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Who's Matched Up? Access to Same-Race Instructors in Higher Education

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Abstract: Despite recent evidence on the benefits of same-race instructor matching in K-12 and higher education, research has yet to document the incidence of same-race matching in the postsecondary sector. That is, how likely are racially minoritized college students to ever experience an instructor of the same race/ethnicity? Using administrative data from Texas on the universe of community college students, we document the rate of same-race matching overall and across racial groups, the courses in which students are more or less likely to match, the types of instructors students most commonly match to, and descriptive differences in course outcomes across matched and unmatched courses. Understanding each of these measures is critical to conceptualize the mechanisms and outcomes of same-race matching and to drive policy action concerning the diversity of the professoriate.

Keywords: community colleges; course completion; faculty diversity; higher education; same-race matching
JEL Classification: H75, I21, I23, J15

Who's Matched Up? Access to Same-Race Instructors in Higher Education

Introduction

A robust body of research has documented several benefits of same-race matching between students and teachers for racially minoritized students in K-12 education. Students matched with same-race teachers have higher academic achievement, stronger patterns of school attendance, lower high school dropout rates, and an increased likelihood of referral to gifted programs (Clotfelter et al., 2007; Dee, 2004; Egalite & Kisida, 2018; Egalite et al., 2015; Gershenson et al., 2016; Gottfried & Fletcher, 2022a; Grissom & Redding, 2016). Although the mechanisms underlying these benefits have not been completely identified, prior research has pointed to many key possibilities. These potential mechanisms include same-race teachers having higher expectations of same-race students (Gottfried & Fletcher, 2022a), greater opportunities for student-teacher connections (Cherng & Halpin, 2016; Irvine, 1988; Ladson-Billings, 1995), the use of culturally relevant or sensitive practices by teachers of the same race (Egalite & Kisida, 2018), and the presence of shared cultural understanding between same-race students and teachers that help navigate a complex and white-dominant education system (Rimm-Kaufman et al., 2000; Wright et al., 2017). The research on same-race matching between students and teachers has uncovered results that suggest matching warrants consideration for any effort to improve student outcomes.

Research on same-race matching between students and teachers is intriguing. However, the scope of this research is limited. In this study, we broaden both the applicability and generalizability of this research by identifying and addressing three shortcomings in extant literature.

Access to Same-Race Instructors

The first shortcoming is that virtually no prior research considers the *incidence* of same-race matching for students. That is, prior research has focused almost exclusively on the outcomes of same-race matching.[1] However, this paints an incomplete picture as extant research fails to consider who has access to the potential benefits of same-race matching. Though research might tout the benefits of same-race matching, we lack information on the prevalence of racially minoritized students actually having a teacher of the same race. Put plainly in terms of experimentation, we know that the "treatment" works, but we have an imperfect picture of who receives the "treatment." Without knowledge of access (or "take up"), the research on the benefits of student-teacher race matching remains incomplete—limiting the ability for policy decisions to be made, given the lack of full detail on the landscape of student access to same-race instruction. As discussed by Gottfried et al. (2022b), prior work has identified "if" same-race matching makes a difference but has failed to consider the "for whom" and "how frequently." We address these questions directly by both documenting the incidence of same-race matching and the types of courses in which students are either more or less likely to experience matching.

Same-Race Matching in Higher Education

The second shortcoming we identify and address is that few studies have considered same-race matching at the postsecondary level. Existing research at the postsecondary level focuses exclusively on students' outcomes, which suggest that matching can yield positive outcomes for racially minoritized students by improving course performance and major choice. In the most comprehensive study to date, Fairlie et al. (2014) found that when Black, Hispanic,

[1] Three known exceptions include Gottfried et al. (2022b), Egalite & Kisida (2015), and Gershenson et al. (2021) but each of these studies focuses exclusively on the K-12 setting.

and Native American/Pacific Islander ("minority") students at one California community college matched with a minority instructor, they earned higher grades on average and were 2-3 percentage points more likely to receive a B or higher, 1-3 points more likely to pass the course, and 2-3 points less likely to drop the course than non-matched peers. Matched students were also more likely to take another course, and ultimately major, in the same subject. Fairlie et al.'s (2014) work suggested that the racial/ethnic composition of instructors a student was exposed to in their first quarter of school affected their ultimate persistence: A 1 standard deviation increase in the share of minority instructors was associated with a 2.5 percentage point increase in retention. Yet, these benefits did not accrue to their nonminority peers. White students who matched with minority instructors earned lower grades on average and were more likely to drop a course than their white peers who matched with white instructors (Fairlie et al., 2014).

Other research, such as Lusher et al. (2018), found that students with a same-race teaching assistant (TA) earned higher course grades in current and subsequent courses and were slightly more likely to major in the field. The authors uncovered evidence suggesting that these benefits were drawn from students' increased propensities to engage with a same-race TA during office hours or discussion sections—and through an increased likelihood of TAs sharing supplementary course materials with their same-race students. Oliver et al. (2021) also found that minority TAs in STEM reduced same-race students' likelihood of dropping a course and increased their course pass rates, particularly among Hispanics. Other applicable research include Kofoed and McGovney (2017), who found that Black cadets at West Point paired with a Black officer were 6.1 points more likely to pick that officer's branch than if the student had been paired with a white officer, and Price (2010) found that Black students at one public university in Ohio were more likely to persist in science, technology, engineering, and

mathematics (STEM) majors if they took a STEM course taught by a Black instructor. Birdsall et al. (2020) found support for an opposite-race match penalty where students at one elite law school were 3 percent less likely to earn an A when matched with an other-race instructor. Finally, in students' transitions from K-12 to higher education, Black students are more likely to aspire to attend college when assigned to a same-race teacher (Clotfelter, 2007; Goldhaber & Hansen, 2010), suggesting that the K-12 pipeline is not separate from higher education when it comes to considering the importance of student-teacher same-race matching.

Features and Qualifications of Same-Race Instructors

The final shortcoming in the same-race matching literature is that prior research has ignored the qualifications and standing of teachers and instructors. That is, we have not answered the following question: If students do match with a same-race teacher, then what are the relative teaching and instructional qualifications of the teacher? Or, for postsecondary instructors, what ranks or positions do they hold when providing same-race instruction—and might these moderate the benefits of same-race matching for students' outcomes? Instructors' qualifications are paramount to promoting student success. This is true in the K-12 literature (Blazar, 2015; Hanushek & Rivkin, 2012; Rockoff, 2004; Wayne & Youngs, 2003), as well as in higher education (Bettinger & Long, 2010; Carrell & West, 2010; Figlio et al., 2015; Xu & Jaggars, 2019). The qualifications of instructors may be a key driver of increased student success, yet in the same-race matching literature, the discussion around the qualifications of teachers and instructors is nonexistent. Our study addresses this gap by examining not simply *whether* a student has access to a same-race instructor but also provides details on the *position* of that instructor.

Current Study

Prior research in the higher education space provides an early foundation for subsequent exploration of same-race matching in postsecondary education. Still, there is a dearth of information on the incidence and outcomes of same-race matching in college to guide future research and policymaking. That is, even if same-race matching provides benefits to college students, we do not know what students ever experience same-race matching—and to what degree—while in college. Indeed, we have little information on (i) the *rates* of same-race matching for college students, now and over time; (ii) differences in the rates of same-race matching *across racial/ethnic groups*; (iii) an understanding of the *courses* in which students are more likely to experience matching; (iv) the *type of instructors* with which students same-race match; and (v) how the *outcomes of same-race matching* vary across all (rather than a select few) racial/ethnic groups and course types. Understanding the rate of same-race matching and its variability across student groups is a critical first step in considering how same-race matching may benefit college students. Our work addresses each of these gaps, and, in doing so, both lays a foundation for future research and provides actionable insights for policymakers. Specifically, we ask:

1. Access: Who has access to same-race matching in higher education? What is the overall prevalence of same-race matching and how does this rate vary across racial groups? How have these rates changed over time?
2. Coursework: In what courses are students more or less likely to experience a same-race match, including across important first-year, gateway, first college-level, or remedial and developmental education courses?

3. Instructors: When students do experience same-race matching, do they match to same-race instructors in part-time or contingent roles (e.g., adjuncts or instructors) or to same-race faculty with more permanent appointments (e.g., tenured or tenure-track)?
4. Outcomes: Do students descriptively perform better in courses when they experience a same-race match? Are these differences statistically significant and meaningful?

Leveraging administrative data from Texas, we map student-by-course and course-by-instructor records to demographic data on the universe of community college students and postsecondary instructors from 2013-14 through 2019-20. This allows us to observe the incidence of same-race matching overall and across racial/ethnic groups, as well as how matching varies across types of instructors. We further pair these data with information on course-level subjects and classifications alongside records on students' course outcomes to observe how same-race matching descriptively varies across course types and levels, and how students' course pass rates vary across matched and unmatched courses. Given that prior research on same-race matching in K-12 and higher education shows that *early* exposure to same-race instructors matters (e.g., Fairlie et al., 2014; Gershenson et al., 2022), we focus on the incidence and outcomes of same-race matching for first-year, first-time-in-college students during their first (fall) semester.

Research has demonstrated the importance of students' first year in college for determining ultimate success and completion of relevant credentials (Belfield et. al., 2019; Miller et al. 2022). While both the courses students take and the supports they receive vary widely across community colleges and student backgrounds, there are some commonalities. Upon entry, students often take a placement exam that determines their "college readiness" and need for developmental education or remediation. Historically, students who test "below college ready"

are required to successfully complete sequences of semester-length developmental education courses in Math, Reading, and/or Writing prior to taking a college-level course requiring those skill areas. Given poor success rates with this historical model, colleges have increasingly shifted towards accelerated models of developmental education that place students into college-level courses sooner and that condense developmental education support by offering it concurrently with the college-level course (Meiselman & Schudde, 2022; Xu & Dadgar, 2018). With this in mind, the first year for community college students typically consists of taking developmental or key gateway college level courses in Math, Reading, and/or Writing. Many colleges also offer "student success" courses (such as Learning Frameworks) to help students learn how to "learn" and succeed in college and that introduces them to a range of available supports. It is important to note that this first-year experience is quite different from what is experienced by the modal student attending a four-year college who is likely to enroll directly into advanced college-level coursework and take one or more courses within a chosen major. Given both the differences in student populations and the nature of the first year of colleges, this study focuses explicitly upon community college students.

Insights and Implications of our Study

We show that the incidence of same-race matching varies widely across racial/ethnic groups, where students in racially minoritized groups are substantially less likely to experience a same-race match in any given course. Across all first-year courses, 42% of student-by-course enrollments are a same-race match. That is, among all student-instructor pairs, 42% are same-race matches. However, this ranges from 77% for white students to 29% for Hispanic students and 14% for Black students. This suggests that, even if same-race matching yields benefits for racially minoritized students, they are unlikely to ever experience these matches in their first year

of study, and, when they do, they experience them at substantially lower rates than their white peers. We show that these lower match rates largely reflect the population of instructors, where 63% are white, 16% are Hispanic, and 10% are Black. But this is not reflective of the current student population, where only 33% are white compared to 48% Hispanic and 11% Black. Same-race matching for Black and Hispanic students has increased slightly from fall 2013 to fall 2019—up from 14% to 16% for Black students and from 27% to 30% for Hispanics—while matching rates for white students fell from 79% to 75% over the same period.

For Black students, rates of same-race matching are even lower in important first-year academic courses such as first-college-level Math, Reading and Writing courses (e.g. the first course that students take that provide college credit in those subjects) and gateway courses (e.g. college-level courses that students fail at high rates, such as College Algebra and other first-college-level math courses, and English Composition). Research has demonstrated the important role that passing these courses play in determining persistence and degree completion (Jenkins et. al. 2018). For these courses, we find same race match rates of 9% in first-college-level Math and 4% in first-college-level Reading and Writing. These rates are also particularly low in gateway coursework, where Black students match at 11% in College Algebra and 6% in both Business Math and Non-STEM Math.

Black and Hispanic students have the highest same-race matching rates in remedial and developmental education courses (34% for Hispanic students and 17% for Black students) and student success courses (34% each). These higher-than-average rates appear positive given that these courses are important opportunities to supplement students' learning and can improve longer-term success (Cho & Karp, 2013). However, when students do match in these courses, the instructor composition is only 8-10% tenured/tenure-track; 50% and 60% respectively are

classified as temporary or adjunct instructors. This suggests that, while Black and Hispanic students may experience strong matches in some early momentum courses, they do so with instructors who hold precarious positions with less access to resources and knowledge about relevant student supports available at their institutions, which potentially limits the longer-run benefits of same-race matching, particularly if matching improves students' outcomes through sustained mentoring and role modeling (Gershenson et al., 2022; Lusher et al., 2018).

When defining course success as earning a grade of A, B, C, or Pass, we show that virtually all students have higher descriptive course pass rates when they experience same-race match—but that this benefit is particularly large for students from underrepresented groups. The average pass rate across all student-instructor-course observations was 71% when same-race matching occurred compared to 68% non-matching. White students performed equivalently across matched and unmatched courses (72% each), but Black and Hispanic students had statistically significantly higher pass rates in courses when they had a same-race instructor. Black students were 4 percentage points more likely to pass; Hispanic students were 2 points more likely to pass. This descriptive benefit is even higher when a student is concurrently enrolled in a student success course that has a same-race instructor: up to 6 points for Black students and 4 points for Hispanics. For Black students specifically, having a same-race instructor is associated with higher course completion rates in first-college-level Math (5 points) and Reading (3 points); gateway courses (4 points), including Business Math (14 points) and Non-STEM Math (10 points); and remedial and developmental education courses (6 points).

Understanding who may be exposed to a same-race instructor, how often this occurs, where (i.e., in which courses) they may be exposed, and to what type of instructor is critical to begin conceptualizing the mechanisms and outcomes of same-race matching in higher education.

In this way, we not only generate new knowledge by documenting these differences across groups, instructors, course types, and over time but we also provide a foundation for future work. Furthermore, understanding groups' differential exposure to same-race matching across their courses has important implications for policy and practice. Particularly, these findings are important to frame our understanding of the diversity of the professoriate and how its composition facilitates or hinders same-race matching (and its potential benefits) in higher education.

Data

Texas is an ideal state to study the incidence of same-race matching for first-year community college students given the diversity of the state and institutions. While Texas has large community college systems that serve the incredibly diverse urban centers of the state and have predominantly low-income students from underrepresented backgrounds, the state also has small rural community colleges and systems that serve suburban areas and medium sized cities. Since 2011, the Texas Higher Education Coordinating Board (THECB) has collected transcript-level information from all students attending community college in the state, which allows us to identify the incidence of same-race instructor matching across colleges and types of courses during the first year of college. Importantly, the state also requires community colleges to use a common course-numbering system for all core courses at community colleges, allowing us to easily compare courses across colleges. Finally, Texas was also a forerunner in the national effort to reform developmental education, allowing us to observe changes in same-race matching for first-year students at community colleges during a time of rapid flux in the nature of the types of courses students take during the first year.

We leverage data from the THECB, whose records cover the universe of public higher education students in the state. We first identify all first-year, first-time community college students and observe their demographic profiles, including race, age, and gender.[2] Given that these are only first-year, first-time students, each record is unique; a student cannot appear consecutively.[3] We merge these records with course-level enrollment records by year, allowing us to isolate our population's coursetaking and course completion outcomes in their first (fall) semester. We limit our sample to students who had any positive-credit-hour enrollment record in their first semester and focus on enrollments from fall 2013 through fall 2019.[4] These course files include course-level subjects and special course designations (e.g., first college-level, gateway), students' final course grades, and a unique identifier for the instructor of record. This allows us to additionally merge a faculty report file to our dataset which captures several instructor-level demographics, including race, gender, appointment/rank, and employment status. In all, combining these three files covering the universe of community college students, instructors, and courses allows us to fully observe our population of interest, the incidence of same-race matching (overall and across various groups and course types), and how same-race matching may relate to course completion outcomes. Our unit of observation is the student-instructor-course combination. Because our analysis relies on basic directory information and course files that are necessary for the administration of financial aid programs, we have a trivial amount of missingness (n=31). We exclude those cases. Our final analytic dataset covers

[2] THECB records capture races in the following categories: Asian, Black, Hispanic, International, Native American, Two or More Races, Unknown (or unreported), or White. Our analysis is constrained by this reality.

[3] If students enroll at multiple community colleges in their first semester, we are still able to observe all enrollments, course details, and outcomes. Our analysis does not rely on students' being situated within a single college.

[4] While more recent cohorts of students are observable, we end our panel in 2019-20 to remove any possible impacts of the COVID-19 pandemic on students' enrollment and completion outcomes.

2,184,349 student-instructor-course observations, representing 580,184 unique students and 32,062 unique instructors.

Table 1 presents descriptive statistics for these populations overall, and Table 2 presents the racial composition for a sample of unique student and instructor records. Nearly 60% of students that ever appear in our sample are Hispanic or Black; 33% are white (Table 2). Conversely, over 63% of instructors are white, and only 16% are Hispanic and 10% are Black. Most (70%) instructors are classified as "full-time," though only 12% are in a tenured or tenure-track role (Table 1). The vast majority (88%) are instructors or have an unranked or other-classified position. Among all courses, 60% are designated as first college-level, 24% are gateway courses, 16% are classified as remedial and developmental education, and 5% are considered supplementary or complementary student success courses.

Empirical Strategy

To document the prevalence of same-race matching and explore how its incidence and potential effects vary across student groups, we use a variety of descriptive tools, including documenting averages, counts, proportions, and mean differences. Descriptive designs are preferred techniques for exploratory analyses like ours that seek to "identify phenomena or patterns in data that have not previously been recognized," particularly when applied to new populations or empirical questions (Loeb et al., 2017, p. 1). In this way, effectively leveraging descriptive techniques can "identify the characteristics of a population, help researchers understand a phenomenon of interest, generate hypotheses and intervention strategies, diagnose problems for practitioners and policymakers to address, and identify new issues to study" (Loeb et al., 2017, p. 1). Our study seeks to achieve each of these aims while both laying a foundation for future research and providing actionable insights for policymakers.

We begin our analysis by identifying the incidence of same-race matching. We create an indicator variable that assumes a value of 1 if a student and instructor share the same race within a given course and 0 otherwise. This definition allows students to experience same-race matching in some courses and not in others, rather than discretely identifying a student as *ever* experiencing a same-race match.[5] We then compute means to recover the overall rate of same-race matching in our sample and a series of conditional means, including within racial groups (e.g., Among all Black students, what is the rate of same-race matching?) and within race-by-course groups (e.g., Among all Black students in any first college-level course, what is the rate of same-race matching?). This allows us to both observe the overall incidence of same-race matching and identify how same-race matching varies across student groups and course types.

We identify students as "passing" a course if they earned a grade of A, B, C, or Pass (equal to 1) to explore how same-race matching may relate to students' course outcomes. From this analysis, we exclude no-credit courses, courses taken for no credit (e.g., audit), and ungraded courses (n=23,474 or 1% of our sample). We then compute conditional means within same-race matched and unmatched conditions by race (e.g., What is the mean pass rate for Black students in a matched course, and what is the mean pass rate for Black students in an unmatched course?). We then use a standard t-test to compare mean differences in students' course pass rates between matched and unmatched courses overall and within a series of specific courses.

Results

Table 3 shows the incidence of same-race matching overall and across racial groups and course types. Across all first-year courses, 42% of student-instructor pairs are same-race matches. However, this ranges from 77% for white students to 29% for Hispanic students and

[5] A measure of "ever-same-race matched" would artificially inflate the incidence of same-race matching and mask important variability in exposure to a same-race instructor across students' entire course histories.

14% for Black students. Students with an unknown race and Asian students experience low rates of same-race matching (7% and 6%, respectively), and International, Native American, and Two or More race students virtually never experience same-race matching across their first year of coursework (<1%). Appendix Table 1 shows that these rates of same-race matching have been relatively stable over time. Same-race matching rates for Black and Hispanic students have increased slightly from fall 2013 to 2019—up from 14% to 16% for Black students and from 27% to 30% for Hispanics—while rates of matching for white students fell from 79% to 75% over the same period. Matching rates for Asian and International students slightly increased over this time, up 2.5 and 0.6 percentage points respectively, but the already-low rates of matching for Native American, Two or More Race, and Unknown race students fell.

Rates of same-race matching within course types generally reflect overall rates of same-race matching. For example, white students match 77% across all courses, 78% in first college-level courses, and 76% in gateway courses. However, Black and Hispanic students are even less likely to match with a same-race instructor across many important first-year courses than their overall match rates (14% and 29% respectively) suggest. Black students match at a rate of 12% in any first college-level course, including only 4% in Reading and Writing and 9% in Math. This is also true for Black students' experiences in gateway courses, where they are slightly more likely to experience a match (17%), but not in select important courses: College Algebra (11%), Business Math (6%), Non-STEM Math (6%), Elementary Statistics (10%), or English Composition (12%). Black students are slightly *more* likely to match in Reading (16%). Like their Black peers, Hispanic students match at lower-than-expected rates across first college-level courses (24%), driven by lower matching in heavily-enrolled Math coursework (23%). Hispanic students are particularly more likely to match in Reading and Writing coursework (39%).

However, across gateway courses, Hispanic students are less likely to experience a match (26%), particularly in College Algebra (23%), Non-STEM Math (21%), Elementary Statistics (20%), and English Composition (24%).

While Black and Hispanic students are, on average, less likely to experience same-race matching within first college-level and gateway courses, they are substantially more likely to match with an instructor in a remedial or developmental education course (34% for Hispanic and 17% for Black) or a student success course (34% for both) than in their other courses (Table 3). However, as shown in Table 4, when Black and Hispanic students do experience matches in these important courses, they are more likely to match with non-tenured/tenure-track and contingent faculty. 92% of instructors in matched pairs across remedial and developmental education courses are categorized as instructors (42%) or as adjuncts, visiting instructors, other/no rank, or hold a special appointment (50%); only 8% are assistant, associate, or full professors. The same is true for same-race instructors in student success courses, where only 10% are either tenured or on the tenure-track.

Table 5 shows descriptive differences in students' course pass rates between matched and unmatched courses. Overall, students in our sample have higher course pass rates when they experience same-race matching: 71% compared to 68% in unmatched courses. This benefit is particularly large for Black and Hispanic students, whose outcomes are 4 and 2 percentage points higher, respectively. That is, Black students were 4 percentage points more likely to pass a course with a same-race instructor; Hispanic students were 2 percentage points more likely. This benefit is even higher when a student is concurrently enrolled in a student success course that has a same-race instructor: up to 6 percentage points for Black students and 4 percentage points for Hispanics. Descriptive benefits for Black students are even larger in some first-year courses,

including 5 percentage points in first college-level Math, 4 percentage points across gateway courses, and 6 percentage points in remedial and developmental education coursework. Suggestive evidence points to even greater gains in Business Math (14 percentage points) and Non-STEM Math (10 percentage points). For Hispanic students, having a same-race instructor is associated with a 2.5 percentage point higher pass rate in any first-level course; 5 percentage point higher rate in Elementary Statistics; 4 percentage points higher rate in College Algebra and Business Math; and 3 percentage points higher in gateway courses and Non-STEM Math. Conversely, white students performed equivalently across matched and unmatched courses, providing no evidence of a minority-matching penalty for white students in our sample.

Discussion

Despite consistent evidence on the benefits of same-race matching in the K-12 and postsecondary arenas, existing research has failed to document the overall prevalence of same-race matching and how its incidence varies across student racial groups. That is, we lack basic knowledge on who has access to a same-race instructor, and, for students who do, we lack information on the types of instructors they match to, the types of courses they are more or less likely to match in, and the descriptive outcomes of this matching. Our study fills each of these gaps, and, in doing so, not only extends existing literature across the K-12 and postsecondary landscapes but also provides policymakers and practitioners with clear information on the incidence and outcomes associated with same-race matching.

Leveraging data on the universe of first-year, first-time-in-college students in Texas community colleges, we show that same-race matching varies widely across racial/ethnic groups, where students in racially minoritized groups are substantially less likely to experience a same-race match in any given course. White students experience same-race matching in 77% of

student-instructor-course combinations, but this rate is only 29% for Hispanics and 14% for Blacks. Rates of same-race matching are especially low for Black students in important first-year courses, including Math- and Reading/Writing-related coursework, as well as in gateway College Algebra. This suggests that, even if same-race matching yields benefits for racially minoritized students, they are unlikely to ever experience such matches in their first year of study. We do observe that same-race matching for Black and Hispanic students has increased slightly since fall 2013, but it remains significantly lower than that of their white peers. Black and Hispanic students have the highest same-race matching rates in remedial and developmental education courses and student success courses, but this is predominantly driven by students matching to temporary or adjunct instructors who commonly teach in these sections. This suggests that, if matching improves students' outcomes through sustained mentoring and role modeling as suggested in prior work, students in our setting may have a lower likelihood of receiving these benefits if instructors occupy precarious or shorter-term contracts. Finally, we also show that virtually all students have higher descriptive course pass rates when they experience a same-race match—but that this benefit is particularly large for students from underrepresented groups, where pass rates descriptively increase by 4 to 6 percentage points. We also find that white students perform equivalently across matched and unmatched courses, providing no evidence of a minority-matching penalty for white students in our sample.

These findings have important implications for policy and future research. Equipped with this information on unequal access to same-race instructors (alongside prior evidence on the positive benefits of same-race matching), policymakers and institutional administrators should work to reduce inequalities in same-race matching rates across racial/ethnic groups. We show that existing matching rates largely reflect the population of instructors, where 63% are white,

16% are Hispanic, and 10% are Black. This reality does not reflect the current student population in our sample, where only 33% are white compared to 48% Hispanic and 11% Black. Therefore, actions to increase same-race matching for racially minoritized students likely includes actions to both diversify the professoriate broadly and help ensure that racially minoritized faculty provide instruction in important courses where the benefits of same-race matching are likely most pronounced for first-year students. Furthermore, given evidence that the benefits of same-race matching for racially minoritized students may be even greater when students have access to complementary and supplementary supports (e.g., student success coursework), institutional administrators could use this knowledge to guide students into these courses or provide more tailored and targeted supports. Finally, equipped with this our descriptive findings, future research should work to credibly estimate the causal effects of same-race matching in the postsecondary space and consider how these impacts vary with the *intensity* of same-race matching (e.g., students who experience matching in one course versus students who experience matching in many courses). Future research could also use mixed and qualitative approaches to better explicate the mechanisms via which same-race matching produces positive academic outcomes and to contextualize the experiences of college students who experience same-race matching.

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Table 1. Descriptives.

Same-Race Match	41.6%	**Instructor**	
		Race: Black	8.3%
Student		Race: Asian	3.2%
Race: Black	11.5%	Race: Hispanic	17.6%
Race: Asian	3.0%	Race: International	0.1%
Race: Hispanic	46.5%	Race: Native American	0.5%
Race: International	0.5%	Race: Two or More Races	0.6%
Race: Native American	0.4%	Race: Unknown	3.9%
Race: Two or More Races	2.4%	Race: White	65.7%
Race: Unknown	1.7%	Gender: Female	53.0%
Race: White	34.1%	Gender: Male	47.0%
Age	19.7	Rank: Assistant	4.2%
Gender: Female	51.1%	Rank: Associate	3.6%
Gender: Male	48.9%	Rank: Full	4.2%
		Rank: Instructor	39.6%
Course		Rank: No Rank	35.4%
First College Level (Any)	59.9%	Rank: Other	12.9%
First College Level: Math	34.7%	Status: Full-Time	70.3%
First College Level: Reading & Writing	0.5%	Status: Part-Time	29.7%
First College Level: Reading	24.6%		
Gateway (Any)	23.5%		
Gateway: College Algebra	5.0%		
Gateway: Business Math	1.1%		
Gateway: Non-STEM Math	0.7%		
Gateway: Elem. Statistics	0.7%		
Gateway: English Composition	11.2%		
Developmental/Remedial Ed.	15.6%		
Student Success/Learning Course	4.9%		
Mode: Face-to-Face	91.9%		
Mode: Hybrid	2.2%		
Mode: Online	5.9%		

Source: Texas ERC

Notes: N=2,184,349; Data include universe of courses for first-time-in-college freshmen who enrolled from fall 2013 through fall 2019 in Texas community colleges.

Table 2. Student and Instructor Populations.

	Student		Instructor	
	n	%	n	%
Black	66,208	11.4%	3,141	9.8%
Asian	18,692	3.2%	1,339	4.2%
Hispanic	277,837	47.9%	5,149	16.1%
International	2,681	0.5%	76	0.2%
Native American	2,329	0.4%	138	0.4%
Two or More Races	13,584	2.3%	239	0.7%
Unknown	9,911	1.7%	1,706	5.3%
White	188,942	32.6%	20,274	63.2%
Total	**580,184**	**100.0%**	**32,062**	**100.0%**

Source: Texas ERC

Notes: Notes: Table reports unique counts of students and instructors from universe of courses for first-time-in-college freshmen who enrolled from fall 2013 through fall 2019 in Texas community colleges.

Table 3. Same-Race Matching Occurrence.

	Overall	First College Level Course					
		Any First-Level	Math	Reading & Writing	Reading	Writing	Non First-Level
Black	14.2%	12.4%	9.3%	3.5%	15.8%	5.6%	15.9%
Asian	6.1%	6.4%	8.1%	10.2%	3.4%	5.6%	5.3%
Hispanic	28.6%	24.4%	22.6%	39.1%	26.5%	28.1%	34.6%
International	0.3%	0.3%	0.3%	0.0%	0.3%	0.0%	0.2%
Native American	0.6%	0.6%	0.7%	0.0%	0.6%	0.0%	0.6%
Two or More Races	0.9%	0.7%	0.7%	0.3%	0.8%	0.0%	1.1%
Unknown	6.9%	6.0%	6.3%	12.6%	5.5%	1.8%	7.8%
White	77.4%	78.2%	79.4%	61.5%	76.6%	81.1%	75.9%
Overall	**41.6%**	**41.1%**	**41.6%**	**41.7%**	**40.4%**	**45.7%**	**42.4%**

	Gateway Course						
	Any Gateway	College Algebra	Business Math	Non-STEM Math	Elem. Statistics	English Composition	Non-Gateway
Black	17.3%	10.7%	6.3%	6.0%	10.1%	12.2%	13.4%
Asian	7.3%	15.8%	13.3%	11.8%	14.3%	2.8%	5.6%
Hispanic	26.0%	22.7%	31.3%	21.1%	20.4%	23.8%	29.5%
International	0.3%	0.9%	1.3%	0.0%	0.0%	0.0%	0.2%
Native American	0.6%	0.2%	0.0%	0.0%	0.0%	0.9%	0.6%
Two or More Races	0.8%	0.9%	1.3%	0.4%	0.2%	0.7%	0.9%
Unknown	6.0%	4.5%	5.2%	0.3%	8.2%	6.8%	7.1%
White	76.0%	72.7%	76.0%	75.3%	76.7%	80.9%	77.8%
Overall	**40.2%**	**38.1%**	**48.3%**	**39.2%**	**37.5%**	**40.6%**	**42.1%**

	Developmental/Remedial Ed.		Student Success/Learning Course	
	Yes	No	Yes	No
Black	16.9%	13.5%	33.9%	13.1%
Asian	5.9%	6.1%	1.6%	6.3%
Hispanic	33.8%	27.5%	33.9%	28.3%
International	0.3%	0.3%	0.2%	0.3%
Native American	0.3%	0.7%	0.3%	0.6%
Two or More Races	1.5%	0.8%	0.8%	0.9%
Unknown	8.0%	6.6%	6.5%	6.9%
White	72.5%	78.0%	65.8%	77.8%
Overall	**38.2%**	**42.3%**	**40.1%**	**41.7%**

Source: TX ERC.

Notes: N=2,184,349; Data include universe of courses for first-time-in-college freshmen who enrolled from fall 2013 through fall 2019 in Texas community colleges.

Table 4. Same-Race Matching Occurrence – Instructor Type.

	Developmental/Remedial Ed.		**When matched, instructor designation:**	
	Yes	No	8.0%	Assistant, Associate, or Full Professor
Black	16.9%	13.5%	41.7%	Instructor
Asian	5.9%	6.1%	50.3%	Adjunct/Visiting/Special + Other/No Rank
Hispanic	33.8%	27.5%		
International	0.3%	0.3%		
Native American	0.3%	0.7%		
Two or More Races	1.5%	0.8%		
Unknown	8.0%	6.6%		
White	72.5%	78.0%		
Overall	**38.2%**	**42.3%**		
	Student Success/Learning Course		**When matched, instructor designation:**	
	Yes	No	9.5%	Assistant, Associate, or Full Professor
Black	33.9%	13.1%	29.9%	Instructor
Asian	1.6%	6.3%	60.7%	Adjunct/Visiting/Special + Other/No Rank
Hispanic	33.9%	28.3%		
International	0.2%	0.3%		
Native American	0.3%	0.6%		
Two or More Races	0.8%	0.9%		
Unknown	6.5%	6.9%		
White	65.8%	77.8%		
Overall	**40.1%**	**41.7%**		

Source: TX ERC.

Notes: N=2,184,349; Data include universe of courses for first-time-in-college freshmen who enrolled from fall 2013 through fall 2019 in Texas community colleges.

Table 5. Same-Race Matching Course Performance: Pass Rate.

	Overall			First College Level Course															Gateway Course																	
				Any First-Level			Math			Reading & Writing			Reading			Writing			Any Gateway			College Algebra			Business Math			Non-STEM Math			Elem. Statistics			English Composition		
	Match	No Match	p	Match	No Match	p	Match	No Match	p	Match	No Match	p	Match	No Match	p	Match	No Match	p	Match	No Match	p	Match	No Match	p	Match	No Match	p	Match	No Match	p	Match	No Match	p	Match	No Match	p
Black	60.7%	56.4%	<0.001	59.1%	54.7%	<0.001	57.5%	52.6%	<0.001	50.0%	49.3%	0.939	60.2%	57.2%	<0.001	57.1%	60.9%	0.863	61.1%	56.8%	<0.001	49.3%	46.9%	0.176	51.2%	37.5%	0.019	60.2%	50.8%	0.062	43.0%	48.5%	0.198	61.4%	59.1%	0.020
Asian	77.9%	79.9%	0.003	77.9%	79.3%	0.057	77.4%	77.8%	0.651	83.3%	80.2%	0.640	79.5%	81.7%	0.185	33.3%	84.3%	0.264	75.9%	79.9%	0.001	73.9%	73.9%	0.971	73.3%	78.8%	0.179	84.2%	78.5%	0.384	70.2%	72.6%	0.623	82.4%	80.6%	0.501
Hispanic	71.0%	69.3%	<0.001	69.9%	67.4%	<0.001	66.8%	64.6%	<0.001	67.7%	67.7%	0.984	73.5%	71.3%	<0.001	66.0%	64.4%	0.643	70.2%	67.4%	<0.001	60.9%	56.7%	<0.001	65.3%	61.7%	0.001	68.7%	65.7%	0.037	60.2%	55.7%	0.003	68.8%	68.8%	0.884
International	40.0%	78.1%	0.001	37.5%	77.4%	0.006	20.0%	76.2%	0.002	-	83.3%	-	66.7%	78.9%	0.588	-	60.0%	-	50.0%	77.8%	0.270	50.0%	69.6%	0.546	0.0%	71.1%	-	-	75.8%	-	-	63.0%	-	-	80.2%	-
Native American	46.4%	67.1%	0.004	45.5%	65.3%	0.032	50.0%	62.8%	0.280	-	71.4%	-	38.5%	68.5%	0.054	-	72.2%	-	45.5%	64.7%	0.251	100.0%	50.3%	-	-	66.3%	-	-	66.7%	-	-	63.3%	-	33.3%	67.9%	0.072
Two or More Races	66.0%	66.3%	0.891	65.4%	66.3%	0.747	64.2%	64.3%	0.986	100.0%	65.0%	-	66.7%	69.4%	0.553	-	66.1%	-	54.5%	66.0%	0.025	38.5%	57.8%	0.059	25.0%	61.9%	0.059	50.0%	66.5%	0.798	100.0%	54.6%	-	69.8%	67.3%	0.734
Unknown	72.8%	68.9%	<0.001	68.8%	66.8%	0.126	69.0%	65.1%	0.030	41.7%	65.1%	0.041	70.0%	69.0%	0.652	100.0%	69.1%	-	68.5%	67.2%	0.528	55.3%	56.7%	0.805	37.5%	55.7%	0.175	100.0%	65.3%	-	83.3%	55.7%	0.009	67.0%	69.3%	0.462
White	71.7%	71.9%	0.104	70.9%	71.6%	<0.001	68.9%	68.7%	0.406	71.1%	70.2%	0.529	74.2%	75.6%	<0.001	76.1%	75.3%	0.840	69.9%	70.5%	0.019	61.0%	60.5%	0.409	69.3%	69.6%	0.803	68.6%	69.3%	0.643	61.7%	60.0%	0.311	72.0%	72.6%	0.119
Overall	**71.1%**	**67.9%**	**<0.001**	**70.3%**	**66.8%**	**<0.001**	**68.3%**	**64.5%**	**<0.001**	**69.7%**	**66.1%**	**<0.001**	**73.3%**	**70.1%**	**<0.001**	**73.0%**	**66.8%**	**0.002**	**69.6%**	**67.1%**	**<0.001**	**60.9%**	**57.4%**	**<0.001**	**68.1%**	**62.1%**	**<0.001**	**68.6%**	**64.1%**	**<0.001**	**61.0%**	**56.4%**	**<0.001**	**70.8%**	**68.6%**	**<0.001**

	Developmental/Remedial Ed.			Student Success/Learning Course			Other Courses, *When Enrolled in Student Success/Learning Course*		
	Match	No Match	p	Match	No Match	p	Match	No Match	p
Black	62.1%	56.4%	<0.001	64.1%	64.9%	0.361	63.2%	56.8%	<0.001
Asian	78.6%	81.2%	0.141	90.0%	87.7%	0.594	79.1%	81.8%	0.090
Hispanic	68.6%	68.2%	0.138	79.4%	78.3%	0.002	73.3%	69.6%	<0.001
International	50.0%	77.7%	0.271	100.0%	83.8%	-	0.0%	79.0%	-
Native American	50.0%	63.2%	0.678	100.0%	72.3%	-	40.0%	59.9%	0.254
Two or More Races	63.6%	60.4%	0.540	52.6%	75.3%	0.070	72.8%	68.9%	0.411
Unknown	65.6%	67.1%	0.499	83.3%	77.0%	0.092	68.2%	68.6%	0.879
White	65.1%	66.9%	<0.001	77.5%	79.2%	0.001	71.1%	73.0%	<0.001
Overall	**66.5%**	**66.1%**	**0.041**	**77.0%**	**77.0%**	**0.810**	**71.6%**	**68.4%**	**<0.001**

Source: TX ERC.

Notes: N=2,160,877; Data include universe of courses for first-time-in-college freshmen who enrolled from fall 2013 through fall 2019 in Texas community colleges. Sample excludes no/non-credit and ungraded courses. Pass rate is share of students earning A, B, C, or Pass. p value is on t-test of mean differences of outcomes between matched and non-matched groups. Course pass rates cannot be computed if there are no same-race matches; p-values cannot be computed if there is only 1 same-race match (evidenced here by a 100% or 0% pass rate).

APPENDIX

Table A1. Same-Race Matching Occurrence Over Time.

	2013	2014	2015	2016	2017	2018	2019
Black	13.6%	13.3%	10.1%	14.4%	15.2%	16.0%	16.0%
Asian	4.5%	6.2%	5.3%	6.0%	6.1%	7.0%	7.0%
Hispanic	26.5%	25.7%	29.6%	29.2%	29.7%	29.1%	30.1%
International	0.1%	0.1%	0.0%	0.2%	0.3%	0.2%	0.7%
Native American	1.1%	0.1%	0.5%	0.5%	0.8%	0.3%	1.0%
Two or More Races	1.0%	0.8%	0.8%	0.6%	0.8%	0.9%	1.1%
Unknown	6.0%	13.0%	13.8%	3.7%	1.8%	4.2%	2.2%
White	79.0%	77.4%	78.1%	76.9%	77.8%	76.8%	75.3%
Overall	**42.6%**	**41.3%**	**43.0%**	**41.8%**	**41.9%**	**41.3%**	**39.7%**

Source: TX ERC.

Notes: N=2,184,349; Data include universe of courses for first-time-in-college freshmen who enrolled from fall 2013 through fall 2019 in Texas community colleges.