution's diversity goals. Opportunities for collaborative learning may be especially important, while negative classroom experiences for minority students may have a particularly significant negative impact on their overall attitude toward the campus.
2. Faculty members are essential partners in the achievement of diversity goals. They serve as "human bridges" between the student and the institution. Their classroom practices play an important role in creating and leveraging the benefits of diversity for learning and their perspectives can be important benchmarks for success. Having a diverse faculty can also be an important signal to students that diversity is an institutional priority.
3. Institutional housing policies and support for diverse peer groups can make a meaningful impact on the achievement of diversity goals.

Conclusion: Alignment across programs and policies

1. Alignment across institutional programs, functions, and offices creates the greatest potential for achieving diversity goals, with direct educational, management, and cost benefits.
2. A sustained effort with dedicated resources and common purpose can work toward alignment and help achieve institutional goals.

Overall, our review confirms that the body of research contains strong foundations for current institutional policy and practice, but deeper research and examination is needed to continue to improve existing efforts. Numerous studies verify that important benefits flow from diversity, including improved teaching and learning, skills development, and workforce preparedness, but more research is needed on how to identify and use specific benchmarks of success (e.g., critical mass and compositional diversity).

A. Institutional Goals Related to the Educational Benefits of Diversity

As described in this section, our review of published research reflects that:

1. **The educational benefits of diversity are well documented**, most often in undergraduate settings.
2. **Adverse effects associated with a lack of diversity – such as racial isolation or tokenism and stereotypes based on race, gender, income, or first-generation status – are also generally well documented.**
3. **Though all students can benefit from diversity, benefits may flow differently for different types of students.** Different students require different types of experiences and supports to benefit from campus diversity.
4. **More research is needed to examine how general conclusions about educational benefits of diversity play out in different institutional contexts, disciplines, and fields.**

A significant body of research confirms that the educational benefits of diversity are, as Justice O'Connor observed in *Grutter*, “substantial” and “real.”⁷ Hundreds of studies from our literature review verify that racially diverse environments and cross-racial interactions can have a positive impact on academic and intellectual development, on students' social-cognitive skills and personal development, civic involvement, and on our national workforce and economy.⁸ And many studies concluded that the diversity policy or practice being studied was effective in obtaining those benefits.⁹ Studies tend to focus on undergraduate contexts to demonstrate the educational benefits of diversity.¹⁰

Studies have underscored the importance of “campus climate,” defined as external forces (i.e., governmental policy, programs, and initiatives; sociohistorical forces) and institutional forces (i.e., historical legacy of inclusion or exclusion; structural diversity in terms of numerical and proportional representation of different groups; psychological climate, including perceptions and attitudes between and among groups; behavioral climate characterized by the nature of intergroup relations on campus).¹¹ Campus-wide benefits from a diverse class composition include the reduction of racial isolation and “racial balkanization” (when students divide into small, sometimes contentious, factions) as well as the reduction of “solo status” or tokenism among underrepresented minorities (where a solo or token minority individual is given undue attention that can lead to greater stereotyping by majority group members).¹² Conversely, insufficient representation can lead to perceptions of racial hostility and feelings of isolation among those students in the minority, eroding the campus climate, limiting participation, and hampering the learning environment for all students.¹³

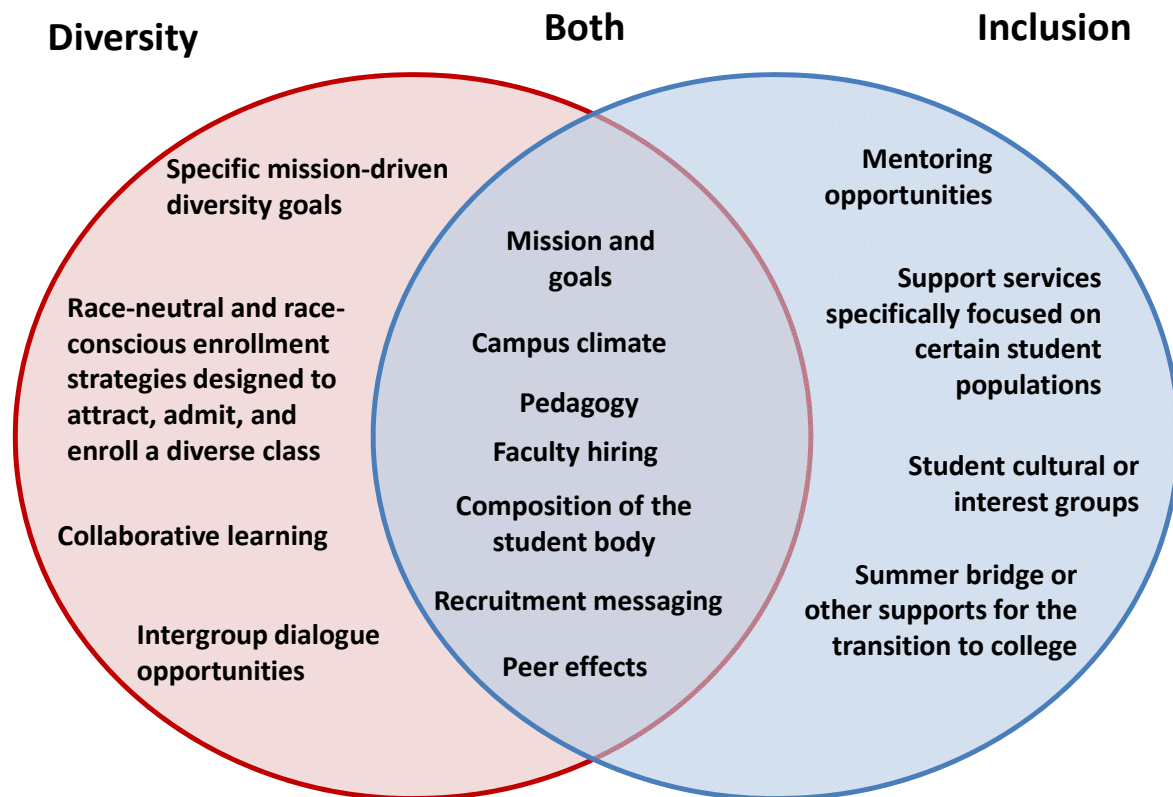
Studies have shown that by increasing the numbers of racial minority students, institutions can increase the frequency of cross-racial interactions among students and add value to the educational environment to enrich all students' learning.¹⁴ Studies have shown that institutions have better retention and co-curricular programs when students have stronger levels of comfort and sense of belonging.¹⁵ Sense of belonging, in particular, has been shown to promote “positive and or/ prosocial outcomes such as engagement, achievement, wellbeing, happiness, and optimal functioning” for a wide range of students, including Latino students, LGBT students, first-year students, students of color in STEM majors, African-American male students, graduate students, and students involved in campus clubs and organizations.¹⁶

Socioeconomic diversity is the focus of a growing body of research, with studies finding that low income and first generation students also face adverse effects from stereotypes and isolation and can benefit from more inclusive institutional policies and practices.¹⁷ For example, a 2015 study found that “students exposed to cues suggestive of an institution’s warmth toward socioeconomic diversity demonstrated greater academic efficacy, expectations, and implicit associations with high academic achievement compared with those exposed to cues indicating institutional chilliness.”¹⁸

It is important to note that the benefits of diversity do not necessarily flow to all students in the same way. Studies have shown, for example, that white students may benefit more from exposure to diverse ideas and information and exposure to diverse peers, but African-American students may benefit more from their interactions with diverse peers *and* exposure to close friends of their own race.¹⁹ Similarly, a study showed that a campus with numerical diversity may not be perceived that way by some minority groups, particularly by black students, which may inhibit cross-racial interaction.²⁰

Experiences in K-12 education can often play a significant role. Some studies have shown, for example, that Latino and Asian American students are more likely to arrive at college having already experienced diverse neighborhoods and learning environments, while white students are more likely to have attended K-12 schools with significant white majorities.²¹ Other studies have shown that, when white students lack interracial interaction in college, racially stigmatizing views that they developed before college can be reinforced.²²

Studies have shown that when mission and diversity goals are not linked with campus action, students can perceive that the message is “hollow talk” and that the institution has a weak commitment to diversity; as a result, the benefits of diversity may be diminished.²³ These findings show that institutions’ efforts should aim for twin goals: creating opportunities for students to interact in diverse groups *and* opportunities for students to feel included and welcome, both in and outside the classroom. It can be a significant challenge – and learning opportunity – to understand perspectives and experiences different than one’s own. Institutional policy and practice can facilitate students’ experiences by creating a climate and campus environment that welcomes difference and supports interactions across it. The graphic below shows some examples of the strategies described in this paper and how they may contribute on an institution’s diversity and/or inclusion efforts.



Most research that confirms the effectiveness of the educational benefits of diversity concerned undergraduate environments. Only a few studies today have focused on specific majors, disciplines, or fields of interest; science, technology, engineering, and math (STEM) fields may be especially ripe for study.²⁴ Graduate and professional schools also likely require additional attention, even though some important foundations have already been laid.²⁵ Research on medical schools, for example, has shown a connection between a diverse medical school class and better healthcare delivery to traditionally underserved communities.²⁶ Studies have shown both that minority and female doctors are more likely to serve needy populations of patients (a significant need in our health care system)²⁷ and that a diverse medical student body can lead to all medical students (particularly white students) feeling more prepared to serve diverse patient populations.²⁸



Policy recommendation

- **Clearly articulate the institution's unique, broad based diversity goals, with a direct connection to institutional mission and the research based benefits associated with student diversity.** At its core, an institutional mission statement should describe the contributions the institution seeks to make and the conditions and climate it needs to do so. As a foundation for policy coherence within complex institutional systems, a well developed mission statement should articulate well supported goals and the conditions that make those goals possible. Campus climate can be a helpful reference point, although likely inadequate alone. The mission statement should then be reflected in the policies and practices of different institutional units to align campus leaders, administrators, faculty, and other staff around a set of common goals that should be a guiding force in institutional action. In time, a strong mission statement that is both understood and acted upon can lead to significant institutional efficiencies and cost savings.



Research recommendation

- **Pursue studies using a variety of research methods that examine benefits of diversity in different learning environments, disciplines, schools, and institution types.** Most current studies that explore the interplay between diversity and its effects on students fall in two categories: (1) quantitative methodology, such as hierarchical linear and regression models and structural equation modeling (i.e., causal and quasi experimental methods); and (2) surveys and comparison of national longitudinal studies (i.e., descriptive methods). To enhance the research agenda, additional qualitative methods may enhance findings and create a more holistic understanding of direct and indirect educational outcomes. Possible methodologies include: campus case studies; long term observations; and in depth interviews with students, faculty, and administrators. These strategies may be especially helpful to understanding the outcomes of specific diversity policies and practices more deeply, including an examination of how quantitative findings play out in different contexts. Such efforts can provide a deeper, more holistic understanding of institution level impact that can lead directly to action.

B. Defining and Measuring Success in Achieving Institutional Goals

As described in this section, our review of published research reflects that:

1. **Adequate representation of different groups in the student body is a prerequisite for achieving the educational benefits of diversity but is not sufficient on its own.**
2. **A clear relationship exists between campus climate and achievement of goals associated with the educational benefits of diversity.** Positive campus climate and opportunities that foster meaningful interactions inside and outside the classroom are research-based benchmarks.
3. **Alumni and employer perspectives can confirm the importance of the educational benefits of diversity.**
4. **Determining sufficient numbers of students with diverse backgrounds and characteristics is inherently context-specific.** What works at any one institution will depend on an array of many factors, such as mission, historical setting, student demographics, academic focus, and geographic reach.

Research demonstrates that student population numbers alone are not sufficient to measure success in achieving the educational benefits of diversity on campus. Campus climate and alumni engagement are two other indicators that studies have shown to be helpful in gauging success. After all, studies confirm that the frequency and quality of interactions with diverse peers and others on campus matter most for obtaining the benefits of diversity.²⁹

Composition of the student body

Having a sufficient number of students that represent valued elements of diversity can be an important first step to ensure that the educational benefits of diversity can be realized on campuses. Studies have found that a greater number or percentage of different types of students on campus increases the likelihood that *all* students will be exposed to diverse people, ideas, and information.³⁰ For example, one study found that campuses with higher racial diversity can mitigate the tendency for students in fraternities and sororities not to have close interracial friendships.³¹

Studies have recommended that institutions include the composition of their student bodies as part of defining their mission and practices to ensure “greater levels of engagement in diversity-related activities.”³² This recommendation aligns with the U.S. Supreme Court’s instruction that an institution be able to describe what “critical mass” means in its unique context “by reference to the educational benefits that diversity is designed to produce.”³³ Critical mass is not a quota but a flexible range that constitutes sufficient diversity to achieve the institution’s mission-driven diversity goals.³⁴ It represents a “contextual benchmark” at which marginalization and isolation of minority groups decreases, full participation by all students is supported, and opportunities exist for all students to engage with those different than themselves.³⁵ In other words, where there is critical mass, the educational benefits of diversity may start to flow.

Research has recognized that individuals with multiple dimensions of diversity may have different experiences than those who represent a single minority identity. A line of studies on “intersectionality,” for example, found that individuals with multiple minority identities (e.g., low income white women, African-American women, Latino members of the LGBT community) at times can experience more

prejudice, discrimination, and other negative effects than those with a single minority identity.³⁶ At other times, these individuals may be less likely to be recognized or noticed in the community, which can help them avoid some negative discrimination but can also reduce the likelihood that they will rise to leadership positions or influence on the community as a whole.

Campus climate

Research has identified a relationship between the campus climate for diversity and retention. Based on its research findings, one leading study recommended that student affairs staff, academic affairs staff, and faculty members structure opportunities for students to build relationships with more diverse peers.³⁷

Studies have emphasized the importance of improving campus climate and fostering interracial interactions, particularly as enrollment patterns change and student demographics diversify.³⁸ Moreover, studies have shown a relationship between institutional context and students' college persistence and completion rates.³⁹ One study concluded that the combination of student characteristics and experiences and institutional structure and context, can strongly influence the retention and persistence of students⁴⁰ and can have a significant effect on the degree completion rates for students with diverse racial backgrounds.⁴¹ In addition, peer dropout and retention intentions have an impact on student retention and persistence.⁴²

The takeaway for institutions is relatively simple: the composition of the class and the institution's unique context (both across the institution and in different disciplines) both matter.

Note on Terminology

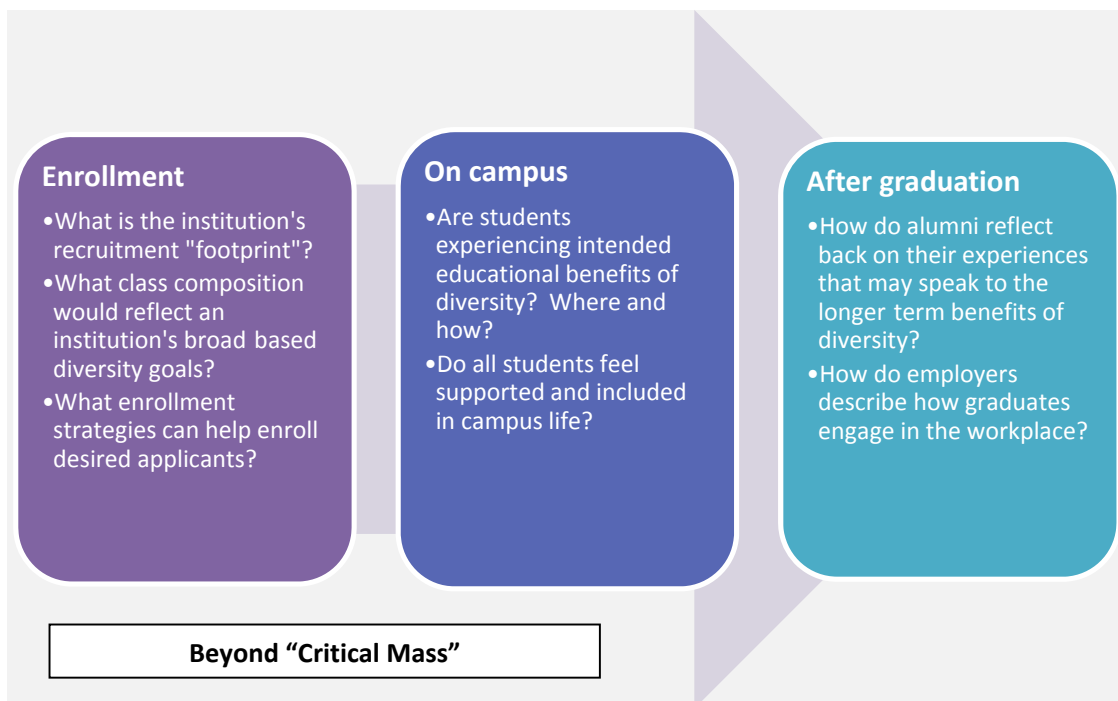
We have noticed a disconnect in the terminology that describes student body composition that may create confusion. Though segments of the educational community, along with the legal community, have relied on the term and concept "critical mass," education and social science researchers typically focus on a different but related concept: "compositional diversity," which describes the institutional and proportional representation of different racial and ethnic groups in light of campus climate and other unique factors of a particular campus setting. (A similar term – structural diversity – has fallen out of favor because it suggests a too rigid focus on basic population demographics on campus, to the exclusion of considerations of campus climate and other contextual factors.⁴³) Some business-focused or organizational researchers focus on "organizational diversity" to describe the diversity reflected in various functions of an organization; in the higher education context, functions include the curriculum, decision-making, budget allocations, rewards, hiring, admissions, and tenure, and other day-to-day business. To bridge the gap between differences in terminology and perspective, some researchers have suggested new terms, including "dynamic diversity," which focuses on the interactions among students within a particular context and under appropriate environmental conditions needed to realize the educational benefits of diversity.⁴⁴

Institutions should be deliberate in identifying benchmarks that indicate success on diversity goals. Two examples from institutions in Texas – both a result of the transparency required by legal action – illustrate how institutions may tailor their approach to creating benchmarks to their unique contexts.

- ◆ In response to a complaint to the U.S. Department of Education's Office for Civil Rights, Rice University defined critical mass in terms of its 11 residence halls, the center of students' academic, extra-curricular, and social lives on campus.⁴⁵ Students were randomly assigned to residence halls during their freshman year, and maintained membership throughout their

undergraduate years – whether or not they actually live in the hall. Rice could justify its consideration of race and ethnicity in its admissions process in part because it explained that it needed sufficient diversity in each residential hall to allow it to meet its diversity goals.⁴⁶ Each residential college was a "self-contained community" with its own dining hall, student government, club sports teams, budgets, traditions, social structures, and even unique classes for credit outside the normal departmental class schedule.⁴⁷ Without sufficient diversity among students ("racial, ethnic, and otherwise") in each college, Rice determined that it could not meet its institutional diversity goals.⁴⁸

- ◆ In the *Fisher* litigation, the University of Texas at Austin (UT) considered whether different classes on campus had sufficient diversity as an indicator of whether it had reached sufficient critical mass of African-American and Latino students.⁴⁹ This was important because the *Fisher* plaintiff alleged that UT did not need to consider race or ethnicity because its student population had reached approximately 20 percent combined black and Latino enrollment.⁵⁰ UT argued that the aggregate number alone was insufficient evidence and wanted to look deeper at whether and how different racial and ethnic groups actually interacted on campus. They cited an internal study of classrooms on campus – one important way that students from different backgrounds came together – that showed that sufficient diversity was not present in thousands of courses.⁵¹ As a result, UT readopted the consideration of race and ethnicity as part of the holistic, individualized admission process. (The lawfulness of its admission policy in this setting remains at issue, and is being re-examined by the U.S. Supreme Court in the 2015-16 term.)



Alumni and employer perspectives

Studies have confirmed that some benefits of diversity are not fully realized until after students graduate. A recent national study, for example, found that students who had interacted regularly with diverse peers in college were 2.2 times more likely to believe that their degree was worth the cost after graduation.⁵² And several employer surveys have found that the educational benefits of diversity – such

as improved critical thinking, collaboration, and teamwork – are valued characteristics for hiring recent college graduates.⁵³

Research recommendations



- **Examine the conditions and contexts that allow the educational benefits of diversity to flow, particularly those related to campus climate, student body composition, and opportunities to interact in diverse groups.** This is particularly important given the legal framework for race conscious policies that requires institutions to describe concretely their diversity goals and objectives – and the necessity of any race conscious means of achieving them. The research and higher education communities should also work to bridge the terminology gap so that all stakeholders can understand that they are working toward a similar goal: ensuring that student populations include sufficient diversity and deploying that diversity to allow the intended educational benefits to flow.
- **Examine how multiple elements of diversity, e.g., sexual orientation, point of view, religion, and socioeconomic background – possibly in conjunction with race, ethnicity, and gender – lead to educational benefits and improved outcomes.** Diversity is often defined broadly in institutional missions and policies to encompass many different characteristics, dispositions, and experiences. (And, indeed, both the Supreme Court and, in many academic institutions, faculty and administration, recognize a broad definition of diversity – talent, geographic, experiential, socio economic, and many other qualities, including, but not limited to gender, race and ethnicity – as being critical to creating a robust academic environment.)



Policy recommendation

- **Concretely describe what success on diversity goals looks like.**

Questions about improvement or success usually begin with an examination of “how much” diversity is necessary to achieve goals and what aspects of broad diversity are missing or inadequately represented. Institutions should work to define what compositional diversity or critical mass means in their own contexts, even as they recognize that numbers alone are not the answer – and that “success” will involve a highly contextualized judgment about success in the classroom and beyond. Geographic location, institutional characteristics, and enrollment patterns can all have a significant impact, and an institution should not rely solely on studies based on settings with significant differences from their own contexts.



Practice recommendation

- **Identify measures to track progress on goals and interdisciplinary teams to gather, interpret, and act on.** Quantitative and qualitative measures to consider include:

- Enrollment, persistence, retention, and completion patterns for all students and sub groups
- Compositional diversity institution wide and in different disciplines
- Data on the quantity and quality of engagement students have across communities of difference (e.g., campus climate surveys)
- Reported incidents of discrimination, harassment, or other intolerance on campus
- Engagement with students within underrepresented groups on campus to understand whether they experience racial isolation or tokenism on campus and, if so, in what settings
- Alumni and employer surveys that measure longer term benefits of diversity in communities and in the workplace

- **Engage with faculty to track and interpret indicators.** Graduate students may also be helpful partners.

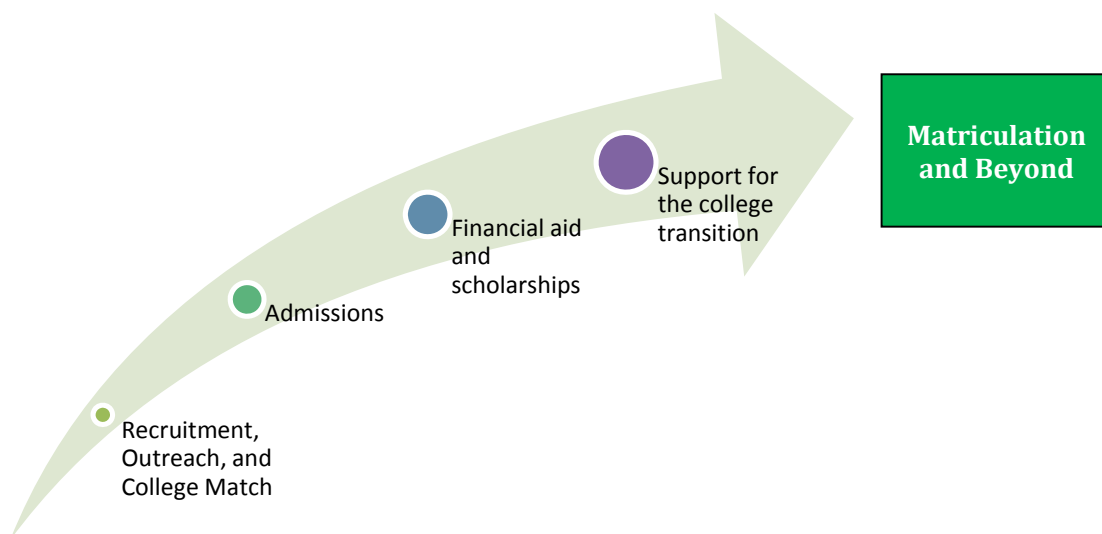
C. Enrollment Strategies

As described in this section, our review of published research reflects that:

- 1. Each element of the enrollment process (outreach, recruitment, admission, financial aid/scholarships) can play an important role in achieving diversity goals.**
- 2. Race-conscious enrollment practices – in concert with race-neutral efforts – have been shown to have a positive impact on obtaining a racially diverse class in certain settings.** These determinations are inherently institution- and context-specific.
- 3. Admissions can be an essential strategy for achieving diversity goals.**
 - a. Individualized, holistic review is used by a variety of institutions and has been demonstrated to be effective in advancing diversity-related goals.
 - b. The relative success of “automatic” or “guaranteed” admission policies (i.e., “percent plans”) has been shown to depend on context such as state demographics and segregated K-12 schools.
- 4. Research on the relationship between financial aid and scholarships and the achievement of diversity goals is limited, but significant research reflects the essential role financial aid plays in attracting and retaining low-income students.**
- 5. Research on the relationship between outreach and recruitment and the achievement of diversity goals is growing, and some studies have demonstrated the effectiveness of certain recruitment strategies that may include a racial focus.**
- 6. Strategies designed to attract low income and first-generation students may complement those focused on racial and ethnic minorities.** That relationship, however, does not establish that those strategies are in all settings effective substitutes for race-conscious strategies. Again, context matters.

Though most published studies have focused on admissions, studies have shown that tying diversity goals to other enrollment practices can improve and increase underrepresented minority students’ access to selective institutions’ admission processes and likelihood of enrollment.⁵⁴ This aligns with the move that many institutions have made to “enrollment management” systems that connect recruitment and outreach, admission, and financial and scholarship activities through aligned goals and thoughtful staffing structures.⁵⁵

Research on enrollment can clarify sometimes misunderstood institutional practices. For example, a 2015 study found that “institutions that consider race in admissions decisions use other race-conscious and race-neutral diversity strategies more often and find them more effective than institutions that use race-neutral strategies alone.”⁵⁶ And it found that the most widely-used strategies (e.g., targeted recruitment and outreach) receive little media and research attention, while little-used strategies tend to receive significant media and research attention (e.g., reducing legacy emphasis, test-optional policies, and percent plans).⁵⁷



Recruitment, outreach, and college match

Though relatively few diversity-related research articles focus on recruitment and outreach, such studies have found a strong link between recruitment, outreach, and retention practices, particularly in the science, technology, engineering, and mathematics (STEM) fields.⁵⁸ A recurring theme in these studies is that targeted recruitment and outreach can lead to better retention and graduation rates for female and minority students.⁵⁹

Research has shown that many low-income students – even those that have strong grades and test scores – are less likely to apply to competitive institutions.⁶⁰ One study of national data found that 41 percent of all high school students academically “undermatch” in their postsecondary enrollment choices, which occurs “when a student’s academic credentials permit them access to a college or university that is more selective than the postsecondary alternative they actually choose.”⁶¹ Studies in response to this trend have shown that relatively small investments can significantly increase application and enrollment rates of high-achieving, low-income students. For example, one study sent mailings to high-achieving, low-income students with information about college applications, including guidance on application strategies, semi-customized net price information on five colleges, and eight “no-paperwork” application fee waivers.⁶² The results showed that investment in these materials (which cost about \$6 per student) led to a substantial increase in participating students’ applications to selective colleges and, the number of students who enrolled in a college that was equal to their own academic achievement.⁶³

These efforts are particularly important given findings that the likelihood of graduation for underrepresented students increases as institutional selectivity rises.⁶⁴ For example, two studies of state higher education systems found that outcomes for substantially similar students can be significantly affected by the type of institution of attendance:

- ◆ A study of the University of California system (made up of three highly selective and five moderately selective four-year campuses) compared students admitted by traditional admissions with those admitted through the Guaranteed Transfer Option (which allows guaranteed admission to a specific campus conditional on successful completion of lower-level requirements at a California Community College).⁶⁵ Students accumulated more credits when

they attended a less demanding institution *but* did not earn higher grades, were no more or less likely to drop out of a school where they were “overmatched,” and were less likely to drop out at a more selective institution than if they had attended a less demanding institution.⁶⁶

- ◆ A study of SAT-takers in Georgia – where minimum SAT scores are required for admission to four-year state institutions – found that, for relatively low-skilled students just above and below the minimum admission threshold, access to four-year public colleges substantially increases bachelor’s degree completion rates, particularly for low-income students.⁶⁷

In response, higher education organizations and institutions have undertaken their own efforts to reach more high-achieving, low-income students. The College Board now sends out application fee waivers, scholarship information, and other college match materials to students in the top 10-15 percent of their high school classes and the bottom third of income distribution.⁶⁸ The University of Michigan sends out vouchers and application guidance to high-achieving, low-income Michigan students; if admitted, these students can receive four years of free tuition.⁶⁹ After the first year of these efforts (and others such as improving Michigan’s yield of admitted applicants), the number of African-American and Latino freshmen rose a combined 23.5 percent, with black enrollment gaining the most (from 3.84 to 5.11 of the total admitted class) – a small (just 58 African-American students) but visible change.⁷⁰ Other programs designed to enhance college match are also showing promising results, including the Posse Foundation,⁷¹ College Advising Corps,⁷² Bottom Line,⁷³ and the Gates Millennium Scholars Program.⁷⁴

There is a competing theory that underrepresented students may be in danger of “mismatching” with an institution as a result of holistic review in admissions or other policies aimed at increasing minority student enrollment (e.g., admission practices designed to enroll a diverse population of students may have the negative effect of admitting students who are not academically qualified to succeed at selective institutions).⁷⁵ But many studies have explicitly called mismatch theory into question, even finding that the opposite effect can occur (as described above).⁷⁶

Admissions

For the last few decades, higher education admissions has been the most common subject for the broader conversation about diversity and higher education in research, law, and the broader public. This is not surprising, as admissions policies have been the focus of every Supreme Court case (and several lower court cases) on the subject of race-conscious practices since the 1970s⁷⁷ – and institutions involved in these suits have tended to receive significant attention from the research community.⁷⁸ Research has confirmed that the use of race and ethnicity in the admission process can be an important tool for institutions to use to achieve their diversity goals because it lays a foundation for interracial interactions and campus climate.⁷⁹ At the same time, however, models that promote the use of other factors such as socio-economic status (SES) have also had success at increasing campus diversity, though that diversity is usually more related to income than race and ethnicity.⁸⁰ As one study concluded, “both socioeconomic and racial diversity are essential to promoting a positive campus racial climate [and] racial and socioeconomic diversity, while interrelated, are not interchangeable.”⁸¹

Most selective institutions use holistic review as the organizing philosophy and structure for their admission programs, particularly for undergraduate institutions, law schools, and medical schools.⁸² (Graduate program admissions are much more decentralized and tend to be dependent on academic departments, though holistic review is increasingly of interest in these contexts, too.⁸³) Holistic review is a flexible framework that allows for the institution-specific consideration of a range of intersecting

factors to make individualized admissions decisions and build the class as a whole to meet institutional goals.⁸⁴

A small but prominent line of research has shown that holistic review can be effective in creating a robustly diverse academic environment, including but not limited to racial minorities. A 2015 study of enrollment practices showed that 76 percent of all participating institutions and 92 percent of more selective institutions reported using holistic review.⁸⁵ About two-thirds of those that reported using holistic review found it to be effective, making it one of the most commonly used and most commonly seen as effective enrollment strategies that institutions use to work toward their diversity-related goals.⁸⁶ A 2014 survey of medical, dentistry, and nursing programs found that 67 percent of surveyed programs used holistic review and, of those programs, a majority saw an increase in student diversity.⁸⁷

A forthcoming study found that the quality of information provided about an applicant and his or her background and context can have an effect on admissions decisions. Specifically, “[a]dmissions officers were more likely to admit a low-[socio-economic status] student when higher-quality information was provided about the high school context, even though the lower-quality information still conveyed substantial differences in applicants’ high schools and parental education. This effect was independent of the demographic background of the admissions officers, the amount of professional experience in admissions, and the selectivity of the institution.”⁸⁸ These findings suggest that efforts to make high school information more objective and standardized for all students may help diversify admitted classes of undergraduate students, particularly for low income applicants.

Beyond holistic review, special attention has been paid to “automatic” or “guaranteed” admission plans adopted through state law and applicable to state universities in Texas, Florida, and California.

- ◆ The University of California (UC) system adopted statewide and local percent plans. The local path, “Eligibility in the Local Context” (ELC), has had limited success in increasing diversity in the UC system due to significant competition for limited space. Although many California applicants qualify under the top nine percent ELC standard, UC campuses cannot accommodate all of them, particularly the most competitive campuses, such as UC – Berkeley and UCLA.⁸⁹
- ◆ Florida's percent plan, “The Talented Twenty,” guarantees admission at one of eleven state public institutions to students who rank in the top twenty percent of their high school classes. Studies have shown that white and Asian students are “disproportionately eligible;” that the program had a small impact in increasing eligibility for admission for underrepresented students; and that the increases in diversity at the state's most competitive public institutions (the University of Florida and Florida State University) was likely due to increased outreach and recruitment rather than to the Talented Twenty program.⁹⁰
- ◆ As the subject of the *Fisher* litigation, the University of Texas at Austin (UT) has received especially strong research attention. Under Texas’ “Top Ten Percent Plan,” automatic admission to state-funded Texas institutions is available to any Texas high school student ranking at the top of his or her graduating class (the actual percentile has decreased to seven or eight percent at UT due to increasing demand for slots).⁹¹ Research has found that the Top Ten Percent Plan has promoted a diverse student body at UT (though not in all disciplines), but the reasons for that may not be directly tied to the Plan itself. Studies have shown that the increase in campus diversity may be better attributed to the state's demographics and high levels of racial segregation rather than the Plan on its own; since 2009, white students have made up less than half of high school graduates in Texas.⁹²

These institutions are competitive state flagship universities that serve a significant population of students and that have been the subject of significant public and legal attention, so the research focus on these states is understandable. But state automatic admission programs are, as the Fifth Circuit Court of Appeals recognized in 2014, a “unique creature” that may “offer no template for others” in different circumstances.⁹³ (Indeed, a 2015 study of institutional practices within different sectors and contexts found that percent plans were the least commonly used strategy to attain diversity goals, with just 13 percent of responding institutions reporting that they used them.⁹⁴)

Finally, several have examined the impact of state bans on the consideration of race on public institutional enrollment patterns. Many concluded that these bans led to decreased minority enrollment, in part because they had a discouraging effect on both application rates and enrollment rates of underrepresented minority students.⁹⁵ One recent study went beyond initial undergraduate enrollment to examine longer term effects and found that the enrollment of students of color decreased by about 12.2 percent in graduate programs as a result of bans in Texas, California, Washington, and Florida.⁹⁶ These findings suggest that in some contexts, race-neutral strategies alone do not produce the same type of student diversity as race-conscious strategies.⁹⁷

Other studies of public institutions in states with bans (Arizona, California, Florida, Georgia, Michigan, Nebraska, New Hampshire, Texas, and Washington) have found that many regained at least some minority student enrollment over time due to better designed race-neutral strategies, including a greater focus on low income applicants.⁹⁸ One recent study of race-neutral methods, for example, found that Latino enrollment was regained at all institutions but the highly selective University of California - Berkeley and University of Michigan and that African-American enrollment was regained at all but the University of California – Berkeley, University of California – Los Angeles, University of New Hampshire, and University of Michigan.⁹⁹

Scholarships and financial aid

Research on scholarships and financial aid has grown significantly over the last two decades, with a focus on the effects of financial aid on student persistence. But there appear to be inconsistencies in conclusions between studies (even using the same data sets) and as well as gaps in available research (e.g., the effects of financial aid on graduation, the effects of financial aid for students at two-year institutions, the effects of loan debt on persistence and graduation, the effects of merit aid, and the impact of student self-selection or likelihood to apply for aid).¹⁰⁰

Some studies have shown that the effect of financial aid depends both on student need and on specific institutional conditions. For example, one study found that, on average, a \$1,000 increase in grant or scholarship funds for low-income students results in a two to four percent increase in student retention.¹⁰¹ The study's authors hypothesized that, because this effect is relatively small but the cost is high, better targeted financial aid or more cost effective financial aid may be needed to ensure the highest return on additional investment in these programs.¹⁰² In response to this hypothesis, a study of Louisiana's public statewide and regional four-year institutions (excluding the state flagship) found that increasing the amount of need met with grants/scholarships from less than 30 percent to 55-60 percent corresponded to a 26 percent increase in the retention rate; on the other hand, increasing the percentage from 55-60 percent to 70-80 percent increases retention by only four percent.¹⁰³

Research has also shown that the burden for paying for higher education is disproportionately felt by low-income, historically underrepresented, and minority students.¹⁰⁴ A recent study examined the influence of increasing tuition on the enrollment patterns of diverse groups of students and the impact

on the racial and ethnic composition of student bodies at four-year public institutions.¹⁰⁵ It found that, as tuition increases by \$1,000 for full-time, undergraduate courses at nonselective public institutions, campus racial and ethnic diverse enrollment fell by almost six percent.¹⁰⁶

Though federal grants are directed to alleviate the costs of college, they have not kept pace with rising college costs.¹⁰⁷ Further, state merit aid tends to be awarded disproportionately to white, upper-income students.¹⁰⁸ Among undergraduate students enrolled full-time/full-year in Bachelor's degree programs at four-year colleges and universities, white students receive 76 percent of all institutional merit-based scholarship and grant funding and are 40 percent more likely to win private scholarships than minority students; minority students represent about a third of applicants but slightly more than a quarter of private scholarship recipients.¹⁰⁹

The underlying challenge of financial aid and scholarship programs usually comes down to limited funding. Need-based programs such as the University of Florida's Machen Opportunity Scholarship Program have had positive ancillary effects on increasing racial diversity on campus, but the effects are necessarily limited due to the inability to accommodate all potentially eligible students with currently available funding.¹¹⁰

Private scholarship opportunities can be important supplements to public funds. One of the most prominent, the Gates Millennium Scholars (GMS), provides about 1000 "last dollar" awards (intended to cover the gap between tuition and the real cost of college attendance) to minority students who are Pell Grant eligible and have demonstrated high academic achievement, a commitment to community service, and exceptional leadership potential. GMS awards are renewable for up to ten years, providing support through undergraduate and graduate school. A review of the impact of GMS on outcomes found that, despite some differences among cohorts and subgroups, recipients were more likely than non-recipients to be academically on-track (graduated or still enrolled in undergraduate program); to be enrolled in graduate school or other post-baccalaureate program; and to aspire to obtain a post-baccalaureate degree.¹¹¹

Another leading private scholarship program, the Michael and Susan Dell Foundation Dell Scholars Program, each year provides 300 mostly first generation students with financial support (\$20,000 over six years), a laptop and textbook credits, and individualized advising throughout college (including mentoring and access to a private networking group). A study of its impact found that, though being named a Dell Scholar had no impact on students' initial decision to enroll or on early college persistence, Dell Scholars at the margin of eligibility were significantly more likely to earn a bachelor's degree within six years (a nearly 25 percent or greater increase in bachelor's attainment).¹¹² Though high cost, the study found that the program's benefits – both in the enhanced earnings of recipients and their tax payments – outweigh the program's costs after 12 years of post-college earnings.¹¹³

Support for the college transition

Many institutions offer opportunities for students to come to campus to study and experience campus life before freshman year begins. Summer "bridge" programs – usually intended to help incoming freshmen acclimate to the college environment – have received some research attention but studies have raised questions about the lack of research-based assessments to determine the actual impact of summer bridge programs.¹¹⁴ One recent longitudinal study of a University of Arizona bridge program focused mostly on minority, first generation, and low-income students found a significant, positive correlation between participation in the bridge program and first-year retention; after controlling for entering student characteristics, the study also found a correlation between program participation and

second-year retention.¹¹⁵ And the Meyerhoff Scholars Program at the University of Maryland Baltimore County (UMBC) has provided financial assistance, mentoring, advising, and research experience to undergraduate students committed to obtaining Ph.D. degrees in science, technology, engineering, and math (STEM) fields. Several studies have shown that it increased diversity in STEM fields at UMBC, provided multiple supports and opportunities to participating students, and consistently produced strong student outcomes.¹¹⁶



Practice recommendation

- **Design and evaluate enrollment strategies with specific attention to diversity goals (recognizing that other institutional goals will also come into play).** Even well developed enrollment processes have not always been examined to probe what policies and practices are working and why. Enrollment leaders and institutional researchers may consider the following:
- Running projections to see how different combinations of admissions factors and/or financial aid policies may change results
- Examining admission rates and yields for different student sub groups and cross referencing with students' experiences with different enrollment practices
- Surveying stakeholder groups (e.g., students, high school counselors, faculty, alumni, and employers)
- Comparing historical admission policies with current policies to explore how changes over time may have impacted admission and enrollment patterns and the diversity of the admitted class
- Identifying retention and completion benchmarks for success for different populations of students and examining the impact of different strategies on meeting those benchmarks



Research Recommendation

- **Focus new research efforts on common enrollment strategies, particularly holistic review.** Recent studies have shown that the most researched enrollment strategies automatic or guaranteed state admissions plans are the least common. Holistic review may be particularly ripe for additional study, given the frequency of use and relatively small research base on how to make it as effective at achieving institutional goals as possible. Researchers may be particularly important partners for institutions at this time given the many new initiatives to make holistic review processes even more inclusive and nuanced by examining student portfolios of work throughout high school, encouraging students to demonstrate concern for others and community service, and offering students new application formats to reflect their unique talents and perspectives (e.g., videos).

D. Strategies In and Outside the Classroom

As described in this section, our review of published research reflects that:

1. **Pedagogy and curricular offerings can be important strategies to achieve an institution's diversity goals.** Opportunities for collaborative learning may be especially important, while negative classroom experiences for minority students may have a particularly significant negative impact on their overall attitude toward the campus.
2. **Faculty members are essential partners in the achievement of diversity goals.** They serve as "human bridges" between the student and the institution. Their classroom practices play an important role in creating and leveraging the benefits of diversity for learning and their perspectives can be important benchmarks for success. Having a diverse faculty can also be an important signal to students that diversity is an institutional priority.
3. **Institutional housing policies and support for diverse peer groups can make a meaningful impact on the achievement of diversity goals.**

While a diverse student body can lead to interactions with peers who hold different views of the world, studies have consistently shown that the mere presence of minorities and co-existence of diverse groups is not enough; what matters most is what an institution does with its diverse student population.¹¹⁷ Curriculum and course offerings, faculty engagement, mentoring, and student peer and affinity groups can all play a role.¹¹⁸ And, as one leading study has found, many institutional actions related to curricular and co-curricular programs can contribute to the achievement of institutional goals, including developing retention and support programs on campus; engaging students in institutional history; and creating safe cultural spaces.¹¹⁹

Pedagogy and curricular offerings

Research confirms that pedagogy and curricular offerings can be an important reflection of institutional mission and values, including in diversity. And respect for diverse talents and ways of learning has been included as a best practice in undergraduate education for decades.¹²⁰

As one study observed, a lack of diverse perspectives in an institution's curriculum can contribute to a "campus climate of exclusion," especially if the composition of the student body is diverse. Aligning faculty development and rewards to promote pedagogical practices and curricular offerings that support the institution's diversity and inclusion goals has been suggested by many researchers as a potentially highly effective strategy.¹²¹

Research on collaborative learning has found that it can improve the racial climate in the classroom and allow for greater educational benefits to flow as students' preconceptions are challenged and communication across groups takes place.¹²² One study even found that collaborative learning had the highest effect on college students' openness to diversity.¹²³

Studies have identified diversity and global learning (i.e., courses that help students explore cultures, life experiences, and worldviews different from their own) as "high-impact educational practices," research-backed educational practices that are correlated with positive educational results for students.¹²⁴ Other high-impact practices include learning communities, service learning, study abroad, student-faculty research, and senior culminating experience.¹²⁵ Studies have shown that students who engage in these

practices earn higher grades in the first year of college and are more likely to be retained in the second year – an effect that is even greater for students of color.¹²⁶ But, despite the evidence of these practices' benefits, research suggests that they are not being practiced frequently enough on college campuses; also, first-generation and African-American students have been shown to be less likely than other peers to participate.¹²⁷

Research has also shown that negative classroom experiences can be a barrier to the achievement of institutional diversity and inclusion goals. Studies have shown that while minority students can be resilient and bear some prejudice before feeling alienated, this resiliency does *not* apply when students experience prejudice or discrimination in the classroom.¹²⁸ Multiple studies have found that negative experiences in the classroom can spill over into minority students' overall perceptions of inclusiveness on campus.¹²⁹

Supported by a strong research base, institutions are increasingly turning to opportunities to engage in structured dialogue outside the classroom as well.¹³⁰ Many studies of intergroup relations or "intergroup dialogue" (IGD) programs that create environments for diverse groups of students to interact and engage in structured communication have shown that, through cognitive dissonance these programs can create better intergroup understanding, can increase students' positive intergroup relationships, and can increase participants' motivation to be active in their communities after college.¹³¹ Studies also caution that poorly trained facilitators can prevent participants from experiencing the benefits of IGD (in fact, poorly trained facilitators can have a negative impact on participants' attitudes toward diversity and inclusion).¹³²

Faculty engagement and hiring

Including faculty, staff, administrators, trustees and alumni in diversity efforts is an essential institutional strategy.¹³³ Faculty members' perceptions of campus climate may be important benchmarks to address the effectiveness of diversity and inclusion strategies – *and* faculty members should be aware of how their instructional and classroom efforts contribute to the achievement of diversity goals.¹³⁴ Programs that encourage a mentoring relationship between students and faculty have been shown to have an important impact on student experiences and outcomes.¹³⁵

Having faculty members from underrepresented groups on campus can provide students another opportunity for frequent and quality interactions, which have been found beneficial for students' development and outcomes,¹³⁶ including better student recruitment and retention strategies, increased interracial interactions, and improved teaching and learning practices.¹³⁷ After all, "Students are painfully aware when there is discrepancy in diversity between the faculty and student bodies on their campus, and failure to actively and publicly pursue a more diverse faculty sends a message of insincere commitment to diversity. In this way, faculty diversity initiatives are not only important in their own right . . . but they also serve to enhance the perceived climate for diversity."¹³⁸

A new line of research has focused on faculty "cluster hiring" (hiring faculty into multiple departments or colleges around interdisciplinary research topics, often with a complementary aim to increase faculty diversity along race, ethnicity, gender, perspective, ideology, and methodology) and found that the practice can increase faculty diversity and cultivate a more inclusive campus climate.¹³⁹ Successful institutions in the study made diversity benefits explicit in the goals and dedicated resources and infrastructure to support the clusters.¹⁴⁰

Mentoring and academic supports

Though existing research is somewhat limited (and often focused on the importance of faculty members being mentored), some studies show that effective mentoring of students can have a meaningful impact on academic outcomes. For example, the University of Minnesota offers several forms of peer and faculty-student mentoring opportunities, both formal and informal, aimed at achieving institutional diversity goals by supporting underrepresented students. A study of its efforts found that, even in programs without a formal mentoring component, participants engaged in informal mentoring partnerships to offer support to one another.¹⁴¹ More broadly, the study found that the institutionalization of mentoring can contribute to a more sensitized faculty, a more diverse student body, and better outcomes for underrepresented groups.¹⁴²

Research on two institutions of higher education in Oklahoma use a mentoring program designed to engage faculty in the process of mentoring underrepresented female students, especially teacher candidates, found that participating mentors believed that “their contributions as mentors not only increased the quantity of teachers, but also, their mentoring was key for the purposes of recruiting and retaining qualified and diverse candidates through to graduation to return to the work force.”¹⁴³ And a qualitative study of past participants in the University of Connecticut’s Minority Research Apprentice Program, designed to attract underrepresented students by expanding their knowledge of research and technology, showed the success of the program at helping to clarify minority students’ career goals.¹⁴⁴

Also, several studies have shown that mere exposure to mentors – whether through a formal program or not – has yielded benefits for students.¹⁴⁵

Finally, though not directly tied to *faculty* mentoring, a randomized controlled trial individualized “coaching” for students – most of whom were “non-traditional” college students enrolled in degree programs – found that regular contact with a coach on long-term goals and skill development increased retention and completion for participating students in a cost effective way.¹⁴⁶

Housing policies, peer groups, and affinity groups

Research has shown that the more an institution encourages students to interact beyond the classroom, the more likely students are to experience the benefits of diversity. Peer or affinity groups can also have a significant impact on the quality of students’ interracial interactions.¹⁴⁷ At the same time, research on the topic is limited because the majority of higher education peer group studies have focused on the student body as a whole rather than the influence of interpersonal interactions among different student groups and the effect that race and ethnicity may have.¹⁴⁸ Moreover, estimating peer effects is difficult to research, given challenges in finding cause and effect and in accounting for the natural selection bias of choosing friends.¹⁴⁹

An influential study of the U.S. Air Force academy found that the *academic* benefits of diversity increase when students live, study, and participate in co-curricular activities together.¹⁵⁰ (Similar observations were a foundation of the amicus brief effort from retired military leaders to the U.S. Supreme Court in *Grutter* and *Fisher I and II*, which also underscored that fostering teamwork and collaboration among diverse groups was a significant national security interest for the military.¹⁵¹)

Roommate studies have shown that white students in particular may benefit from having roommates of other races and ethnicities. One study found that randomly assigned roommates during the first year of college and subsequent voluntary contact between roommates during the second and third years reduced racial prejudice among undergraduate students.¹⁵² Another found that living with an other-race roommate can positively impact white students’ attitudes toward race and were less anxious, more

pleasant, and more physically engaged in other settings with diverse groups.¹⁵³ Another study found that white students at a large state university randomly assigned African-American roommates in their first year were more likely to have more personal contact with and interact more comfortably with members of minority groups, and more likely to endorse a general view that a diverse student body is essential for a high-quality education.¹⁵⁴

Roommate studies have also shown that roommates from different family income backgrounds can also have positive effects. A study of Berea College students – an institution that specifically targets low-income students – found that “low income students may be benefitted by having a higher income peer as a roommate in a non-trivial fashion [in first-semester grades and retention] by being paired with higher income peers without the higher income peers incurring substantial costs.”¹⁵⁵

There have been studies that show positive effects of cross-racial friendship. For example, racial diversity in friendship groups has been found to have positive effects, particularly for students of color.¹⁵⁶ Another study of students at Berea College found that white students randomly assigned to black roommates have a significantly larger proportion of black friends than white students who are randomly assigned white roommates.¹⁵⁷

Studies have also shown that underrepresented students’ sense of belonging on campus and opportunities for leadership can increase through engagement with other students *from their own cultural groups*.¹⁵⁸ For example, one study of focus groups of African-American and Asian-American students found that “ethnic student organizations constituted critical venues of cultural familiarity, vehicles for cultural expression and advocacy, and sources of cultural validation for participants.”¹⁵⁹ Another study of multiple racial/ethnic groups found that participation in ethnic student organizations is positively linked with higher rates of cross-racial interaction.¹⁶⁰ Another found that participation in a racial/ethnic student organization was “significantly and positively associated with numerous civic behaviors and attitudes after graduation.”¹⁶¹

Peers can have a significant impact on persistence and success, particularly for certain disciplines. A study of the experiences of 1250 women of color and 891 white women attending 135 institutions nationwide found that “women of color who persisted in STEM frequently engaged with peers to discuss course content, joined STEM-related student organizations, participated in undergraduate research programs, had altruistic ambitions, attended private colleges, and attended institutions with a robust community of STEM students.”¹⁶² (Notably, and somewhat in contrast to general studies that positively link institution-wide persistence rates with more selective admissions, this study also found that negative predictors of persistence include attending a highly selective institution.¹⁶³)



Policy recommendations

- **Create opportunities for students to interact in diverse groups in and outside the classroom.** Faculty members are likely to be essential partners in the effort to implement high impact educational practices, engage in mentoring, and serve as a signal to students about the institution's commitment to its goals.
- **Ensure that students from all backgrounds have opportunities to interact with peers who are similar *and* peers who are different.** Institutions should offer students options for their extra curricular activities, housing, and courses while also creating opportunities for deliberate engagement across difference (e.g., intergroup dialogue).



Research recommendations

- **Examine whether and how the educational benefits of diversity are actually being experienced in and outside the classroom.** Studies and surveys should examine the quality and frequency of interracial interactions among students – and the short and long term benefits of these interactions. This requires a close look at specific policies and practices as well as how they work individually and in concert to produce the intended educational benefits of diversity.

Section III: Alignment across programs and policies

As described in this section, our review of published research reflects that:

- 1. Alignment across institutional programs, functions, and offices creates the greatest potential for achieving diversity goals, with direct educational, management, and cost benefits.**
- 2. A sustained effort with dedicated resources and common purpose can work toward alignment and help achieve institutional goals.**

There is important guidance for institutions within the body of published research on the educational benefits of diversity. The findings from these studies can and should provide guideposts for institution and context-specific research and institutional decision making. We hope that the findings and recommendations in this paper may help institutions with a variety of large- and smaller-scale efforts.

As institutions work to build their research base, alignment and coordination of efforts across the institution is essential. Research confirms, for example, the importance of institutional leaders taking steps to translate diversity goals into specific action steps through directive from the president's office, collaboration across campus, or both.¹⁶⁴ Tools to support this effort have been developed.¹⁶⁵ Research also supports the importance of the assessment and ongoing evaluation of efforts to achieve an institution's mission-driven goals; though these efforts require time and resources, they are also an important reflection of institutional values.¹⁶⁶

A growing body of research confirms the importance of alignment based on mission across programs, functions, and offices to create the greatest potential for achieving diversity goals.¹⁶⁷ Research confirms that a more holistic approach to diversity strategies – developing a mission that includes the benefits of diversity, implementing strategies to foster interactions between students, *and* assessing strategies for impact and effectiveness – can help institutions achieve the benefits they seek.¹⁶⁸ In other words, a “sustained and coordinated effort is needed to increase the positive effects of diversity on student development and learning.”¹⁶⁹ Institutional leaders set the tone and make institutional resources available. Admission, recruitment and outreach, and financial aid officers are responsible for attracting, admitting, and enrolling a diverse student body. Enrolled students are then handed off to student affairs professionals, who help students establish peer groups and engage in student life programs. Faculty members imbue students with important skills and knowledge to be successful working in diverse environments. And institutional researchers can examine how well these various efforts are contributing to the achievement of the institution's diversity goals.

Given the complexity of this endeavor, institutions have been encouraged to create a common educational purpose for diversity and be explicit about the “centrality of diversity to the campus's mission of improving teaching and learning.”¹⁷⁰ Research has also underscored the importance of institutions recognizing the various internal and external as well as current and historical forces that impact the institution and its student body.¹⁷¹ Institutions have been encouraged to create an aligned strategy grounded in institutional mission and to consider and address each element of that strategy to achieve diversity goals.¹⁷²



Policy recommendation

- **Put the necessary resources, staff, and structure in place for building the institution's evidence base for its diversity goals and strategies, particularly its internal research office.** To assess the effectiveness of policies individually and as a whole, institutional leaders and administrators should engage with and empower internal researchers, using findings from well known national studies as a starting point but moving to studies within their own contexts. Not every program or policy can or should be subject to a rigorous peer reviewed study, but an institution should develop clear strategies for evaluating policies and practices over time, particularly if they provide any benefit to individual students on the basis of race or ethnicity.



Practice recommendations

- **Inventory all institutional strategies that aim to enhance the institution's ability to meet its diversity related goals.** For all institutions, this process serves an essential policymaking function: understanding what the institution is already doing in order to identify prospective areas for growth and improvement. Moreover, for institutions pursuing race conscious policies, the inventory may help explain why race neutral policies and practices, alone, are insufficient to meet diversity goals.
- **Initiate or re constitute an interdisciplinary working group.** Having a core team to guide diversity efforts can be a foundation for success. That team likely includes legal counsel, enrollment leaders, student affairs administrators, and internal researchers that represent multiple disciplines (both within and beyond the institutional research office).
- **Engage the entire campus community.** Broad participation is needed to interpret and act on evaluation results. Building support for diversity efforts among faculty, students, and staff is an important complement to "top down" initiatives from campus leaders.

ENDNOTES

¹ Nondiscrimination law can intersect and align with relevant issues of institutional policy, particularly with respect to efforts to achieve racial and ethnic diversity. Federal non-discrimination law, for example, includes key inquiries that are grounded in the what, why, and how of education decision-making. Federal law draws important lines between ends and means; relevant research should, too.

² See Chris Gonzalez Clarke & Anthony Lising Antonio, *Rethinking Research on the Impact of Racial Diversity in Higher Education*, 36 REV. HIGHER EDUC. 25 (2012).

³ E.g., Patricia Gurin, Eric L. Dey, Sylvia Hurtado, & Gerald Gurin, *Diversity and Higher Education: Theory and Impact on Educational Outcomes*, 72 HARV. EDUC. REV. 330 (2002), available at <https://igr.umich.edu/files/igr/Diversity%20and%20Higher%20Education.pdf>; WILLIAM G. BOWEN & DEREK BOK, *THE SHAPE OF THE RIVER: LONG-TERM CONSEQUENCES OF CONSIDERING RACE IN COLLEGE AND UNIVERSITY ADMISSIONS* (1998); Nida Denson & Mitchell J. Chang, *Racial Diversity Matters: The Impact of Diversity-Related Student Engagement and Institutional Context*, 46 AM. EDUC. RES. J. 322 (2009); Uma M. Jayakumar, *Can Higher Education Meet the Needs of an Increasingly Diverse and Global Society?* 78 HARV. EDUC. REV. 615 (2008), available at <http://diversity.cofc.edu/journal-articles/higher-education-diverse-and-global-society>; Mark E. Engberg, *Educating the Workforce for the 21st Century: A Cross-Disciplinary Analysis of the Impact of the Undergraduate Experience on Students' Development of a Pluralistic Orientation*, 48 RES. HIGHER EDUC. 283 (2007); EMILY J. SHAW, COLL. BD., RESEARCH REPORT NO. 2005-4: RESEARCHING THE EDUCATIONAL BENEFITS OF DIVERSITY (2005), available at <https://research.collegeboard.org/sites/default/files/publications/2012/7/researchreport-2005-4-researching-educational-benefits-diversity.pdf>; Mitchell J. Chang, Alexander W. Astin, & Dongbin Kim, *Cross-Racial Interaction Among Undergraduates: Some Consequences, Causes, and Patterns*, 45 RES. HIGHER EDUC. 529 (2004); Mitchell J. Chang, *Does Racial Diversity Matter? The Educational Impact of a Racially Diverse Undergraduate Population*, 40 J.C. STUDENT DEV. 377 (1999).

⁴ *Grutter v. Bollinger*, 539 U.S. 306, 330 (2003).

⁵ E.g., CATHERINE L. HORN & STELLA M. FLORES, PERCENT PLANS IN COLLEGE ADMISSIONS: A COMPARATIVE ANALYSIS OF THREE STATES' EXPERIENCES (2003) ("Although, at first glance, the Texas, California, and Florida plans appear to be very similar, in fact they vary widely, and key differences must be noted when considering their implementation and effectiveness. In particular, the specific mechanics of the policies, the larger context in which they were implemented and are being maintained, and additional policies and practices that support, or in some cases work separately from, percent plans to affect campus diversity differ in some very fundamental ways."), <http://civilrightsproject.ucla.edu/research/college-access/admissions/percent-plans-in-college-admissions-a-comparative-analysis-of-three-states2019-experiences/horn-percent-plans-2003.pdf>.

⁶ In April 2013, a broad-based group of practitioners and researchers met to discuss important research-oriented policy and practice issues, including the benefits of diversity, methods of gauging success (e.g., critical mass), race-neutral strategies, and the broader research agenda. In February 2014, the ADC Advisory Council further explored these issues. Those discussions set the stage for further convenings focused on research and practice issues. In May 2014, the ADC hosted a convening of leading researchers, institutional representatives, national organization leaders, and other stakeholders. And, in August 2015, researchers and representatives of higher education organizations and institutions came together to review this paper. Finally, three leading researchers performed a close review of the full draft of this paper, its citations, and conclusions. Ongoing conversations with individual researchers, institutional leaders, and enrollment officers rounded out these efforts.

Attendees at the April 2013 convening: Frank Ashley, Steve Graff, Jess Howell, Michael Hurwitz, Greg Perfetto, Martha Pitts, Brad Quin, Anne Sturtevant, Rohit Tandon (College Board); John Barnhill (Florida State University); Thomas Bear (Notre Dame University); Saba Bireda, Art Coleman, Kate Lipper, and Terri Taylor (EducationCounsel); Tony Broh (Enrollment Planning Network); Josh Civin (NAACP Legal Defense Fund); Sharon Davies (Ohio State University); Barbara Gill (University of Maryland); Debra Humphreys (AAC&U); Jamie Lewis Keith (University of Florida); Robert Lay (Boston College); Jerry Lucido (University of Southern California); Courtney McAnuff (Rutgers

University); Jeff Milem (University of Arizona); Norma Poll-Hunter (AAMC); Susan Sturm (Columbia Law School); Ronné Patrick Turner (Northeastern University).

Participants in the ADC Advisory Council call: John Barnhill (Florida State University), Timothy Brunold (University of Southern California), Art Coleman, Kate Lipper, and Terri Taylor (EducationCounsel), Shannon Gundy (University of Maryland, College Park), Rachelle Hernandez (University of Minnesota), Jamie Lewis Keith (University of Florida), Patricia Morales (University of California – Irvine), Brad Quin (College Board), Michael Reilly (AACRAO), Greg Roberts (University of Virginia), Yvonne Romero Da Silva (University of Pennsylvania), Susan Sturm (Columbia Law School), and James Washington (Dartmouth College).

Attendees at the May 28, 2014, convening: Connie Betterton, Jess Howell, Greg Perfetto, and Brad Quin (College Board); Jessie Brown (ACE); Doug Christiansen and Stella Flores (Vanderbilt University); Art Coleman, Kate Lipper, and Terri Taylor (EducationCounsel); Liliana Garces (Penn State University); Susan Johnson (Lumina Foundation); Debra Humphreys (AAC&U); Jamie Lewis Keith (University of Florida); Jerry Lucido (University of Southern California); Mike Reilly (AACRAO); Michael Rose (NACAC), Jeff Milem (University of Arizona); Susan Sturm (Columbia Law School); Marta Tienda (Princeton University); Mariët Westermann (Mellon Foundation).

Attendees at the August 20, 2015, meeting: Connie Betterton, College Board; Julie Browning, Rice University; Jack Buckley, College Board; Art Coleman, EducationCounsel; Lorelle Espinosa, American Council on Education; Steve Handel, University of California, Office of the President; John McGrath, NACAC; Jess Howell, College Board; Jamie Lewis Keith, University of Florida; James Massey, University of Maryland, College Park; Jeff Milem, University of Arizona; Greg Perfetto, College Board; Brad Quin, College Board; Mike Reilly, AACRAO; Greg Roberts, University of Virginia; Erin Russ, EducationCounsel; Nick Spiva, EducationCounsel; Terri Taylor, EducationCounsel.

⁷ *Grutter v. Bollinger*, 539 U.S. 306, 330 (2003).

⁸ See *supra* note 3; see also Nicolas A. Bowman, *Promoting Participation in a Diverse Democracy: A Meta-Analysis of College Diversity Experiences and Civic Engagement*, 81 REV. EDUC. RES. 29 (2011); Nida Denson, *Do Curricular and Co-Curricular Diversity Activities Influence Racial Bias? A Meta-Analysis*, 79 REV. EDUC. RES. 805 (2009); Denson & Chang, *Racial Diversity Matters*, *supra* note 3; Mitchell J. Chang, Nida Denson, Victor Sáenz, & Kim Misa, *The Educational Benefits of Sustaining Cross-Racial Interaction Among Undergraduates*, 77 J. HIGHER EDUC. 430 (2005); Thomas F. Nelson Laird, *College Students' Experiences with Diversity and their Effects on Academic Self-Confidence, Social Agency, and Disposition Toward Critical Thinking*, 46 RES. IN HIGHER EDUC. 365 (2005); Chang, Astin, & Kim, *Cross-Racial Interaction Among Undergraduates*, *supra* note 3; Anthony Lising Antonio, Mitchell J. Chang, Kenji Hakuta, David A. Kenny, Shana Levin, & Jeffrey F. Milem, *Effects of racial diversity on complex thinking in college students*, 15 PSYCHOL. SCI. 507 (2004), available at <http://diversity.umich.edu/admissions/research/racial-diversity.pdf>.

⁹ E.g., Gurin et al., *Diversity and Higher Education*, *supra* note 3, at 341; Expert Report of Patricia Gurin: The Compelling Need for Diversity in Higher Education, Gratz et al. v. Bollinger, No. 97-75321 (E.D. Mich.) & Grutter et al. v. Bollinger, et al., No. 97-75928 (E.D. Mich.) (1999) (reprinted in 5 MICH. J. RACE & L. 363 (1999) and 32 UNIV. OF MASS. SCHS OF EDUC. J. 36 (1999)), available at <http://diversity.umich.edu/admissions/legal/expert/gurintoc.html>.

¹⁰ Jeffrey F. Milem, *The Educational Benefits of Diversity: Evidence from Multiple Sectors*, in COMPELLING INTEREST: EXAMINING THE EVIDENCE ON RACIAL DYNAMICS IN COLLEGES AND UNIVERSITIES 126 (Mitchell J. Chang et al. eds., 2003), available at http://faculty.ucmerced.edu/khakuta/policy/racial_dynamics/Chapter5.pdf.

¹¹ Id. at 32 (citing Sylvia Hurtado, Jeffrey F. Milem, Alma R. Clayton-Pedersen, & Walter Recharde Allen, *Enhancing Campus Climates for Racial/Ethnic Diversity Through Educational Policy & Practice*, 21 REV. HIGHER EDUC. 3 (1998).

¹² Research proves that the experience of solo status or tokenism can have negative effect on the performance and achievement of underrepresented minorities. Increasing the number of diverse students in an institution of higher education can create better environments for those students. E.g., Mischa Thompson & Denise Sekaquaptewa, *When Being Different is Detrimental: Solo Status and the Performance of Women and Racial Minorities*, 2 ANALYSES OF SOC. ISSUES & PUBLIC POL'Y 183 (2002); Chang, Denson, Sáenz, & Misa, *The Educational Benefits of Sustaining Cross-Racial Interaction*, *supra* note 8.

¹³ When there is little numeric diversity, people of color feel more vulnerable to social stigma, stereotype threat, microaggressions, racial tension, and tokenism/social status. Liliana M. Garces & Uma M. Jayakumar, *Dynamic Diversity: Toward a Contextual Understanding of Critical Mass*, 43 EDUC. RESEARCHER 115 (2014); see also Jerry Z. Park, Brandon C. Martinez, Ryon Cobb, Julie J. Park, & Erica Ryu Wong, *Exceptional Outgroup Stereotypes and White Racial Inequality Attitudes Toward Asian Americans*, 78 SOC. PSYCHOL. Q. 399 (2015); Sylvia Hurtado et al., *Enacting diverse learning environments: Improving the campus climate for racial/ethnic diversity in higher education*, 26 ASHE-ERIC HIGHER EDUC. REP. 8 (1999); Deirdre M. Bowen, *Brilliant Disguise: An Empirical Analysis of a Social Experiment Banning Affirmative Action*, 85 IND. L.J. 1197 (2010).

¹⁴ There are positive benefits students accrue from just being in an environment where other students have higher levels of engagement with racial diversity, either through curricular activities or cross-racial interactions. Denson & Chang, *Racial Diversity Matters*, *supra* note 3. And compositional diversity plays an important symbolic role by communicating to interested internal and external constituents that diversity is a priority JEFFREY F. MILEM, MITCHELL J. CHANG, & ANTHONY LISING ANTONIO, MAKING DIVERSITY WORK ON CAMPUS: A RESEARCH-BASED PERSPECTIVE 6-10 (2005), available at https://www.aacu.org/sites/default/files/files/mei/milem_et_al.pdf; Nida Denson & Mitchell J. Chang, *Dynamic relationships: Identifying moderators that maximize benefits associated with diversity*, 42 J. HIGHER EDUC. 172 (2015).

¹⁵ Hurtado et al., *Enacting diverse learning environments*, *supra* note 13, at 8; Mitchell Chang, M. Kevin Eagan, Monica H. Lin, & Sylvia Hurtado, *Considering the impact of racial stigmas and science identity: Persistence among biomedical and behavioral science aspirants*, 82 J. HIGHER EDUC. 564 (2011), available at <http://www.heri.ucla.edu/nih/downloads/Considering-the-Impact-of-Racial-Stigmas-and-Science-Identity.pdf>; Susan Rankin & Robert D. Reason, *Differing perceptions: How students of color and white students perceive campus climate for underrepresented groups*, 46 J. COLL. STUDENT DEV. 43 (2005), available at: <http://www.brynmawr.edu/diversitycouncil/documents/Rankin.pdf>; Sylvia Hurtado, et. al., *Effects of college transition and perceptions of the campus racial climate on Latino college students' sense of belonging*, 70 SOC. OF EDUC., 324-345 (1997).

¹⁶ TERRELL STRAYHORN, COLLEGE STUDENTS' SENSE OF BELONGING: A KEY TO EDUCATIONAL SUCCESS FOR ALL STUDENTS (2012).

¹⁷ Nicole M. Stephens, Stephanie A. Fryberg, Hazel Rose Markus, Camille S. Johnson, & Rebecca Covarrubias, *Unseen disadvantage: How American universities' focus in independence undermines the academic performance of first-generation students*, 102 J. PERSONALITY & SOC. PSYCHOL. 1178 (2012) ("[Our] studies revealed that representing the university culture in terms of independence (i.e., paving one's own paths) rendered academic tasks difficult and, thereby, undermined first-generation students' performance. Conversely, representing the university culture in terms of interdependence (i.e., being part of a community) reduced this sense of difficulty and eliminated the performance gap without adverse consequences for continuing-generation students."); Annique Smeding, Céline Darnon, Carine Souchal, Marie-Christine Toczec-Capelle, & Fabrizio Butera, *Reducing the Socio-Economic Status Achievement Gap at University by Promoting Mastery-Oriented Assessment*, 8 PLOS ONE 371678 (2013) ("For the first time, empirical data support the idea that low-SES students can perform as well as high-SES students if they are led to understand assessment as part of the learning process, a way to reach mastery goals, rather than as a way to compare students to each other and select the best of them, resulting in performance goals."); Mickaël Jury, Annique Smeding, & Céline Darnon, *First-generation students' underperformance at university: the impact of the function of selection*, 6 FRONTIERS IN PSYCHOL. 710 (2015); Judith M. Harackiewicz, Elizabeth A. Canning, Yoi Tibbetts, Cynthia J. Giffen, Seth S. Blair, Douglas I. Rouse, & Janet S. Hyde, *Closing the social class achievement gap for first-generation students in undergraduate biology*, 106 J. EDUC. PSYCHOL. 375 (2014); Michelle L. Rheinschmidt & Rodolfo Mendoza-Denton, *Social class and academic achievement in college: The interplay of rejection sensitivity and entity beliefs*, 107 J. PERSONALITY & SOC. PSYCHOL. 101 (2014); Nicole M. Stephens, MarYam G. Hamedani, & Mesmin Destin, *Closing the Social-Class Achievement Gap: A Difference-Education Intervention Improves First-Generation Students' Academic Performance and All Students' College Transition*, 25 PSYCHOL. SCI. 943 (2014); Sarah E. Johnson, Jennifer A. Richeson, & Eli J. Finkel, *Middle class and marginal? Socioeconomic status, stigma, and self-regulation at an elite university*, 100 J. PERSONALITY & SOC. PSYCHOL. 838 (2011); Jean-Claude Croizet & Theresa Claire,

Extending the Concept of Stereotype Threat to Social Class: The Intellectual Underperformance of Students from Low Socioeconomic Backgrounds, 24 PERS. SOC. PSYCHOL. BULL. 588 (1998).

¹⁸ Alexander S. Bowman & Mesmin Destin, *The Effects of a Warm or Chilly Climate Toward Socioeconomic Diversity on Academic Motivation and Self-Concept*, 42 PERS. SOC. PSYCHOL. BULL. 172, available at <http://sites.northwestern.edu/scmlab/files/2014/08/Browman-Destin-2015-PSPB-2luoy0b.pdf>.

¹⁹ Expert Report of Patricia Gurin, *supra* note 9, (noting that while all students benefited from the exposure they had to students from different racial and ethnic backgrounds, it was also important for students of color to have opportunities for same-race contact); Chang, *Does Racial Diversity Matter?*, *supra* note 3.

²⁰ Anthony Lising Antonio, *When Does Race Matter in College Friendships? Exploring Men's Diverse and Homogenous Friendship Groups*, 27 REV. HIGHER EDUC. 553 (2004).

²¹ Gurin et al., *Diversity and Higher Education*, *supra* note 3, at 341 ("As groups, only Asian American and Latino/a students came to the University having lived and gone to school in environments where they were not in the majority. Thus, the university's conscious effort to help students experience diversity in and out of the classroom provide the very features that foster active, conscious, and effortful thinking."); Victor B. Sáenz, *Breaking the Segregation Cycle: Examining Students' Precollege Racial Environments and College Diversity Experiences*, 34 REV. HIGHER EDUC. 1, 4 (2010) ("White students were the most segregated group in the nation's public and private schools, attending schools that were on average 80% White. Asian students lived in the nation's most integrated communities and were the least segregated in schools among all student groups."); Jayakumar, *supra* note 3.

²² Uma M. Jayakumar, *The Shaping of Postcollege Colorblind Orientation Among Whites: Residential Segregation and Campus Diversity Experiences*, 85 HARV. EDUC. REV. 609 (2015); see also Jeffrey F. Milem, Paul D. Umbach, & Christopher T.H. Liang, *Exploring the Perpetuation Hypothesis: The Role of Colleges and Universities in Desegregating Society*, 45 J.C. STUDENT DEV. 688, 699 (2004) ("If we fail to engage students in diversity related initiatives and activities while in college, our students are likely to return to the pre-college environments from which they came and that remain highly segregated.").

²³ Anthony Lising Antonio, *Diversity and the Influence of Friendship Groups in College*, 25 REV. HIGHER EDUC. 63 (2001).

²⁴ Engberg, *supra* note 3; Mitchell Chang, Jessica Sharkness, Sylvia Hurtado, & Christopher B. Newman, *What Matters in College for Retaining Aspiring Scientists and Engineers from Underrepresented Racial Groups*, 51 J. RES. IN SCI. TEACHING 555 (2014); Sylvia Hurtado, M. Kevin Eagan, M. Tran, C. Newman, M. Chang, & P. Velasco, "We do science here:" *Underrepresented students' interactions with faculty in different college contexts*, 67 J. SOCIAL ISSUES 553 (2011); Mitchell Chang, M. Eagan, M. Lin, & S. Hurtado, *Considering the impact of racial stigmas and science identity: Persistence among biomedical and behavioral science aspirants*, 82 J. HIGHER EDUC. 564 (2011).

²⁵ This deficit may be explained in part by the scope of our review.

²⁶ Dean K. Whitla et al., *Educational Benefits of Diversity in Medical School*, 78 ACAD. MED. 460 (2003); G. Guiton, M. Chang, & L. Wilkerson, *Student body diversity: Relationship to medical students' experiences and attitudes*, 82 ACAD. MED. S85 (2007).

²⁷ Jeffrey F. Milem, *The Educational Benefits of Diversity: Evidence from Multiple Sectors*, in COMPELLING INTEREST: EXAMINING THE EVIDENCE ON RACIAL DYNAMICS IN COLLEGES AND UNIVERSITIES 24-24 (Mitchell J. Chang et al. eds., 2003), available at http://faculty.ucmerced.edu/khakuta/policy/racial_dynamics/Chapter5.pdf.

²⁸ E.g., Somnath Soha et al., *Student Body Racial and Ethnic Composition and Diversity-Related Outcomes in US Medical Schools*, 300 J. AM. MED. ASS'N. 1135 (2008), available at <http://www.wiche.edu/info/rmCollaborative/JAMA.pdf>.

²⁹ Denson & Chang, *Dynamic relationships*, *supra* note 14, at 172-73; Ernest T. Pascarella et al., *Influences on Student's Openness to Diversity and Challenge in the First Year of College*, 67 J. HIGHER EDUC. 174 (1996).

³⁰ E.g., Chang, Astin, & Kim, *Cross-Racial Interaction Among Undergraduates*, *supra* note 3; Gurin et al., *Diversity and Higher Education*, *supra* note 3; Engberg, *supra* note 3; 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. RES. J. 466 (2012); Victor B. Sáenz et al., *Factors Influencing Positive Interactions Across Race for African American, Asian American, Latino, and White College Students*, 48 RES. HIGHER EDUC. 1 (2007); Gary R. Pike & George D. Kuh, *Relationships Among Structural Diversity, Informal Peer Interactions and Perceptions of the Campus Environment*, 29 REV. HIGHER EDUC. 425 (2006); Patricia Gurin, Biren (Ratnesh) A. Nagda, & Gretchen E. Lopez, *The Benefits of Diversity in Education for Democratic Citizenship*, 60 J. SOC. ISSUES 17 (2004).

³¹ Julie J. Park & Young K. Kim, *Interracial Friendship and Structural Diversity: Trends for Greek, Religious, and Ethnic Student Organizations*, 37 REV. HIGHER EDUC. 1 (2013).

³² Denson & Chang, *Racial Diversity Matters*, *supra* note 3.

³³ *Grutter v. Bollinger*, 539 U.S. 306, 308 (2003). It is worth noting, however, that there is disagreement on the continuing relevance of critical mass. Even though the U.S. Supreme Court has blessed the concept of critical mass as a contextual benchmark for enrollment practices, researchers at the May 28, 2014, convening hosted by College Board explained that they are more comfortable assessing the institutional conditions that must be in place that facilitate the learning and development of all students. Researchers explained that this approach shifts the emphasis from viewing student populations as the “problem” – also referred to as a “deficit approach” – to holding institutions accountable for creating conditions that allow students to succeed. This conversation is also present in published literature. For example, one study has explained that a multitude of external and internal factors influence an institution's climate for diversity, which makes the “critical mass” of diverse students needed organically unique and different based the institution. SYLVIA HURTADO & ADRIANA RUIZ, *THE HIGHER EDUC. RES. INST., THE CLIMATE FOR UNDERREPRESENTED GROUPS AND DIVERSITY ON CAMPUS* (2012), *available at* <http://heri.ucla.edu/briefs/urmbriefreport.pdf>. To address these challenges, another study recently argued that a new term – dynamic diversity – may be a useful replacement term to focus researchers and practitioners on the interactions among students within a particular context and under appropriate conditions that are needed to realize the educational benefits of diversity. Garces & Jayakumar, *supra* note 13.

³⁴ ARTHUR COLEMAN & SCOTT PALMER, COLL. BD., *ADMISSIONS AND DIVERSITY AFTER MICHIGAN: THE NEXT GENERATION OF LEGAL AND POLICY ISSUES* (2006), *available at* http://diversitycollaborative.collegeboard.org/sites/default/files/document-library/acc-div_next-generation.pdf.

³⁵ Brief for Am. Educ. Res. Ass'n et al. as Amici Curiae Supporting Respondents at 25, *Grutter v. Bollinger*, 539 U.S. 309 (No. 02-241), *available at* http://www.aera.net/Portals/38/docs/News_Media/AERABriefings/AmicusBrief/GrutterBrief-Final.pdf.

³⁶ Valerie Purdie-Vaughns & Richard P. Eibach, *Intersectional invisibility: The distinctive advantages and disadvantages of multiple subordinate-group identities*, 59 SEX ROLES 377 (2008), *available at* [http://www.columbia.edu/cu/psychology/vpvaughns/assets/pdfs/Intersectional%20Invisibility%20\(2008\).pdf](http://www.columbia.edu/cu/psychology/vpvaughns/assets/pdfs/Intersectional%20Invisibility%20(2008).pdf); Kimberle Crenshaw, *Mapping the Margins: Intersectionality, Identity Politics, and Violence Against Women of Color*, 43 STAN. L. REV. 1241 (1991), *available at* http://socialdifference.columbia.edu/files/socialdiff/projects/Article_Mapping_the_Margins_by_Kimblere_Crenshaw.pdf.

³⁷ Gurin et al., *Diversity and Higher Education*, *supra* note 3.

³⁸ HURTADO & RUIZ, *supra* note 353; Sylvia Hurtado et. al, *Enhancing Campus Climates for Racial/Ethnic Diversity: Educational Policy and Practice*, 21 REV. OF HIGHER EDUC. 279 (1998).

³⁹ There is disagreement among institutions in how to define retention – i.e. institutional retention, system retention, or retention within a major, discipline, or course. HURTADO & RUIZ, *supra* note 33.

⁴⁰ Marvin A. Titus, *An Examination of the Influence of Institutional Context on Student Persistence at 4-Year Colleges and Universities: A Multilevel Approach*, 45 RES. IN HIGHER EDUC. 7 (2004).

⁴¹ Samuel D. Museus et. al, *Racial differences in the effects of campus racial climate on degree completion: A structural equation model*, 32 REV. OF HIGHER EDUC. 1 (2008).

⁴² Leticia Oseguera & Byung Shik Rhee, *The Influence of Institutional Retention Climates on Student Persistence to Degree Completion: A Multilevel Approach*, 50 RES. IN HIGHER EDUC. 6 (2009), available at http://www.heri.ucla.edu/PDFs/Oseguera_Rhee_RetentionClimates_2009.pdf.

⁴³ MILEM, CHANG, & ANTONIO, MAKING DIVERSITY WORK ON CAMPUS, *supra* note 14, at 15 n.3.

⁴⁴ Garces & Jayakumar, *supra* note 13.

⁴⁵ Rice University, *About the residential college system*, <http://www.students.rice.edu/students/Colleges.asp> (last visited Nov. 3, 2015).

⁴⁶ Rice Univ., OCR Complaint #06052020 (U.S. Dep't of Educ. Sept. 10, 2013) (compliance resolution), <http://www2.ed.gov/about/offices/list/ocr/docs/investigations/06052020-a.html>.

⁴⁷ Id.; see also ARTHUR L. COLEMAN, TERESA E. TAYLOR, & KATHERINE E. LIPPER, COLL. BD., THE PLAYBOOK: A GUIDE TO ASSIST INSTITUTIONS OF HIGHER EDUCATION IN EVALUATING RACE- AND ETHNICITY-NEUTRAL POLICIES IN SUPPORT OF THEIR MISSION-RELATED DIVERSITY GOALS 13-14 (2014), available at <http://diversitycollaborative.collegeboard.org/sites/default/files/document-library/adc-playbook-october-2014.pdf>.

⁴⁸ Rice Univ., *supra* at note 46; COLEMAN, TAYLOR, & LIPPER, *supra* note 47, at 13-14.

⁴⁹ As described UT's briefs to the Fifth Circuit in its rehearing of *Fisher* in 2014, UT explained that it conducts an annual review of progress toward its critical mass objectives on "various data points including but not limited to enrollment figures; evidence of racial isolation and the racial climate on campus (which includes reports of racially hostile or insensitive conduct), including feedback from faculty and students; and other data including the educational benefits of diversity experienced in the classroom." Supplemental Brief for Appellees at 48, *Fisher v. Univ. of Texas at Austin*, (No. 09-50822), available at <http://www.utexas.edu/vp/irla/Documents/2013-10-25-UT-Fisher.Supp.Br.pdf>.

⁵⁰ Id. at 37-39.

⁵¹ On the issue of examining critical mass within individual classrooms, citing a UT classroom diversity study that showed that "African-American and Hispanic students were nearly non-existent in thousands of classes," UT explained that, though it "never pursued classroom diversity as a discrete interest or endpoint . . . this palpable lack of diversity in the classrooms – one of many factors UT considered – underscored that UT had not yet fully realized the educational benefits of diversity." Id. at 46.

⁵² STEPHANIE MARKEN, GALLUP, GRADUATES EXPOSED TO DIVERSITY BELIEVE DEGREE MORE VALUABLE (Oct. 28, 2015), <http://www.gallup.com/poll/186257/graduates-exposed-diversity-believe-degree-valuable.aspx>.

⁵³ E.g., HART RESEARCH ASSOCS., ASSOC. OF AM. COLLS & UNIVS, FALLING SHORT? COLLEGE LEARNING AND CAREER SUCCESS 4-5 (2015), <https://www.aacu.org/leap/public-opinion-research/2015-survey-results>; HART RESEARCH ASSOCS., ASSOC. OF AM. COLLS & UNIVS, IT TAKES MORE THAN A MAJOR: EMPLOYER PRIORITIES FOR COLLEGE LEARNING AND STUDENT SUCCESS 1-2 (2013), https://www.aacu.org/sites/default/files/files/LEAP/2013_EmployerSurvey.pdf.

⁵⁴ Catherine L. Horn & Patricia Marin, *Realizing the Legacy of Bakke*, in REALIZING BAKKE'S LEGACY: AFFIRMATIVE ACTION, EQUAL OPPORTUNITY, AND ACCESS TO HIGHER EDUCATION 6 (Patricia Marin & Catherine L. Horn eds., 2008); Patricia Gurin with Eric L. Dey, Gerald Gurin, & Sylvia Hurtado, *The educational value of diversity*, in PATRICIA GURIN, JEFFREY S. LEHMAN, & EARL LEWIS, WITH OTHERS, DEFENDING DIVERSITY: AFFIRMATIVE ACTION AT THE UNIVERSITY OF MICHIGAN (2004).

⁵⁵ See generally HANDBOOK OF STRATEGIC ENROLLMENT MANAGEMENT (Don Hossler & Bob Bontrager eds., 2015).

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