8-2022

Diversity, Equity, and Inclusion: Three Essays in the Educational Context

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Diversity, Equity, and Inclusion: Three Essays in the Educational Context

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy in Education Policy

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Abstract

Many universities and K-12 public school systems express a significant, formal commitment to the ideals of diversity, equity, and inclusion (DEI). Relative to the emphasis on DEI in America's educational institutions, however, there has been little research describing DEI trends and evaluating the efficacy of DEI bureaucracies. This three-chapter dissertation examines DEI trends that have been the subject of much discussion—but rarely studied empirically.

For example, chapter one analyzes how universities promote DEI when hiring new faculty. I audit a subset of academic job postings and present the first evidence on how many require DEI statements, as well as the extent to which these requirements vary by university characteristics. I find that more than two-thirds of job advertisements mention the term *diversity* and 19 percent require DEI statements. More selective institutions are roughly 20 percentage points more likely than less-selective institutions to require DEI statements. There are no meaningful differences across academic subfields, suggesting that DEI requirements are not confined to the social sciences.

Chapter two provides the first systematic study of DEI bureaucracy across school districts. I identify factors that predict whether K-12 school districts employ a chief diversity officer (CDO) and explore whether CDO employment is correlated with shrinking achievement gaps. I find that roughly 40 percent of the largest school districts in the United States employ CDOs. Districts in "blue" or Democratic-controlled states—which we define as those states where at least two of the House, Senate, and governorship are held by Democrats—are upwards of 15 percentage points more likely to have CDOs than districts in "red" states. An exploratory analysis suggests that CDO employment is not associated with achievement gap reductions, over

the past ten years, between whites and Blacks, whites and Hispanics, and nonpoor versus FRPL eligible students.

Chapter three explores how DEI issues manifest on the college graduate job market. I present the results of a resume audit—the first to estimate the causal effect of listing collegiate athletics on employer callbacks—and test for subgroup effects by ethnicity and gender. I show that listing sports participation does not significantly change whether an applicant receives a callback or interview request from an employer. Applicants who list sports are slightly less likely to receive interest from employers, but these differences are not statistically significant. There are somewhat larger decreases in the likelihood that females and non-white applicants receive callbacks when their resumes include sports, but these disparities also fell short of statistical significance. I discuss how gender and racial differences observed in this study may inform the need for DEI interventions.

Acknowledgements

I am thankful to the faculty and staff of the Department of Education Reform. I acknowledge Jay Greene for exemplifying what it means to be a mentor. His constructive feedback and enduring support were instrumental to my growth as a researcher. Bob Maranto provided an encyclopedic knowledge of politics, which was crucial for understanding the democratically controlled institutions that are public schools. I was fortunate to work with someone who was so kind and enthusiastic about research. Albert Cheng pushed me to engage with foundational questions of education policy. Patrick Wolf was gracious to include me on several terrific projects. I also acknowledge Nate Benefield, Charles Mitchell, and Matt Brouillette for giving me an opportunity to work in this field and begin thinking deeply about education policy. Thanks to Matthew Lee and Dillon Fuchsman for their research advice and friendship.

Above all else, I am confident the most influential educational intervention in my life was having the good fortune of being raised by a loving mother and father.

Dedication

For Britt and Michael.

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[1] This manuscript is under review at *Studies in Higher Education*.

Introduction

American universities and K-12 school systems express a prominent commitment to the ideals of diversity, equity, and inclusion (DEI). Part of the emphasis on DEI in higher education is due to increased college enrollment rates among racial minorities during recent decades (National Center for Education Statistics, 2017). Although faculty have also become more racially diverse over time, students remain significantly more likely than their professors to be Black or Latino (Davis & Fry, 2019). To meet the needs of more diverse campuses, many schools have developed diversity bureaucracies, often headed by Chief Diversity Officers (CDO), to oversee and implement diversity efforts. CDOs are expected to promote an equity-minded culture, attract diverse professionals, and ensure that underrepresented groups feel included in campus life. Perhaps because of this growing DEI bureaucracy, job postings for faculty and post-doctoral positions sometimes require applicants to submit diversity statements in addition to traditional materials like a curriculum vitae, cover letter, and references (University of California, 2019). When writing diversity statements, job candidates affirm that their research, teaching, and service prioritized DEI in the past—and will continue doing so in the future. Universities may also require that faculty members applying for tenure submit diversity contribution statements (Flaherty, 2022). Accordingly, it is becoming a standard requirement that faculty demonstrate a commitment to DEI to get hired and earn promotions.

In K-12 public school systems, DEI efforts are part of a larger project to reduce achievement gaps. Differences in test scores between Asians and white students relative to Black and Latino students have been large and persistent for decades. By supporting DEI, districts are attempting to reduce or eliminate disparate outcomes and creating more culturally affirming environments. Public school districts have followed the lead of their higher education

counterparts by hiring administrators who assume titles like Chief Equity Officer, Director of Diversity, Director of Equity, and Chief of Equity & Access, among others. Diversity staffers in K-12 schools are less common than in higher education (Greene & Paul, 2021), but little is known about the size, growth, and efficacy of diversity bureaucracies at either level.

Granted, education policy researchers are keenly focused on equity. One analysis found that the term *equity* appeared most often in the annual programs of major education conferences over the past 15 years, exceeding terms like *race*, *choice*, *family*, *gender*, and *Pre-K* (Hess & Greene, 2020). Yet, with few exceptions (Bradley et al., 2018), there has been little study of DEI bureaucracies or diversity-related requirements in higher education. Perhaps this lack of scholarly interest can be explained by the fact that formal DEI bureaucracies are a relatively new phenomenon. Alternatively, DEI efforts may avoid scrutiny because they are almost universally perceived as a laudable goal within the academy. Indeed, diversity-related efforts often appear well-intentioned.

Outside of the academy, however, DEI efforts are the subject of controversy. Advocates argue that proportional representation of diverse groups is inherently valuable, that members of diverse teams may be more productive, and that DEI is part of a broader mission to achieve social justice (Gaither et al., 2017; Gompers & Kovvali, 2018; Hunt et al., 2018). Critics worry that the terms diversity, equity, and inclusion have been co-opted to advance a narrow, divisive political ideology that reduces complex individuals into coarse identity-based categories (Thompson, 2019). Pondiscio (2022) similarly warns that a disproportionate educational emphasis on differences across groups may come at the expense of a cohesive national identity and shared culture.

This three-chapter dissertation studies DEI-related trends that have been the subject of much debate—but rarely measured empirically. In chapter one, I provide the first quantitative evidence on diversity statement requirements for higher education job postings. I audit a representative sample of nearly 1,000 academic job postings during Fall 2020 and code which jobs require diversity statements and which jobs mention the term *diversity*. Nearly twenty percent of the job postings in this sample required applicants to submit diversity statements. Selective universities are significantly more likely to require DEI statements than non-selective universities. Broad academic disciplines are not significant predictors of DEI statements, suggesting that DEI requirements are not confined to the social sciences.

In the second chapter, I present the first systematic analysis of diversity bureaucracies in large public school districts. The chapter begins by applying school leadership theory to hypothesize about the mechanisms by which CDOs could achieve their objectives. I theorize why diversity administrators should not be expected to close achievement gaps that have stubbornly persisted for decades. From there, I collect original data to identify which school districts employ CDOs, what district-level factors predict the employment of CDOs, and whether the employment of CDOs is correlated with reduced achievement gaps over time. I find that nearly 40 percent of school districts that enroll more than 15,000 students employ CDOs. District size and the state's political ideology are strong predictors of CDO employment. Moreover, an exploratory analysis suggests that diversity bureaucracies are not associated with achievement gap reductions over the past ten years between whites and Blacks, whites and Hispanics, and nonpoor versus FRPL-eligible students. In fact, the magnitude of the correlation between CDO employment and achievement gap growth is slightly positive in some models.

In chapter three I explore DEI issues in the context of college athletics. Sports have historically been a mechanism to ease educational integration, and expanded Title IX-related policies have been justified on gender-equity grounds. At the same time, there is little rigorous scholarship investigating whether athletic participation benefits women, minorities—or anyone—on the job market. Thus, this chapter investigates how collegiate athletic participation influences labor market outcomes. I present the results of a resume audit—the first to estimate the causal effect of listing collegiate athletics on employer callbacks—and test for subgroup effects by ethnicity and gender. Results from this chapter may be most valuable to a student who is on the margin of participating in collegiate athletics. Will one's labor market prospects be limited, unaffected, or improved by listing this experience on a resume? I present evidence that listing sports participation does not significantly change whether an applicant receives a callback or interview request. Applicants who list sports are slightly less likely to receive interest from employers, but these differences are not statistically significant. There are larger decreases in the likelihood that females and nonwhite applicants receive callbacks when their resumes include sports, but these disparities also fall short of statistical significance. I discuss how gender and racial differences observed in this study may inform the need for DEI interventions.

Taken together, these essays describe trends in DEI bureaucracy and offer exploratory analyses of whether DEI efforts are achieving their goals. Conclusive evidence about the efficacy of DEI interventions is beyond the scope of this paper and will likely remain the subject of considerable debate. In sectors outside of education, there is evidence that diversity-related personnel management approaches have underperformed or even proven counterproductive in diversifying leadership and improving intergroup relations (Dobbin & Kalev, 2018). I hope that

sound theory, research-based evaluations of existing practices, and empirical work such as this dissertation can inform reasoned debate on the subject.

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Chapter 1—Diversity statement requirements in higher education

Coauthored with Robert Maranto

Introduction

Higher education job postings for faculty and post-doctoral positions may require applicants to submit diversity statements in addition to traditional materials like a curriculum vitae, cover letter, and references. In a diversity statement, applicants affirm a commitment to diversity, equity, and inclusion (DEI). The Chief Diversity Officer at the University of Michigan likens DEI to attending a dance: "Diversity is where everyone is invited to the party, equity means that everyone gets to contribute to the playlist, and inclusion means that everyone has the opportunity to dance" (Sellers, 2020). The director of the National Center for Institutional Diversity suggests that diversity statements should demonstrate three competencies: scholarly expertise pertaining to DEI, experience mentoring in an inclusive fashion, and a commitment to helping students from underrepresented populations succeed in college (Chavous, 2020).

The University of California (UC) is the leading university system to embrace mandatory DEI statements from faculty applicants. As of 2018, eight out of ten UC campuses required statements. In 2019, a joint task force recommended that DEI requirements be standardized system-wide (University of California, 2019). At UC-Berkeley, administrators published a sample "Rubric for Assessing Candidate Contributions to Diversity, Equity, and Inclusion," which provides guidance for search committees to use when evaluating applicants (Berkeley Office for Faculty Equity & Welfare, 2020). Under this rubric, applicants are evaluated on a one through five scale for knowledge of DEI, track record of DEI, and plans for advancing DEI in the future. When UCLA's Executive Vice Chancellor and Provost announced that all academic units at UCLA would require diversity statements, he argued it would enhance the university's

ability to attract a diverse pool of candidates, "particularly those most vigilant of subtle cues concerning institutional culture and values" (Waugh, 2018). UCLA's decision noted that diversity statements were becoming more common nationally and that growth would continue "as campuses continue to learn the benefits of DEI statements."

Beyond California, anecdotal evidence suggests the use of mandatory DEI statements is indeed growing (Brown, 2019). Yet there have been no empirical investigations into the frequency with which DEI statements are required nor how DEI requirements vary across academic disciplines. Whether or not DEI statements are beneficial for higher education is in part a normative question, but it should be informed by empirical evidence about their frequency.

In this paper, we audit a subset of academic job postings for six social sciences, Science, Technology, Engineering and Math (STEM) openings and miscellaneous other fields advertised during Fall 2020 (n=999) to explore how many require DEI statements and the extent to which these requirements vary by university selectivity, geographic region, and academic disciplines. We find that 68 percent of job advertisements mention the term *diversity* and 19 percent require DEI statements. Elite institutions are roughly 20 percentage points more likely than non-elite institutions to require DEI statements. Institutions in the West are more likely than in other regions to require DEI statements. We do not find meaningful differences across academic subfields once other controls are added.

Motivation and Background

We begin by summarizing the debate over whether DEI requirements are beneficial to the mission of higher education.

Arguments in Favor of DEI Requirements in Higher Education

First, DEI advocates are concerned that some university faculty are unrepresentative of their students with respect to race, ethnicity, gender, and other characteristics. Proportional representation may be inherently valuable. A substantial body of work, mainly from political science, suggests that public organizations that resemble their constituents may enjoy more legitimacy (Pitkin, 1967; Meier & Rutherford, 2017). STEM fields are well-known to lack racial and gender diversity (Valantine et al., 2016). As of 2015, members of underrepresented racial and ethnic groups comprised only seven percent of science and engineering doctorate holders employed as full professors (National Science Foundation, 2019). Although faculty have become more diverse over time, college students are twice as likely as faculty to be Black and four times as likely to be Hispanic (Davis & Fry, 2019). An emphasis on DEI in faculty hiring could offset historical underrepresentation of certain groups and ensure that all candidates receive fair consideration. A more diverse faculty may also contribute to a more welcoming academic environment for underrepresented students, staff, and junior scholars.

Second, members of diverse groups may be less likely to conform or engage in groupthink relative to members of homogeneous groups (Gaither et al., 2017). Identifying new research questions is central to the pursuit of knowledge, and it is plausible that a more diverse faculty will lead to a more innovative, salient research agenda. As Tabak and Collins (2011) put it, a lack of diversity leads to the "inescapable conclusion that we are missing critical contributors to our talent pool." Additionally, evidence from Page (2008) suggests that diverse groups may be more adept at solving problems. Mitchell (2018) argues that diverse academic departments are less likely to design curricula that privilege upper-middle-class students.

Third, universities that draw faculty from diverse talent pools may be more productive or efficient (Gompers & Kovvali, 2018; Hunt et al., 2018). Burns (2012) estimates the annual cost

of workplace discrimination in the United States is $64 billion, which is largely driven by replacing workers, declining productivity, and rising litigation costs. Diverse organizations may be more successful at retaining employees, as well (Maurer & Qureshi, 2019; Travis et al., 2019).

Fourth, Kendi (2019) and others might see DEI statement requirements as small parts of broader efforts to achieve social justice by dismantling privilege, since notions of objective merit are inherently problematic and socially constructed to serve the powerful. An inequitable racial or ethnic distribution of faculty is presumed to result from oppression (Ladson-Billings, 1998). DEI statements offer job applicants the opportunity to show that they are dedicated to dismantling systemic oppression. Relatedly, if an organization decides that DEI is an institutional priority, requiring candidates to signal adherence to this priority may help assure organizational mission coherence, increasing effectiveness and lessening conflict (Downs, 1967). Sylvester and colleagues (2019) argue that DEI statements reinforce the notion that DEI efforts are the responsibility of all faculty, not just those from underrepresented backgrounds.

Arguments Against DEI Requirements in Higher Education

Although the ostensible purpose of DEI statements is to create an inclusive environment, these requirements may amount to "political tests with teeth" (Thompson, 2019). Since demographic and gender diversity are values with more support among liberals, conservatives and free-speech advocates worry that mandated diversity statements could "cast a pall of orthodoxy over the classroom" and limit the applicant pool to candidates with particular views and values (Leiter, 2020). A tongue-in-cheek thought experiment from Shibley (2018) considers whether a university could feasibly require "capitalism, freedom, and patriotism" statements in place of diversity, equity, and inclusion statements. If DEI requirements are used to screen out

applicants with heterodox views, this action could limit the scope of academic research questions and stifle academia's broader pursuit of truth. Ironically, higher education institutions mandating diversity statements could inadvertently filter out applicants with nonconforming views—resulting in an applicant pool that is more like-minded than it is diverse, particularly about religion (Yancey, 2011). Musa al-Gharbi (2019) raises class-related concerns that first-generation college attendees, particularly immigrants, may be both more socially conservative than more privileged peers and less able to employ dynamic politically correct language; hence, the use of DEI statement requirements may disproportionately screen out members of these underrepresented groups. al-Gharbi elaborates:

> After all, there is a big gap between being able to spin a compelling narrative about helping students from underrepresented backgrounds, and actually being *effective* at doing this in practice. People who have mastered woke language and ideas may be really great at the former and terrible at the latter, because many students who are first-gen, low-income, rural, minorities, etc. are not woke, have not mastered these elite discourses, etc. and may not relate to them either (personal communication, February 16, 2021).

Developing and agreeing upon operational definitions of diversity is no simple task, partially due to the amorphous definition of diversity employed in higher education contexts (Berrey, 2011; Ahmed, 2012). Frisby (2018) asks which types of diversity will be most valuable to a hiring committee. Diversity with respect to race—and if so, do East Asians and South Asians count? Ethnicity? Sex? Gender identity? Sexual orientation? Life experience? Social or economic class? Perry (2019) warns that, in practice, DEI statements signal a narrow conception of diversity and serve as "purity tests of an applicant's worthiness in adherence to a uniform, leftist-liberal-progressive view."

Secondly, DEI requirements could reduce faculty quality. Poliakoff (2020) cites a Berkeley hiring process in which applications for a life sciences faculty position were cut from 894 to 214 based on the university's diversity rubric. If talented academics are overlooked due to

insufficient DEI credentials, there may be negative consequences for student learning and publication quality. Moreover, faculty instructed to advertise their commitment to DEI may feel compelled to study these issues once they are hired. There could be a tradeoff between DEI efforts and other responsibilities related to teaching, research, and service. Perhaps reflecting this, some universities have obscured the degree to which they use diversity statements to screen out applicants (Ortner, 2020).

Third, mandatory DEI statements could contribute to a loss of public faith in higher education institutions if such requirements are seen as politically charged. A 2019 Pew Research poll found that 59 percent of Republicans believe colleges have a negative effect on the country, while only 33 percent said colleges had a positive effect (Parker, 2019). More recent surveys indicate that perceived political correctness in higher education and the media have increased the tendency for swing voters to vote Republican in recent elections (Olsen, 2021). DEI requirements may thus weaken social cohesion and increase polarization.

Lastly, Kang and colleagues (2016) offer evidence that diversity statements may "encourage job applicants to let their guard down" and disclose information that discriminatory hiring officials may use to weed out their candidacy. In this sense, diversity statements could work against their intended effect (Carnes et al., 2019).

Hypotheses

We begin with three hypotheses. First, we suspect DEI requirements are positively correlated with endorsement of politically correct views, which are more prominent in elite universities (Mandelbaum, 2020; Rothman & Lichter 2009). Moreover, job openings at elite schools likely receive far more applications than less-selective universities or community colleges. When many applicants have relatively indistinguishable academic credentials, the use

of diversity statements could steer hiring committees toward candidates with preferred views and values (Klein and Stern, 2009b). If departments at elite schools receive higher volumes of applicants, they would be able to hire ideologically aligned candidates without sacrificing much, if any, candidate quality (Menand, 2010). Accordingly, we hypothesize:

H1. More selective institutions will be more likely to require DEI statements and mention diversity in their job postings.

Second, we hypothesize that political and policy environments have a larger effect on state-funded universities since elected officials influence policy and budget. Also, the smaller private higher education sector is likely affected by local business community supporters and student consumers (Labaree, 2017). Notably, Abrams (2016) finds significant differences in the ideological composition of professors across regions, perhaps reflecting where academics prefer to live or which institutions are willing to hire nonconforming faculty. For these reasons, we suspect that institutions in more Democratic leaning regions will be more likely to formally value diversity. Consider results from the 2020 presidential election, which demonstrate stark regional preferences (Reuters, 2020). Therefore, we hypothesize:

H2. Institutions in the West and Northeast will be more likely to require DEI statements and mention diversity in their job postings than those in the Midwest, South, and Southwest.

Third, we predict there will be variation in DEI requirements across academic disciplines. On average, social sciences are less empirical than STEM fields. Mastering a body of knowledge in mechanical engineering or geology would not obviously depend on support for DEI. On the other hand, knowledge about DEI could contribute to content mastery in history, business, education, or regarding political processes: quite simply, one's personal ideology likely matters more in teaching and research in the social sciences than in STEM. This could open the door for

social science hiring committees to consider an applicant's life experiences and track record of advancing DEI. Similarly, faculty in the social sciences may be more likely to explore normative questions where a commitment to DEI is valued. Considerable evidence indicates social science faculty are more likely to be registered Democrats than faculty in other fields, which may be correlated with higher preferences for DEI requirements (Klein, 2009). The role of job markets must be considered, too (Menand, 2010). Given that hundreds of applicants apply for social science professorships, search committees can employ additional requirements and still attract well qualified candidates. There may be relatively fewer applicants in STEM fields, where private sector employment can be more lucrative—and DEI requirements in these fields could substantially reduce applicant numbers, and thus, quality. We predict:

H3. Social science posts will be more likely to require DEI statements and mention diversity than STEM posts.

Data

It is not feasible to review the universe of thousands of job postings that appear active at any given time, so we have developed a strategy for generating a representative sample. We reviewed job postings on three prominent online job boards: *Higher Ed Jobs*, *Inside Higher Ed*, and *The Chronicle of Higher Education*. The Human Resource Management department at Louisiana State University (2020) recommends these job boards, and they include a large volume and variety of academic jobs. When an identical job posting is captured on more than one posting, it is counted as a single observation in our analysis.

We limit our search to jobs posted between September 1 and October 31 in 2020. Conventional wisdom suggests that September and October are the busiest months during the academic hiring cycle (Schuman, 2014; Zackal, 2014; National Institute of Health, 2020).

Bounding our search in a two-month window increases the likelihood that we do not miss jobs posted (e.g., on September 4th) and subsequently removed after being filled (e.g., on October 22nd). Our search includes full-time, part-time, and post-doctoral positions. We include both four-year institutions and two-year institutions/community colleges. We restrict the search to colleges and universities in the United States.

Because we are interested in the variation of DEI requirements across academic disciplines, we developed a strategy for randomly selecting disciplines that align with faculty job classifications on the job boards of interest. Carnevale and colleagues (2015) identify a list of the 30 most popular college majors for bachelor's degree holders. See Appendix A. We assign each of these 30 disciplines into one of three broad categories: 1) social science; 2) STEM; and 3) all others. Then, we identify which of the 30 disciplines align with the faculty categories listed on each of the three job boards. This limits the pool of disciplines we may audit because some disciplines that Carnevale and colleagues identify do not appear as categories on each of the three job sites. From there, we use a random number generator to select one discipline from each of the three broad categories. For example, on the first draw we selected history from the "social science" category, math from the "STEM" category, and business management from the "other" category.

[Table 1 here]

Given that duplicate job postings are common—both within and across websites—we expected to need at least a sample of 2,000 documents to gather between 750 and 1,000 unique observations to obtain sufficient degrees of freedom for statistical tests. On November 1, 2020, we downloaded PDFs of all jobs that met the above criteria from the randomly selected disciplines on each job site. This resulted in over 2,200 PDFs. After reviewing job postings

obtained from the first two draws and eliminating duplicates, we identified 999 unique observations and reached our target amount. Thus, the analysis that follows is based on the six academic disciplines from the first two draws.

Coding

DEI requirements are emphasized in varying degrees across job postings. Some use standard language about the university being an equal opportunity employer. Other postings explicitly emphasize a preference for diverse candidates. Some postings require candidates to discuss diversity in their personal statements or ask applicants to submit a diversity statement in addition to other application materials. Occasionally, a faculty position may explicitly include the terms *diversity* or *inclusion* in its title. Accordingly, we dichotomously code all job postings for the following outcomes of interest: First, whether the body of the posting includes any mention of the term *diversity*; second, whether the posting requires a specific DEI statement or a personal statement/cover letter that encourages discussion of diversity; and third, whether the posting explicitly includes the term *diversity* in the title of job posting.

In each job posting, we search for the term "divers" to capture *diverse* and *diversity*. Coders determined whether the job merely referenced diversity (Outcome 1), provided instructions for a diversity statement requirement (Outcome 2), and/or advertised a position with "diversity" in the job title (Outcome 3). This approach may result in a lower bound of diversity-related requirements. If, for example, the job posting did not specifically include the word *diversity* or *diverse* but required applicants to discuss the importance of equity—the job would be coded with 0. This conservative approach may understate the role of diversity requirements, but it makes our analysis more objective and replicable. Because coders rarely ($n<10$) identified

postings with the word *diversity* in the job title, we do not present analyses for this outcome variable but are transparent regarding our original plan for data collection and analysis.

We also coded for the following independent variables:

1. Indicator for elite university, per the 2020 *U.S. News & World Report* rankings. Schools that appear in the top 100 on either of the "Best National Colleges" or "Best Liberal Arts Colleges" are coded as elite, with all others considered non-elite. See Appendix B.
2. Indicator for broad academic category: social sciences, STEM, or other.
3. Indicator for specific discipline: political science, history, engineering, math, business management, or journalism/communications.
4. Indicators for geographic region in the United States: Northeast, Southeast, Midwest, Southwest, and West. We identified regions using the resource library for National Geographic (2020). See Appendix C.
5. Indicator for four-year institution (otherwise two-year/community college).
6. Indicator for post-doctoral position.
7. Indicator for adjunct position.

Two researchers initially coded 12 percent of a random sample of observations to confirm a high level of inter-rater reliability. On coding for the term *diversity*, we had 94 percent agreement and a Cohen's kappa of .85. On coding for DEI statement requirements, we had 97 percent agreement and a Cohen's kappa of .89. These are strong indicators of reliability, and we used one coder to continue the data collection.

Results

Across all 999 jobs, 19 percent require diversity statements while 68 percent include the term "diversity" in some fashion, often as a way of describing the university environment. Elite colleges and universities comprise 28 percent of the job postings in our sample. Social sciences are 25 percent of jobs, 34 percent are STEM, and 41 percent are from other fields. The Northeast, Southeast, and West each account for roughly a fifth to a fourth of job postings, while the Midwest and Southwest each account for about a seventh.

[Table 2 here]

Job postings from elite colleges and universities are 20 percentage points more likely to

require DEI statements and 13 percentage points more likely to reference diversity. Roughly 24 percent of social science job postings require DEI statements, whereas job postings in STEM and other disciplines only required DEI statements in 18 and 17 percent of jobs, respectively.

[Tables 3 & 4 here]

Narrowing our focus to specific disciplines suggests slightly more variation in diversity requirements. Political science jobs are most likely to require DEI statements, at 27 percent, while Business jobs are least likely to require DEI statements, at 15 percent.

[Table 5 here]

Greater variation in diversity requirements is evident when job postings are sorted by region. Twenty-seven percent of jobs in the West require DEI statements, and 74 percent mention *diversity*. By contrast, in the southeast, only 13 percent of jobs require DEI statements and 63 percent include the word *diversity*.

[Table 6 here]

Few jobs in our sample—41 out of 999—are for postdoctoral positions. Among this limited subset, only 15 percent require DEI statements and less than half mention *diversity*. DEI requirements also appear less likely for adjunct jobs relative to other faculty positions. Considerable research suggests that adjunct and postdoctoral posts are less valued (Cross & Goldenberg, 2009); this finding may suggest that diversity is a core value restricted only to the upper echelons of higher education.

[Tables 7 & 8 here]

Empirical Approach

We use linear probability models to quantify whether differences in school selectivity, region, and discipline are statistically significant predictors of DEI requirements, holding other factors constant. We employ the following linear probability model using OLS:

$$DEI_i = \alpha + \beta_1 Elite_i + \beta_2 STEM_i + \beta_3 Other_i + \beta_4 Northeast_i + \beta_5 Southeast_i + \beta_6 Midwest_i + \beta_7 Southwest_i + \boldsymbol{X}_i\beta_8 + \epsilon_i$$

Each DEI outcome is estimated separately. Social science and the West region are omitted reference groups on the right side of the equation. β_1 estimates whether the likelihood of a DEI requirement varies for positions at elite universities relative to non-elite universities. β_2 estimates whether the likelihood of a DEI requirement varies for STEM jobs relative to social science jobs. β_4 estimates whether the likelihood of a DEI requirement varies for Northeast jobs relative to West jobs. $\boldsymbol{X}_i$ is a vector of covariates including indicators for four-year institutions, post-doctoral, and adjunct jobs.

Diversity Statement Requirements

We find that elite school status is a strong, positive predictor of diversity statement requirements, even when controlling for covariates (Table 9). Elite schools are 18 percentage points more likely to require DEI statements than non-elite schools. Statistical significance of the dichotomous "elite" variable is robust to all five specifications, supporting our first hypothesis.

Relative to the West, jobs in other regions are less likely to require diversity statements, partially supporting our second hypothesis. For example, jobs in the Southeast are 13 percentage points less likely than jobs in the West to require applicants submit diversity statements, holding all else constant. Although we expected jobs in the Northeast to be strongly associated with DEI requirements, these jobs are 10 percentage points less likely to require DEI statements than jobs in the West under our preferred specification (Column 5). This only partially reflects the outsized

influence of California, where most of the University of California system campuses require DEI statements for faculty hiring (Ortner, 2020).

In Column 3 of Table 9, both STEM and Other jobs appear less likely than Social Science jobs to require DEI statements. However, these estimates lose statistical significance once other controls are added, suggesting that broad academic disciplines are not meaningful predictors of DEI statements. As such, we are unable to reject the null for our third hypothesis. Jobs in STEM and Other categories are somewhat less likely than Social Science jobs to require DEI statements, but point estimates fall short of even marginal statistical significance in the preferred specification (Column 5).

[Table 9 here]

Use of the term "Diversity" in Job Applications

We also examine whether job postings include the word *diversity* or *diverse* in the text of their advertisements. Results are like the preceding section, with somewhat attenuated point estimates. School selectivity remains a strong, positive predictor for including *diversity* in the job posting, even when controlling for academic discipline, region, and other variables. Elite schools are 10 to 13 percentage points more likely to include the word *diversity* than non-elite schools. Broad academic disciplines do not predict the mention of diversity. In our preferred specification (Column 5), jobs in the Southwest are 19 percentage points less likely than jobs in the West to mention the word *diversity* or *diverse*.

[Table 10 here]

Discussion and Conclusion

Using conservative coding schemes that may underestimate requirements for DEI statements, we find that 19 percent of jobs require them. Regional differences are statistically

significant, with the West more likely than other regions to impose DEI requirements, which may suggest the influence of regional politics. The same findings hold regarding the mere mention of *diversity*, to an attenuated degree. Lack of variation in DEI requirements across disciplines suggests that appreciation for DEI is not restricted to the social sciences.

One of the strongest predictors of DEI requirements and mentions of *diversity* is institutional prestige. Job postings in elite schools are 18-20 percentage points more likely to require DEI statements and 10-13 percentage points more likely to mention diversity. We lack longitudinal data, but anecdotal evidence suggests that considerations of diversity in hiring have grown over time (Maranto, 2020; Yancey, 2011). Since considerable qualitative (Labaree, 2017; Lukianoff & Haidt, 2018) and quantitative work (Klein & Stern, 2009a, b; Rothman & Lichter, 2009) suggests that elite institutions set higher education trends—in part by training a disproportionate share of future professors—we predict that the use of DEI statements will rise in the near future, a matter for researchers to examine now that this work has established baseline frequencies.

There are many possible explanations as to why elite institutions are more likely to require DEI statements, although a definitive answer is beyond the scope of our analysis. We suspect that selective schools are under greater pressure from public elites and progressive student bodies to diversify their faculty—or, at the least, to signal a commitment to DEI. It is also conceivable that elite universities may be less racially and ethnically diverse than non-elite schools, which also may increase the pressure to attempt to assemble a more representative faculty.

Another important question is whether DEI requirements achieve their stated aims—a matter of considerable contention as detailed in the introduction. There is, after all, evidence that

other diversity-related personnel management approaches in sectors outside higher education have underperformed or even proven counterproductive in diversifying leadership and improving intergroup relations in the medium and long term (al-Gharbi, 2020; Dobbin & Kalev, 2018). In the spirit of Haidt and Lukianoff (2018) and Whittington (2018), and Yancey (2022) we propose that these matters be resolved not by imposing as yet unproven administrative orthodoxies but rather through reasoned debates and research-based evaluations of existing practices. Empirical work such as this paper should inform such inquiries.

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Appendices

Appendix A. Most Popular College Majors

The 30 most popular majors for bachelor's degree holders, per Carnevale et al. (2015):

1. Business Management and Administration
2. General Business
3. Accounting
4. Nursing
5. Psychology
6. Communications
7. Marketing
8. General Education
9. Elementary Education
10. English
11. Computer Science
12. Finance
13. Criminal Justice
14. Biology
15. Political Science and Government
16. Economics
17. Electrical Engineering
18. History
19. Liberal Arts
20. Sociology
21. Fine Arts
22. Commercial Art and Graphic Design
23. General Engineering
24. Mechanical Engineering
25. Miscellaneous Health Medical Professions
26. General Science
27. Journalism
28. Physical Fitness
29. Family and Consumer Sciences
30. Mathematics

Appendix B. List of Elite Institutions

A higher education institution is considered to be elite if it appears on either of the following lists from U.S. News & World Report's 2020 rankings:

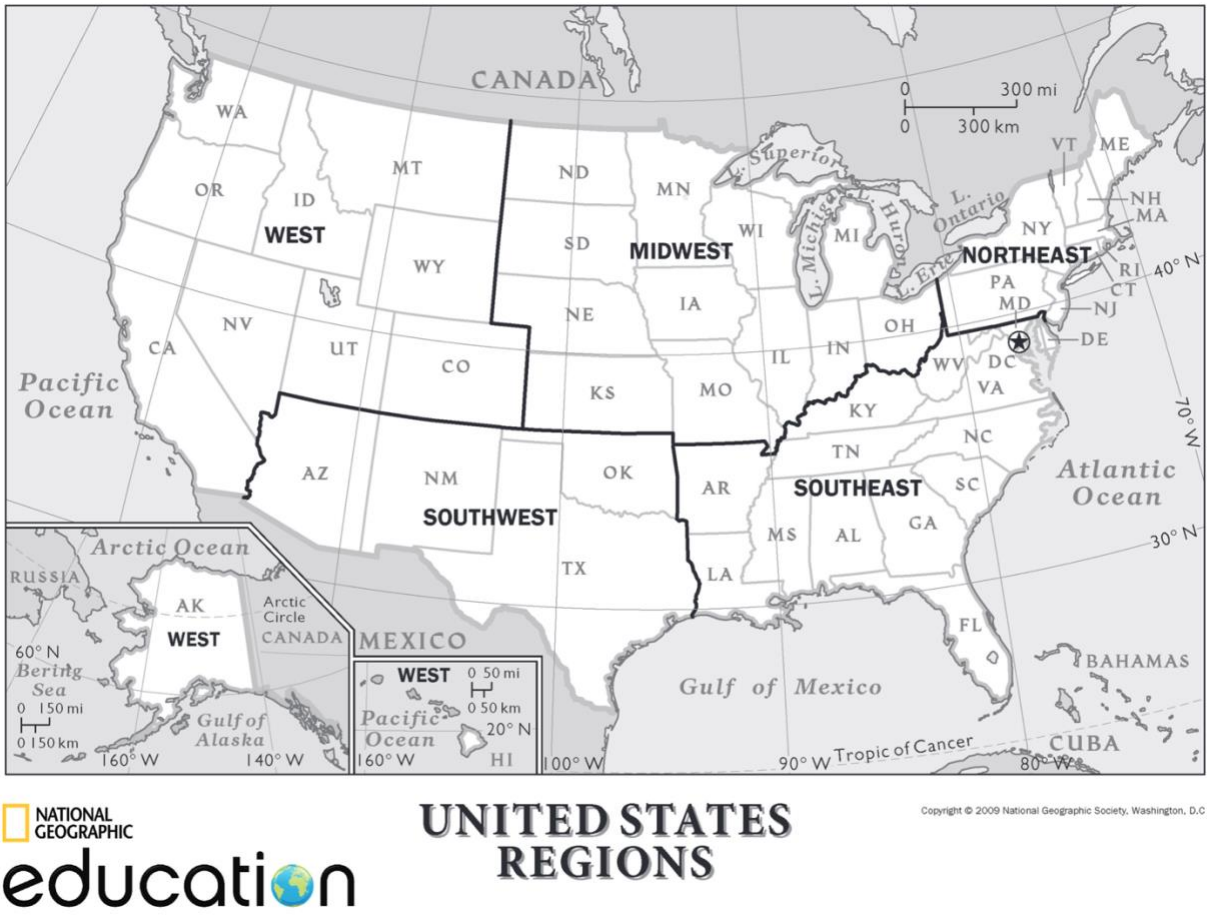
	Best National Colleges		*Best Liberal Arts Colleges*
1	Princeton	1	Williams College
2	Harvard University	2	Amherst College
3	Columbia University	3	Swarthmore College
4	Massachusetts Institute of Technology	4	Pomona College
5	Yale University	5	Wellesley College
6	University of Chicago	6	Bowdoin College
7	University of Pennsylvania	7	Claremont McKenna College
8	California Institute of Technology	8	United States Naval Academy
9	Johns Hopkins University	9	Carleton College
10	Northwestern University	10	Hamilton College
11	Duke University	11	Middlebury College
12	Dartmouth College	12	Washington and Lee University
13	Brown University	13	Grinnell College
14	Vanderbilt University	14	Vassar College
15	Rice University	15	Colby College
16	Washington University in St. Louis	16	Davidson College
17	Cornell University	17	Haverford College
18	University of Notre Dame	18	Smith College
19	University of California--Los Angeles	19	United States Military Academy
20	Emory University	20	Colgate University
21	University of California--Berkeley	21	Wesleyan University
22	Georgetown University	22	Barnard College
23	University of Michigan--Ann Arbor	23	Bates College
24	University of Southern California	24	University of Richmond
25	Carnegie Mellon University	25	Colorado College
26	University of Virginia	26	Harvey Mudd College
27	University of North Carolina--Chapel Hill	27	Macalester College
28	Wake Forest University	28	Bryn Mawr College
29	New York University	29	Kenyon College
30	Tufts University	30	Scripps College
31	University of California--Santa Barbara	31	Soka University of America
32	University of Florida	32	United States Air Force Academy

33	University of Rochester	33	Berea College
34	Boston College	34	Bucknell University
35	Georgia Institute of Technology	35	Mount Holyoke College
36	University of California--Irvine	36	College of the Holy Cross
37	University of California--San Diego	37	Oberlin College
38	University of California--Davis	38	Pitzer College
39	William & Mary	39	Skidmore College
40	Tulane University	40	Lafayette College
41	Boston University	41	Occidental College
42	Brandeis University	42	Thomas Aquinas College
43	Case Western Reserve University	43	Franklin & Marshall College
44	University of Texas at Austin	44	Denison University
45	University of Wisconsin--Madison	45	Trinity College
46	University of Georgia	46	Union College (NY)
47	University of Illinois--Urbana-Champaign	47	DePauw University
48	Lehigh University	48	Dickinson College
49	Northeastern University	49	The University of the South
50	Pepperdine University	50	Whitman College
51	University of Miami	51	Connecticut College
52	Ohio State University--Columbus	52	Centre College
53	Purdue University--West Lafayette	53	Furman University
54	Rensselaer Polytechnic Institute	54	Bard College
55	Santa Clara University	55	Gettysburg College
56	Villanova University	56	Hillsdale College
57	Florida State University	57	Rhodes College
58	Syracuse University	58	Spelman College
59	University of Maryland--College Park	59	St. Lawrence University
60	University of Pittsburgh--Pittsburgh Campus	60	Wabash College
61	University of Washington	61	Agnes Scott College
62	Pennsylvania State University--University Park	62	Wheaton College (IL)
63	Rutgers University--New Brunswick	63	Lawrence University
64	University of Connecticut	64	Reed College
65	Fordham University	65	Sarah Lawrence College
66	George Washington University	66	St. John's College (MD)
67	Loyola Marymount University	67	Kalamazoo College
68	Southern Methodist University	68	St. Olaf College
69	Texas A&M University	69	College of Wooster

70	University of Massachusetts--Amherst	70	Virginia Military Institute
71	University of Minnesota--Twin Cities	71	Wofford College
72	Worcester Polytechnic Institute	72	Hobart and William Smith Colleges
73	Clemson University	73	Knox College
74	Virginia Tech	74	Muhlenberg College
75	American University	75	Willamette University
76	Baylor University	76	Bennington College
77	Indiana University--Bloomington	77	Cornell College
78	Yeshiva University	78	Lewis & Clark College
79	Brigham Young University--Provo	79	St. John's College (NM)
80	Gonzaga University	80	Allegheny College
81	Howard University	81	Beloit College
82	Michigan State University	82	Illinois Wesleyan University
83	North Carolina State University	83	St. Mary's College of Maryland
84	Stevens Institute of Technology	84	Earlham College
85	Texas Christian University	85	Gustavus Adolphus College
86	University of Denver	86	Juniata College
87	Binghamton University--SUNY	87	Lake Forest College
88	Colorado School of Mines	88	New College of Florida
89	Elon University	89	Transylvania University
90	Marquette University	90	University of Puget Sound
91	Stony Brook University--SUNY	91	Ursinus College
92	University at Buffalo--SUNY	92	Wheaton College (MA)
93	University of California--Riverside	93	Hendrix College
94	University of Iowa	94	Ohio Wesleyan University
95	University of San Diego	95	Principia College
96	Auburn University	96	Augustana College
97	University of Arizona	97	College of St. Benedict
98	University of California--Merced	98	Saint Mary's College
99	University of California--Santa Cruz	99	Washington and Jefferson College
100	University of Delaware	100	Washington College

Appendix C. Regions in the United States

We assign states to regions based on the following map developed by *National Geographic*:



Source: National Geographic. United States Regions. Retrieved from https://www.nationalgeographic.org/maps/united-states-regions/

Tables

Table 1. Randomly selected disciplines within broader academic categories

	Social Science	*STEM*	*Other*
First Draw	History	Math	Business Management
Second Draw	Political Science	Mechanical Engineering	Communications & Journalism
Third Draw	Psychology	Computer Science	Graphic Design

Table 2. Descriptive Statistics

	Proportion
Diversity in Posting	.68
DEI Statement Required	.19
University Characteristics	
Four Year School	.83
Elite School	.28
Job Characteristics	
Post-doc position	.04
Adjunct position	.23
Region	
Northeast	.21
Southeast	.26
Midwest	.14
Southwest	.14
West	.25
Broad Academic Discipline	
Social Science	.25
STEM	.34
Other	.41
Specific Academic Discipline	
History	.11
Political Science	.14
Engineering	.10
Math	.24
Business	.30
Journalism	.11

Notes. Authors' original data collection. n=999.

Table 3. Diversity Requirements by School Selectivity

	n	proportion requiring DEI statements	proportion mentioning *diversity*
Non-Elite	724	.133	.649
Elite	275	.335	.775

Notes. Authors' original data collection and analysis. n=999.

Table 4. Diversity Requirements by Broad Academic Discipline

	n	proportion requiring DEI statements	proportion mentioning *diversity*
Social Science	250	.236	.692
STEM	339	.177	.687
Other	410	.168	.676

Notes. Authors' original data collection and analysis. n=999.

Table 5. Diversity Requirements by Specific Academic Discipline

	n	proportion requiring DEI statements	proportion mentioning *diversity*
History	114	.193	.684
Political Science	136	.272	.699
Math	236	.165	.695
Engineering	103	.204	.670
Business	299	.154	.642
Journalism	111	.207	.766

Notes. Authors' original data collection and analysis. n=999.

Table 6. Diversity Requirements by Region

	n	proportion requiring DEI statements	proportion mentioning *diversity*
Northeast	213	.197	.714
Southeast	256	.133	.625
Midwest	143	.147	.769
Southwest	138	.167	.558
West	249	.273	.739

Notes. Authors' original data collection and analysis. $n=999$.

Table 7. Diversity Requirements by Postdoctoral Status

	n	proportion requiring DEI statements	proportion mentioning *diversity*
Non-Postdoc	958	.190	.692
Postdoc	41	.146	.488

Notes. Authors' original data collection and analysis. n=999.

Table 8. Diversity Requirements by Adjunct Status

	n	proportion requiring DEI statements	proportion mentioning *diversity*
Non-Adjunct	774	.221	.720
Adjunct	225	.076	.560

Notes. Authors' original data collection and analysis. n=999.

Table 9. Frequency Job Posting Require Diversity Statements

	(1)	(2)	(3)	(4)	(5)
Elite	.20***			.20***	.18***
	(.03)			(.03)	(.03)
Northeast		-.07*		-.11***	-.10**
		(.04)		(.04)	(.04)
Southeast		-.14***		-.12***	-.13***
		(.04)		(.03)	(.03)
Midwest		-.13***		-.09**	-.12***
		(.04)		(.04)	(.04)
Southwest		-.11**		-.09**	-.10**
		(.04)		(.04)	(.04)
STEM			-.06*	-.05	-.05
			(.03)	(.03)	(.03)
Other			-.07**	-.03	-.05
			(.03)	(.03)	(.03)
Four Year					.05*
					(.03)
Postdoc					-.19***
					(.06)
Adjunct					-.11***
					(.02)
Constant	.13***	.27***	.24***	.24***	.25***
	(.01)	(.03)	(.03)	(.04)	(.04)

*Notes. Heteroskedastic-robust standard errors are in parentheses. Column 1 compares the frequency with which a job posting requires diversity statements for elite universities relative to non-elite universities. Column 2 compares diversity requirements among regions, with West as the omitted reference group. Column 3 compares diversity requirements among broad academic disciplines, with Social Science as the omitted reference group. Column 4 controls for university selectivity, region, and academic disciplines simultaneously. Column 5 adds indicator variables for four-year institutions, post-doctoral, and adjunct positions. n=999. *** p<.01, ** p<.05.*

Table 10. Frequency Job Postings Include Diversity

	(1)	(2)	(3)	(4)	(5)
Elite	.13***			.12***	.10***
	(.03)			(.03)	(.03)
Northeast		-.03		-.05	-.03
		(.04)		(.04)	(.04)
Southeast		-.11***		-.10**	-.12***
		(.04)		(.04)	(.04)
Midwest		.03		.05	.01
		(.04)		(.04)	(.04)
Southwest		-.18***		-.17***	-.19***
		(.05)		(.05)	(.05)
STEM			.00	.00	.00
			(.04)	(.04)	(.04)
Other			-.02	.00	-.03
			(.04)	(.04)	(.04)
Four Year					.10**
					(.04)
Postdoc					-.34***
					(.08)
Adjunct					-.13***
					(.04)
Constant	.65***	.74***	.69***	.70***	.69***
	(.02)	(.03)	(.03)	(.04)	(.05)

*Notes. Heteroskedastic-robust standard errors are in parentheses. Column 1 compares the frequency with which a job posting includes the term "diversity" for elite universities relative to non-elite universities. Column 2 compares diversity requirements among regions, with West as the omitted reference group. Column 3 compares diversity requirements among broad academic disciplines, with Social Science as the omitted reference group. Column 4 controls for university selectivity, region, and academic disciplines simultaneously. Column 5 adds indicator variables for four-year institutions, post-doctoral, and adjunct positions. n=999. *** p<.01, ** p<.05.*

Chapter 2—Administrators for Equity: The Association between Diversity Officers and Achievement Gaps

Coauthored with Jay P. Greene

Introduction

Chief diversity officers (CDOs) have become pervasive in American institutions of higher education. Nearly every university employs a CDO to oversee a central office that implements diversity, equity, or inclusion (DEI) goals. The commitment to DEI extends beyond a cabinet-level administrator. According to an analysis of 65 nationally representative American universities, there are an average of 45 employees, staff, and student interns tasked with promoting DEI (Greene & Paul, 2021). Universities have four times as many DEI staff as the number of staff who assist students with disabilities in receiving accommodations. On average, these institutions of higher learning have 3.4 people working to promote DEI for every 100 tenured or tenure-track faculty. And nearly all universities employ a greater number of DEI staff than history professors.

As public scrutiny increases on CDOs in higher education, more attention is also being devoted to diversity officers in K-12 public schools. At the K-12 level, these administrators assume titles such as Chief Equity Officer, Director of Diversity, Director of Equity, Director of Inclusion, and Chief of Equity & Access, among others. Until now, however, there has been little understanding of how prevalent these positions are in K-12 schools, as well as whether they are effective at achieving their stated goals. In this paper, we set out to answer three largely descriptive questions:

1) What percentage of the largest school districts in the country employ Chief Diversity Officers?

2) What district-level variables predict a school district employing a Chief Diversity Officer?
3) Is there an association between Chief Diversity Officers and shrinking achievement gaps between white and Black students, white and Hispanic students, and nonpoor versus poor students?

Overall, we find that roughly 40 percent of the largest school districts in the United States employ CDOs. Districts in blue states—which we define as those states where at least two of the House, Senate, and governorship are held by Democrats—are upwards of 15 percentage points more likely to have CDOs than districts red states. Our exploratory analysis of the last 10 years suggests that employing a K-12 CDO is not associated with achievement gap reductions between whites and Blacks, whites, and Hispanics, and nonpoor versus free and reduced lunch (FRPL) eligible students. In fact, districts with CDOs appear to have larger achievement gap growth between whites and Blacks.

The chapter begins by providing background on CDOs in educational settings, describing their typical responsibilities as well as the challenges they may face in achieving their goals. From there, we discuss theoretical reasons why CDOs may be associated with growing achievement gaps—even though many such administrators are hired to close gaps. We identify the three sources of data used in our analysis, including original data we collect on the presence of CDOs in school districts with at least 15,000 students. Finally, we present results and discuss the implications of our findings.

Background on Chief Diversity Officers in Educational Settings

CDOs are high-ranking officials tasked with developing, implementing, and overseeing the institution's DEI agenda. Although most of the scholarly literature on CDOs is based on the higher education context, this research is relevant for understanding the role of K-12 diversity

administrators. Because CDOs and their affiliated bureaucracies are relatively new institutions, there is limited scholarship on CDOs, with much of it coming from the last decade. The *Journal of Diversity in Higher Education*, for example, began publishing in 2008. Although minority affairs roles date to the 1970s, those positions were traditionally housed in student services or mid-level departments rather than at the executive level or president's cabinet (Sowell, 1972; Leon, 2014). Wilson (2013) interviewed seven CDOs to understand their impacts on their respective schools and observed that "very little research exists on the subject of CDOs." Perhaps reflecting the challenge of identifying the responsibilities of a CDO, few scholars have evaluated the effects of CDOs on salient outcomes for students, faculty, or administrators. Before researchers can measure the effects of K-12 CDOs, there should be a reliable census of which school districts employ such officers.

Focus on diversity in higher education in the United States increased as racial minorities began to comprise a greater portion of undergraduate enrollment. Over the last 40 years, college enrollment rates for racial minorities increased nearly five times as much as overall enrollment increases (National Center for Education Statistics, 2017). However, in the past five years, some analysts have observed a drop in college enrollment among Black students (Smith-Barrow, 2020). Although faculty have become more racially diverse over time, students remain significantly more likely than their professors to be Black or Latino (Davis & Fry, 2019). To meet the needs of more diverse campuses, many schools have expanded staff to include c-suite level positions to implement diversity efforts. In higher education, diversity officers are expected to promote an equity-minded culture, attract diverse professionals to join universities, and ensure that underrepresented groups feel included in campus life.

Just as the definition of diversity can be amorphous and context-dependent (Ahmed, 2012; Wilson et al., 2012), there are similar challenges for defining the role and responsibilities of a CDO. Williams and Wade-Golden (2013), who wrote perhaps the most influential book on CDOs, settle on two competing definitions. The first is the general definition, which refers to an institution's highest-ranking diversity administrator, regardless of his or her level of seniority (p. 30). Although this definition may be applicable to many people who serve as CDOs, Williams and Wade-Golden describe it as suboptimal because it does not convey a level of expertise. Unlike other *chief* roles in the corporate settings, the general definition of the CDO implies that anyone could occupy it. For example, under the general definition, a junior-level Equity Coordinator earning less than $40,000 annually would be considered a CDO if she were the only diversity administrator employed by the university.

The second definition—which Williams and Wade-Golden call the "grounded definition"—is preferred by the authors and implies more professionalism (pp. 31-32):

> "The CDO is a boundary-spanning senior administrative role that prioritizes diversity-themed organizational change as a shared priority at the highest levels of leadership and governance. Reporting to the president, provost, or both, the CDO is an institution's highest ranking diversity administrator. The CDO is an integrative role that coordinates, leads, enhances, and in some instances supervises formal diversity capabilities of the institution in an effort to create an environment that is inclusive and excellent for all. Within this context, diversity is not merely a demographic goal, but a strategic priority that is fundamental to creating a dynamic educational and work environment that fulfills the teaching, learning, research, and service mission of postsecondary institutions."

Under the grounded definition, a CDO is a skilled executive who collaborates across the institution to emphasize diversity as a strategic priority. In higher education, this means assessing campus diversity, developing plans to measure and improve campus climate, recruiting a diverse faculty, building intergroup relations on campus, fundraising for diversity initiatives, infusing diversity into the curriculum, and managing organizational change (Williams & Wade-Golden,

2013, p. 227). Like other administrative leaders, CDOs interact with other departments and academic units, such as admissions, marketing, alumni relations, development, and human resources. A survey of 60 major American universities finds that CDOs are likely to be female, have a doctorate degree, and be previously employed by another university (Russell Reynolds & Associates, 2019). About 40 percent have previous experience in diversity-related careers, and the average duration of the CDO position is approximately three years. Some 80 percent of CDOs report directly to their chancellor, suggesting considerable influence, though the plurality of survey respondents indicated they had only one to three staff members to supervise.

There is considerable variation in how CDO positions are structured. Williams and Wade Golden (2013) identify three unique CDO arrangements. The most common is the *collaborative officer* structure, which provides the least power and autonomy to the CDO. Under the collaborative officer structure, the CDO has little formal responsibility in terms of staff or ability to supervise others (pp. 167-169). Second, the *unit-based* structure provides more autonomy to the CDO and is often associated with larger staff. With unit-based structures, the CDO's office may conduct faculty orientation, pursue external grants, and provide consulting services to other departments (p. 172-174). Third, the *portfolio divisional* model allows for the most empowered version of a CDO. Here, the CDO directly supervises a full office of staff and units. In a survey of CDOs, Leon (2014, p. 88) finds that the unit-based and portfolio divisional models were the only ones to provide CDOs with funding levels that were perceived as "adequate." Future research efforts could use mixed methods to determine whether any CDO structure is more effective at closing gaps or achieving other objectives.

Public school districts do not formally recruit students, so the mission of a K-12 diversity officer is more inwardly focused than in higher education. Of course, school districts do need to

recruit staff, so a K-12 diversity officer may be tasked with hiring a more racially or ethnically diverse workforce (Huebeck, 2020). At the K-12 level, the primary mission of CDOs—according to many school district websites—is to address racial disparities in student achievement. For example, the Senior Director for the Office of Equity and Access of the New York City Department of Education describes his role as "working effortlessly to dismantle systemic injustices that lead to inequities in student outcomes" (New York City Department of Education, 2022). Chicago's Office of Equity, led by a Chief Equity Officer, is tasked with developing and implementing "district efforts to eliminate the opportunity gaps in education quality" (Chicago Public Schools, 2022). The Executive Director for Equity at Pittsburgh Public Schools emphasizes her "commitment to systemic racial equity for historically marginalized students" (Pittsburgh Public Schools, 2022).

Differences in test scores between white and Black students, white and Hispanic students, and wealthier and poorer students have been large and persistent for decades, and to a considerable degree predict later life outcomes (Thernstrom & Thernstrom, 2003). Indeed, this is why both the Bush and Obama administration education policies centered on closing achievement gaps (Maranto & McShane, 2012). By creating a CDO position, districts may be attempting to reduce or eliminate disparate outcomes, while also creating environments that are more inclusive and welcoming.

Standards of Practice for CDOs in Higher Education

The National Association for Diversity Officers in Higher Education (NADOHE) is a leading professional organization related to CDO scholarship and practice. In 2014, NADOHE published formal standards of practice, which were revised in 2020. NADOHE provides guidance and support to newly hired and currently serving CDOs. For example, one standard

suggests that “Chief diversity officers work to ensure that institutions conduct periodic campus climate assessments to illuminate strengths, challenges, and gaps in the development and advancement of an equitable, inclusive climate for diversity” (Worthington et al., 2020). A complete list of the most recent standards is available in Appendix D.

These standards have been accompanied by controversy. Allen and colleagues (2020) criticize NADOHE from the lens of critical race theory: “Although these standards serve as a synopsis of inclusive practices for the CDO position, a closer analysis reveals that they possess neoliberal, color evasive, and heteronormative language that likely result in incremental progress” (p. 96). Critical race theory is a critique of the liberal order that challenges the conventional approach to civil rights legislation and social progress (Ladson-Billings, 1998). Allen and colleagues—arguing that race-neutral policies move too slowly to address societal change—propose revisions to the NADOHE standards that empower CDOs to better advocate for marginalized students. They suggested revisions to the standards to have action-oriented language, whereas the original standards tend to be more generic, open-ended, and carefully worded to comply with legal requirements.

The critical race theory critique of NADOHE standards underscore the unique challenge facing CDOs in educational institutions. On the one hand, scholars have qualitatively documented the difficulty of earning buy-in from colleagues resistant to DEI efforts (Wilson, 2013). Simultaneously, CDOs may face pressure from more progressive colleagues, who urge administrators to move quickly to address injustice, even if it means dispensing with the liberal order. Thus, even if CDOs intend to close achievement gaps, they may face considerable resistance and be limited in their ability to achieve their goals.

Theoretical Reasons Why CDOs May Not Focus on Closing Gaps

Conventional wisdom suggests K-12 CDOs may help reduce achievement gaps because high-ranking administrators will be singularly focused on generating more equitable student outcomes. Dedicated professionals serving in senior positions will make instructional and cultural changes that boost academic achievement among children who have historically lagged behind their peers, the argument goes. But what if a modern conception of equity downplays the importance of the standardized testing used to identify gaps? Or if the notion of measuring such gaps is seen as a perpetuation of white supremacy?

Districts that hire a CDO may adhere to Khalifa's (2018) notion of culturally responsive school leadership. To be a culturally responsive school, Khalifa urges teachers to recognize their role in systems of oppression. In Khalifa's telling, "minoritized" students are the victims of "settler colonialism" served by teachers who adopt "deficit models" of student learning. In contrast to traditional leadership efforts that set high standards and evaluate progress based on objective tests, Khalifa advises school administrators to downplay "statistical indicators such as dropout rates, standardized test scores, enrollment rates, and the cost of running a low-enrollment school" because these measures "[omit] consideration of the central role of race, or any other social, political, or historical factors" (p. 42). Khalifa urges school leaders to move away from a "school centric" in favor of a "community centric" epistemology. Under a school-based model, Khalifa argues that "educators have had exclusive power to define how students and families are characterized and treated in schools" (p. 40). The school-centric approach is defined as "colonial schooling," while the community-centric approach is more "humanizing." Regarding academic achievement, the school-centric perspective asks how a child will perform on objective tests, while the community perspective emphasizes whether the child will do something positive with his life after school. Khalifa's views are influential in school leadership and principal preparation

programs. Moreover, he is affiliated with the Culturally Responsive School Leadership Institute, a for-profit company that administers equity audits and provides a clear pathway for these ideas to influence K-12 school leadership.

Educational scholars and public intellectuals are increasingly adopting the view that differences in outcomes across racial groups is evidence of racism (Sanneh, 2019). Some go even further. In an essay titled "Why the Academic Achievement Gap is a Racist Idea," Kendi (2016) writes: "Our faith in standardized tests causes us to believe that the racial gap in test scores means something is wrong with the Black test takers—and not the tests." He argues that long-standing efforts to close achievement gaps "have opened the door to racist ideas." There is evidence that Kendi's views are ascendent in K-12 school systems. Multiple Virginia school districts use Kendi's works as texts in U.S. History classes (Nomani, 2021; Nester & Ruiz, 2021). And he has been the keynote speaker for school leadership conferences in multiple districts (Parents Defending Education, 2022).

Highlighting cultural differences as possible causes of educational disparities, as articulated by Thernstrom and Thernstrom (2003), is becoming a socially unacceptable view. Indeed, if test score differences are inherently racist, then CDOs may focus on interventions that are not intended to increase test scores. Thus, school districts embracing culturally responsive leadership—and employing a CDO—may not effectively close achievement gaps. This is not because CDOs are incompetent or ineffective, but rather because their objectives are misaligned with closing gaps. According to this theory, we should not expect CDOs to even try to close gaps, let alone be successful at doing so. Even though K-12 CDOs are sometimes hired with the explicit purpose of promoting equity in student performance, we hypothesize that districts with CDOs will see widening achievement gaps over time, relative to districts without CDOs. We

predict that CDOs are likely to implement counterproductive educational interventions because they may be better understood as activists than experts in pedagogy, curriculum, or instruction.

Data

To describe school district factors that predict CDO employment and explore whether CDOs are associated with shrinking achievement gaps, we relied on data from three sources. First, we used the most recent figures from the Digest of Educational Statistics, maintained by the National Center for Educational Statistics, to identify our analytic sample and collect district-level covariates. Our analytic sample included all school districts with at least 15,000 students in the Fall of 2017, the most recent year available (National Center for Education Statistics, 2019). We used the 15,000-student threshold partly for convenience—because NCES regularly tracks and presents statistics for these districts—but also because these 556 districts served 44 percent of all students in public schools during that year. Using this source, we identified district-level enrollment counts, racial composition, eligibility for free and reduced-price lunch (FRPL), rates of English-language learners (ELL), and pupil-teacher ratios.

Second, we collected original data to determine whether these districts employ a CDO. We conducted thorough online searches for the name of the district as well as key terms, such as "diversity, equity, and inclusion," and by reviewing the staff, departments, and organizational charts listed on public districts' websites. We executed this search in the Summer of 2021 and included a dichotomous variable indicating whether each district employed a CDO or not. One caveat is that our screening procedure could miss administrators—such as assistant superintendents—who participate in large amounts of DEI work but do not carry a DEI title.

Third, we used the Stanford Education Data Archive (SEDA), which offers publicly available test score data for virtually every school district. SEDA data contain information about

the average academic achievement for 3rd through 8th graders in math and Reading Language Arts (RLA) from 2008 through 2018 (Fahle et al., 2021). Test scores are linked to a common scale across states, grades, and years, which makes it possible to conduct valid comparisons across districts, over time (Matheny et al., 2021). In short, SEDA data are created by taking state-level achievement results and scaling the disaggregated average scores against the relevant test score distribution from the National Assessment of Educational Progress. For more detail see Fahle et al., 2021 and Matheny et al., 2021.

We use SEDA measures of district-level achievement gap growth rates between three groups of students: white and Black students, white and Hispanic students, and nonpoor and poor students. For simplicity, we relied on achievement gap rate measures that combine math and reading outcomes. These combined achievement gap rates represent annual averages over the ten-year period. For example, a district with a 0.05 value for its white-Black gap would mean the achievement gap between whites and Blacks grew at 0.05 grade levels per year, in favor of white students, between 2008 and 2018.

When we merge these three data sources, it is possible to examine whether a district that has a CDO is in fact associated with closing achievement gaps. Descriptive statistics of the 556 school districts are available in Table 1.

[Table 1 here]

Methods

We present four sets of analysis. First, we plot how the frequency of CDO employment varies by district enrollment size. Second, we plot how the frequency of CDO employment varies by the political partisanship of each state. Third, we use linear probability models to estimate what factors predict CDO employment. In addition to the partisan makeup of the state and

district enrollment, we control for the racial composition of the district (percentage of students classified as Black, Hispanic, Asian, and a mix of two or more races); measures of student need (percentage of students qualifying for FRPL and percentage of students classified as ELLs); and resources spent on students (as proxied by the pupil-to-teacher ratio).

$$CDO_i = \alpha + \beta_1 RedState_i + \beta_2 Enrollment_i + \boldsymbol{X}_i\beta_3 + \epsilon_i$$

Fourth, we analyze the association between CDO employment and achievement gap growth over time. This partially addresses the possibility that districts create CDO positions because they have larger pre-existing gaps that they wish to close. We examine the trend in achievement gaps over time. $\boldsymbol{X}_i$ is a vector of district-level demographic variables such as enrollment level, racial composition, FRPL status, ELL status, and pupil-teacher ratio. $\boldsymbol{A}_i$ includes two achievement control variables from SEDA. The first is a measure of district average achievement growth, for all students, during the ten-year period. The second is a measure of district average achievement levels, for all students, during the ten-year period. Accounting for these controls helps isolate the independent association between CDOs and achievement gaps—even when district size, political environment, student composition, and overall student achievement is held constant.

$$Achievement\ Gap\ Growth_i = \alpha + \beta_1 CDO_i + \boldsymbol{X}_i\beta_2 + \boldsymbol{A}_i\beta_3 + \epsilon_i$$

Results

The Frequency of CDOs by District Size

We first explore the relationship between the likelihood a district employs a CDO with the number of students enrolled in each district. Overall, we find that large districts are most likely to have CDOs, and as districts serve fewer students, the likelihood that they employ a CDO drops to roughly 33 percent.

In Figure 1, we show that 79 percent of districts enrolling more than 100,000 students employ a CDO. These are 28 districts that collectively serve 6.2 million children. The only large districts in this category that did not employ CDOs were the Hawaii Department of Education (which oversees the only district in the state), Duval County Public Schools in Florida, Cypress-Fairbanks Independent School District in Texas, Cobb County School District in Georgia, Shelby County Schools in Tennessee, and Northside Independent School District in Texas. Every other district with more than 100,000 students had a CDO. For example, the Miami–Dade County school district had an assistant superintendent for equity and diversity, and the Charlotte–Mecklenburg County school district in North Carolina had a director of diversity and inclusion.

[Figure 1 here]

Of the 71 school districts serving between 50,000 and 100,000 students, 59 percent had a CDO. Jefferson County in Kentucky had a chief equity officer, and the Fort Worth school district had an executive director of the division of equity and excellence. The frequency with which districts employ CDOs dropped significantly—to 33 percent—among the 119 school districts enrolling between 30,000 and 50,000 students. For example, the Portland school district in Oregon had a senior advisor for racial equity and social justice, while the Tucson school district in Arizona had an assistant superintendent for equity, diversity, and inclusiveness rather than a CDO.

The rate of CDO employment remained nearly the same in the 178 districts with 20,000 to 30,000 students, as well as the 160 districts with 15,000 to 20,000 students. Roughly one-third of these districts had CDOs. For example, the Springfield school district in Missouri had a chief equity and diversity officer, and the Bentonville school district in Arkansas had a chief diversity

officer who is also listed as director of security and safety (the connection between these two responsibilities is unclear).

The Frequency of CDOs by Partisan Dominance of State

There are theoretical reasons to suspect that CDOs will be more likely to work in districts whose political environment is more progressive. To explore this possibility, we classify all 50 states and D.C. as either "blue" or "red" based on which party controlled the state legislature and governorship in the Summer of 2021. Whichever party controls the majority of those three institutions was deemed to control the state politically. Blue states are those with at least two institutions controlled by Democrats, and red states are those with at least two institutions controlled by Republicans. At the time of our analysis, there were 20 blue states (including D.C.) and 31 red states. Of the 556 school districts in our analytic sample, 233 were in blue states and 323 were in red states.

[Figure 2 here]

We find the likelihood of having a CDO varies dramatically based on whether a district is in a blue or a red state. See the left panel of Figure 2. In blue states, 47 percent of school districts with more than 15,000 students had a CDO. In red states, 32 percent of such school districts had a CDO. In 10 of the 20 blue states, more than half of the districts had a CDO, while only 19 percent of red states employed a CDO in more than half of their districts. See the right panel of Figure 2.

Figure 3 displays the percentage of school districts that employ CDOs in a selection of four red and four blue states. Only 16 percent of districts in Texas and 8 percent of the districts in Louisiana had a CDO. In blue states, CDOs were much more common. For example, 82 percent

of school districts in Illinois had a CDO. In Maryland and Minnesota, the rate was even higher, at 86 percent.

[Figure 3 here]

What Factors Predict CDO Employment?

Perhaps blue states differ from red states in the likelihood of having CDOs because they have more large districts, different demographic profiles and needs, and different resources to address those needs. To address this possibility, we use linear probability models to estimate the independent relationship of each of these factors. We control for the state's partisanship, district enrollment, district racial composition, district measures of student need, and district pupil-teacher ratios.

Even after controlling for these factors, however, the size of a school district and whether it is in a blue or red state remain strongly associated with whether school districts have CDOs. See Table 2, which illustrates how the influence of a state's political partisanship in fact grows larger when other factors are controlled. After adjusting for other observable characteristics, blue states are 20 percentage points more likely than red states to have CDOs. The natural log of a district's enrollment also remains a statistically significant predictor of CDO employment.

[Table 2 here]

We suspect that school districts in blue states are more likely to have CDOs because residents in these areas have stronger interest in the activities in which CDOs engage. Moreover, larger school districts with more resources may be in a better position to afford CDOs and other aspects of the DEI bureaucracy.

Association Between CDOs and Achievement Gap Growth

As we discuss in the introduction, the stated objective for many CDOs is to reduce achievement gaps between students from different backgrounds. Differences in standardized test scores between white and Black students, white and Hispanic students, and wealthier and poor students have been large and persistent for decades. By creating a CDO position, districts may be taking steps to reduce or eliminate disparate outcomes. If so, we would expect districts with CDOs to have smaller achievement gap growth, over time, relative to districts that do not have CDOs, holding all else equal.

A simple comparison of achievement gap levels between 2008 and 2018 suggest that gaps are larger in districts that employ CDOs. During this time the average Black student was 1.9 grade levels behind the average white student on standardized test results in districts without CDOs. The achievement gap was half of a grade level larger in districts that employ CDOs, with the average Black student being 2.4 grade levels behind the average white student. A similar pattern emerged for the white–Hispanic and the nonpoor-poor achievement gaps. The gap between the average white and Hispanic student on standardized tests was 0.4 grade levels larger in districts with a CDO than in districts without the position. And the gap between the average nonpoor and poor student was 0.4 grade levels larger in districts with CDOs than in those without them. See Figure 4.

[Figure 4 here]

Of course, it is reasonable to hypothesize that districts create CDO positions precisely because they have larger achievement gaps that they wish to remedy. To address this possibility, we examine the trend in achievement gaps, over time, rather than the static magnitude of those gaps to see if districts with CDOs are making progress to close gaps.

In Tables 3 through 5, we show achievement gap growth rates between white and Black students, white and Hispanic students, and nonpoor and poor students, respectively. Each table displays three specifications. First, in Column 1, we show a simple comparison of achievement gap growth rates over time. Then, in Column 2, we compare achievement gap growth rates while controlling for district-level demographic variables such as enrollment level, racial composition, FRPL status, ELL status, and pupil-teacher ratio. Finally, in Column 3, we add controls for district average achievement growth and district average achievement levels, for all students, during the ten-year period.

We find little evidence that districts with CDOs are more effective at closing achievement gaps. In fact, achievement gaps appear to be widening more rapidly in CDO districts. For example, from 2008 to 2018, the white–Black achievement gap grew by 0.03 more grade levels annually in districts with CDOs relative to districts without the position. See Table 3.

[Table 3 here]

This estimate is statistically significant at the 99 percent confidence level, even with the inclusion of demographic and achievement controls. The white–Hispanic achievement gap grew by 0.02 more grade levels annually in districts with CDOs compared to those without them. However, this estimate was not statistically significant once controls were added, suggesting that the difference in achievement gap growth rates was not distinguishable from zero. See Table 4.

[Table 4 here]

Similarly, the gap between poor and nonpoor students was not different in districts with CDOs compared to those without them. See Table 5.

[Table 5 here]

Discussion and Conclusion

Diversity bureaucracies at the K-12 and higher education level are large, relative to other administrative units, and appear to be growing. Quantitative study and program evaluations should be conducted to determine whether these administrators are successfully meeting pre-specified goals, so that taxpayers can determine whether such efforts are continued, expanded, or curtailed. Other than Bradley and colleagues (2018), who find null impacts of CDOs on more diverse faculty and administrative hiring, there is scant research evaluating the efficacy of diversity personnel.

We acknowledge several limitations, most of which stem from the fact that CDOs are not randomly assigned to school districts. The biggest limitation to our analysis of the association between CDOs and achievement gap growth is that we cannot reliably determine the year that each district first hired a CDO. For this reason, we cannot rule out the possibility that CDOs indeed contribute to smaller achievement gaps since they have been hired. A follow-up research project could develop reliable measures of the year in which each CDO was hired. Supplied with this information, we could produce a more robust analysis of the correlation between gap growth and CDOs in K-12 districts. Second, it is likely the original data collected from our thorough internet searches contain some amount of measurement error. The overall counts of K-12 CDOs is almost certainly a lower-bound of the true amount. However, our regressions will only be biased if we systematically failed to identify CDOs in districts that have meaningfully higher or lower correlations with achievement gap growth. We have no reason to suspect this will be the case. Third, our analysis only covers the largest 556 school districts, which may limit the extent to which we can generalize our findings to all 13,000 districts.

Nonetheless, this paper is the first to produce a thorough census describing prevalence of CDOS in major school districts. We present a theoretical rationale to explain why diversity administrators may not be expected to close achievement gaps that have persisted for decades. We hope this theory, in conjunction with descriptive facts and an exploratory quantitative analysis, can serve as a foundation that may help policymakers, school leaders, and parents better understand the relationship between CDOs and student achievement.

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Appendices

Appendix D. Standards of Practice, National Association of Diversity Officers in Higher Education (Worthington et al., 2020)

Standard One: Chief diversity officers have ethical, legal, and practical obligations to frame their work from comprehensive definitions of equity, diversity, and inclusion—definitions that are inclusive with respect to a wide range of identities, differentiated in terms of how they address unique identity issues and complex in terms of intersectionality and context.

Standard Two: Chief diversity officers work to ensure that elements of equity, diversity, and inclusion are embedded as imperatives in the institutional mission, vision, and strategic plan.

Standard Three: Chief diversity officers are committed to planning, catalyzing, facilitating, and evaluating processes of institutional and organizational change.

Standard Four: Chief diversity officers work with senior campus administrators and, when appropriate, governing bodies (e.g., trustees or regents) to revise or remove the embedded institutional policies, procedures, and norms that create differential structural barriers to the access and success of students, faculty, and staff who belong to marginalized and oppressed groups.

Standard Five: Chief diversity officers work with faculty, staff, students, and appropriate institutional governance structures to promote inclusive excellence in teaching and learning across the curriculum and within cocurricular programming.

Standard Six: Chief diversity officers work within a community of scholars to advocate for inclusive excellence in research, creativity, and scholarship in all fields as fundamental to the mission-driven work of the institution.

Standard Seven: Chief diversity officers are committed to drawing from existing scholarship and using evidence-based practices to provide intellectual leadership in advancing equity, diversity, and inclusion.

Standard Eight: Chief diversity officers work collaboratively with senior campus administrators to plan and develop the infrastructure for equity, diversity, and inclusion to meet the needs of the campus community.

Standard Nine: Chief diversity officers strive to optimize the balance between centralization and decentralization of efforts to achieve equity, diversity, and inclusion throughout the institution.

Standard Ten: Chief diversity officers work with senior administrators and members of the campus community to assess, plan, and build institutional capacity for equity, diversity, and inclusion.

Standard Eleven: Chief diversity officers work to ensure that institutions conduct periodic campus climate assessments to illuminate strengths, challenges, and gaps in the development and advancement of an equitable, inclusive climate for diversity.

Standard Twelve: Chief diversity officers work with senior administrators and campus professionals to develop, facilitate, respond to, and assess campus protocols that address hate-bias incidents, including efforts related to prevention, education, and intervention.

Standard Thirteen: Chief diversity officers work with senior administrators and campus professionals to facilitate and assess efforts to mentor, educate, and respond to campus activism, protests, and demonstrations about issues of equity, diversity, and inclusion.

Standard Fourteen: Chief diversity officers are committed to accountability for advancing equity, diversity, and inclusion throughout the institution.

Standard Fifteen: Chief diversity officers work closely with senior administrators to ensure full implementation of and compliance with the legal and regulatory requirements for the institution.

Standard Sixteen: Chief diversity officers engage in their work in ways that reflect the highest levels of ethical practice, pursuing self-regulation as higher education professionals.

Tables

Table 1. Descriptive Statistics

State Partisanship	
Red State District	58%
Blue State District	42%
Student Characteristics	
FRL	54%
ELL	13%
White	38%
Black	17%
Hispanic	33%
Asian	6%
Two Races	4%
District Characteristics	
Enrollment	40,525
Pupil Teacher Ratio	17.8

Notes. CDO percentages were obtained through authors' original data collection. Demographic variables were obtained from the 2019 Digest of Educational Statistics. n=556.

Table 2. Factors that Predict CDO Employment

Red State	-0.15***	-0.17***	-0.19***	-0.20***
	(0.04)	(0.04)	(0.05)	(0.05)
Log Enrollment		0.19***	0.21***	0.20***
		(0.03)	(0.03)	(0.03)
Race			X	X
FRL %				X
ELL %				X
Pupil Teacher Ratio				X
Observations	556	556	549	537
R-squared	0.02	0.08	0.15	0.19

Notes. Robust standard errors in parentheses. The dependent variable, a binary indicator for a district employing a CDO, was obtained from authors' original data collection. District-level covariates on enrollment, race, FRL, ELL, and pupil teacher ratio were obtained from the 2019 Digest of Educational Statistics.
**** p<0.01.*

Table 3. Math and Reading Combined Gaps, Whites vs. Blacks

	(1)	(2)	(3)
CDO	0.03***	0.03***	0.03***
	(0.01)	(0.01)	(0.01)
Demographic Controls		X	X
Achievement Controls			X
Observations	510	498	498

*Notes. Robust standard errors in parentheses. The dependent variable, the combined math and reading district-level achievement gap growth rates between White and Black students from 2008 to 2018, was obtained from Stanford Education Data Archive (SEDA). The demographic controls (enrollment level, racial composition, FRPL status, ELL status, and pupil-teacher ratio) were obtained from the 2019 Digest of Educational Statistics. The achievement controls include two measures and were obtained from SEDA. The first is a measure of district average achievement growth, for all students, during the ten-year period. The second is a measure of district average achievement levels, for all students, during the ten-year period. *** $p<0.01$.*

Table 4. Math & Reading Combined Gaps, Whites vs. Hispanics

	(1)	(2)	(3)
CDO	0.02***	0.01	0.01
	(0.01)	(0.01)	(0.01)
Demographic Controls		X	X
Achievement Controls			X
Observations	535	517	517

*Notes. Robust standard errors in parentheses. The dependent variable, the combined math and reading district-level achievement gap growth rates between White and Hispanic students from 2008 to 2018, was obtained from Stanford Education Data Archive (SEDA). The demographic controls (enrollment level, racial composition, FRPL status, ELL status, and pupil-teacher ratio) were obtained from the 2019 Digest of Educational Statistics. The achievement controls include two measures and were obtained from SEDA. The first is a measure of district average achievement growth, for all students, during the ten-year period. The second is a measure of district average achievement levels, for all students, during the ten-year period. *** $p<0.01$.*

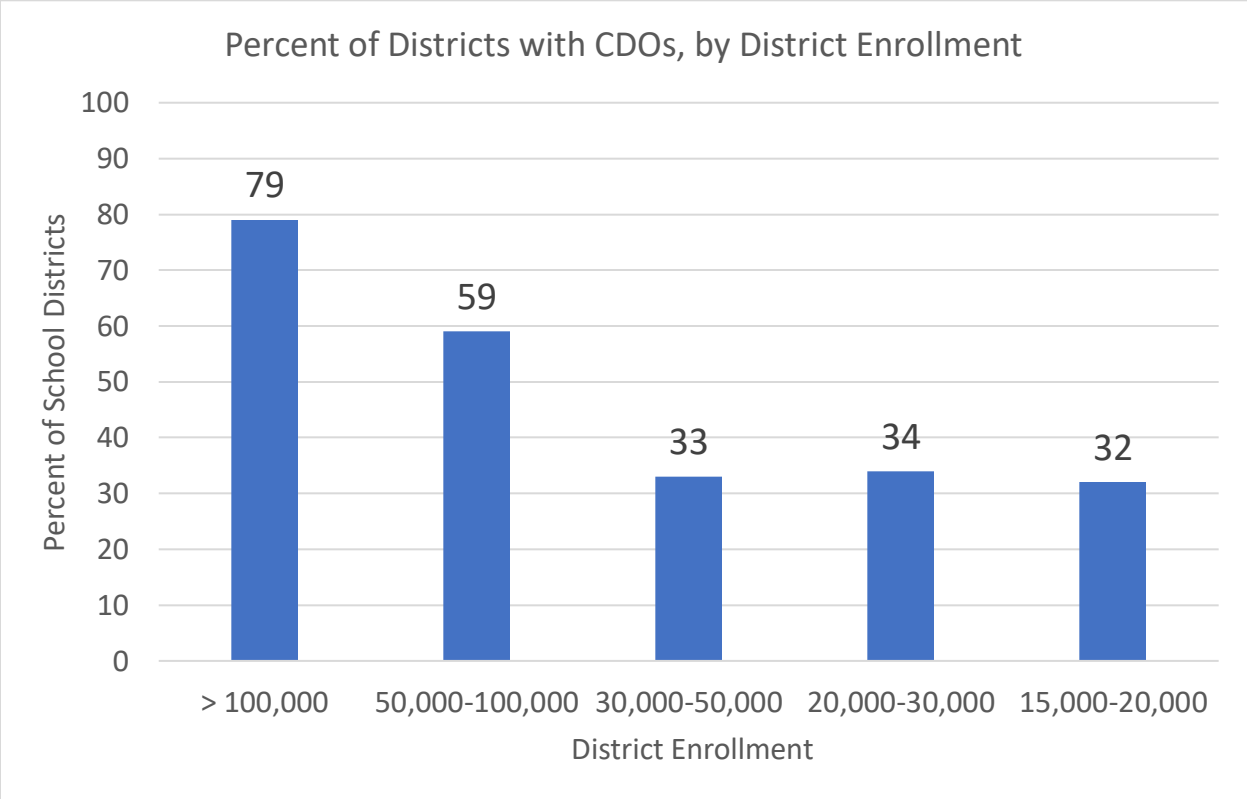
Table 5. Math & Reading Combined Gaps, Nonpoor vs Poor

	(1)	(2)	(3)
CDO	0.01**	0.01	0.00
	(0.01)	(0.01)	(0.01)
Demographic Controls		X	X
Achievement Controls			X
Observations	536	517	517

*Notes. Robust standard errors in parentheses. The dependent variable, the combined math and reading district-level achievement gap growth rates between nonpoor and poor students from 2008 to 2018, was obtained from Stanford Education Data Archive (SEDA). The demographic controls (enrollment level, racial composition, FRPL status, ELL status, and pupil-teacher ratio) were obtained from the 2019 Digest of Educational Statistics. The achievement controls include two measures and were obtained from SEDA. The first is a measure of district average achievement growth, for all students, during the ten-year period. The second is a measure of district average achievement levels, for all students, during the ten-year period. ** $p<0.05$.*

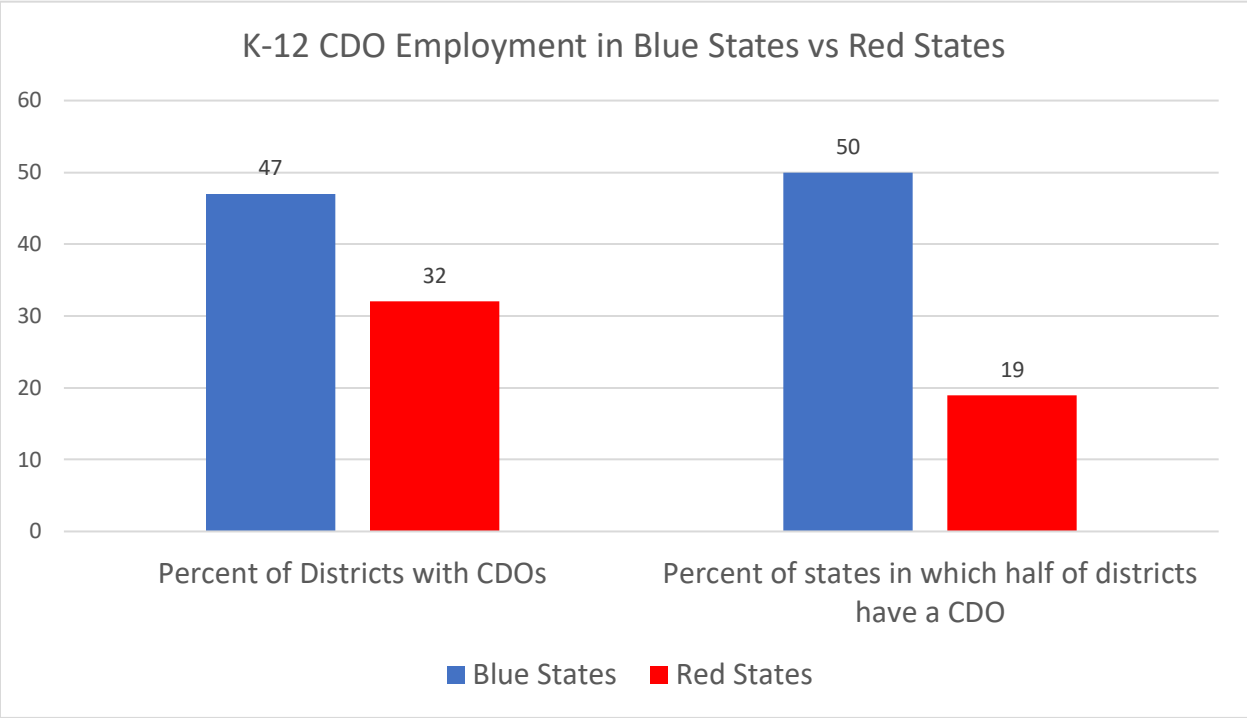
Figures

Figure 1



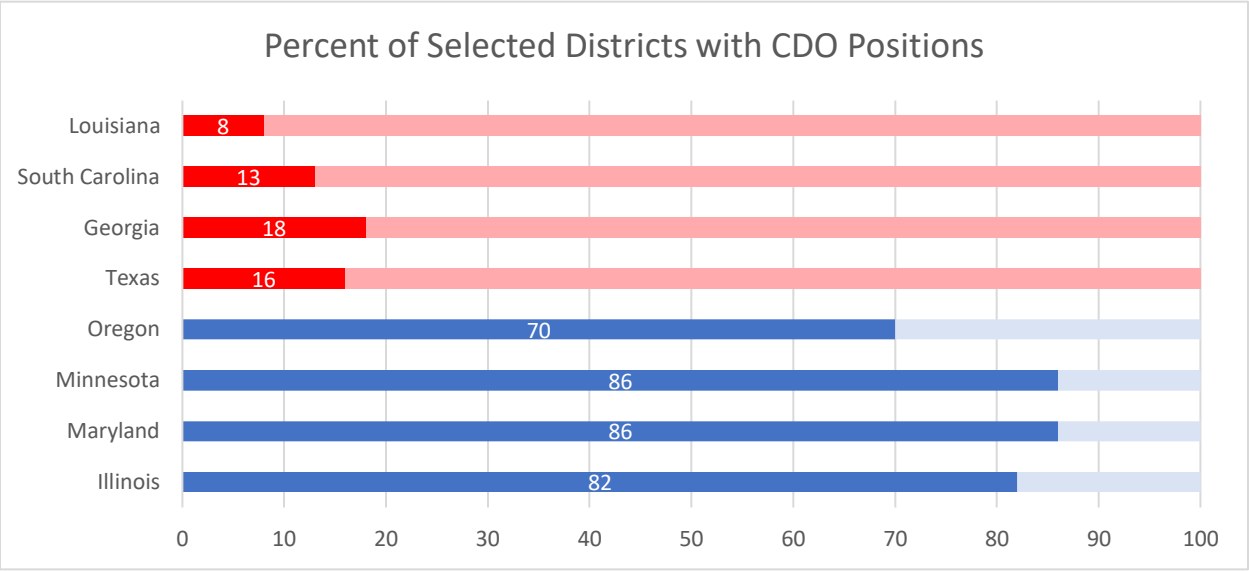
Notes. Authors' original data collection.

Figure 2



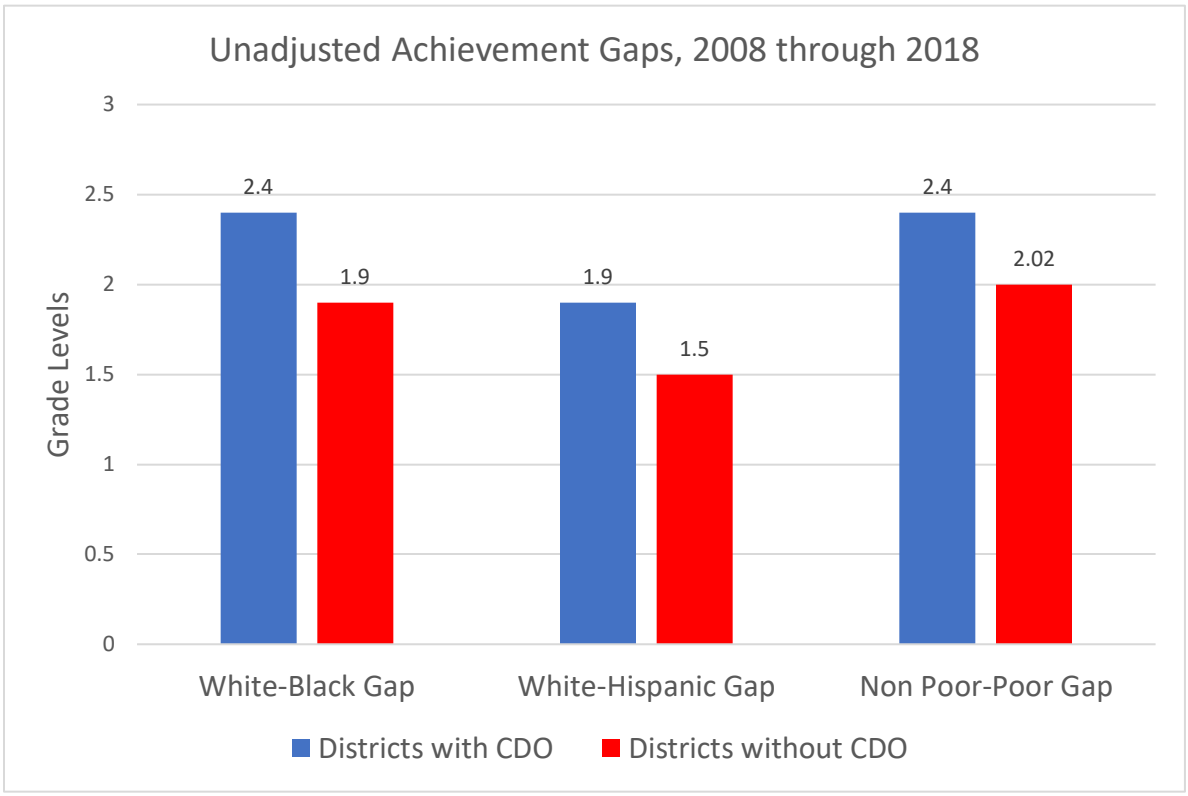
Notes. Authors' original data collection. States were determined to be Blue or Red based on the partisanship of each state's legislature during the Summer 2021. States where two of the House, Senate, and governorship were held by Democrats were deemed to be Blue, while states where two of the House, Senate, and government were held by Republicans were deemed to be Red.

Figure 3



Notes. Authors' original data collection.

Figure 4



Notes. Authors' original data collection was used to determine whether or not a school district employed a CDO. Achievement gap data come from the Stanford Education Data Archive (SEDA).

Chapter 3—The Value of College Athletics in the Labor Market: Results from a Resume Audit Field Experiment

Coauthored with Albert Cheng, Jay P. Greene, and Josh B. McGee

Introduction

Athletics are prominent in American high schools and colleges. In 2018, the number of participants in high school sports increased for the 29th consecutive year, up to a record-high of nearly eight million (National Federation of State High School Associations, 2018). As of 2020, there were more than 460,000 college-athletes nationwide (National Collegiate Athletic Association, 2020). Employers may favor applicants who played college sports if athletics participation contributes to leadership, conscientiousness, discipline, and other traits considered desirable for labor-market productivity. Indeed, there is evidence that employers value interpersonal skills, self-motivation, and problem-solving ability (Chaflin et al., 2015; Baird & Parayitam, 2019; National Association of Colleges and Employers, 2020). Observational studies, including some longitudinal research that tracks students from high school through college and into their careers (Heckman & Loughlin, 2021), suggest a positive relationship between sports and later-life outcomes, but much of this research is hampered by limited internal validity. Until now, there have been few experimental evaluations of the relationship between college athletics and job market outcomes.

In this study, we conduct a resume audit to estimate the causal effect of listing collegiate athletics on employer callbacks. Resume audits are frequently used to estimate differences in employer preferences regarding applicants' demographic traits or work history (Bertrand & Mullainathan, 2004; Lahey, 2008; Ghayad, 2013; Kroft et al., 2013; Deming et al., 2016;

Quillian et al., 2017; Cheng & Florick, 2020). Historically, resume audits have been used to address the possibility of discriminatory hiring. See Neumark (2018) for a thorough discussion.

Our motivation is to understand whether employers demonstrate a preference for applicants with collegiate sports experience. Additionally, we are interested to learn if there are differential effects of sports participation among genders or ethnicities. Sports have historically been a mechanism to ease educational integration, and Title IX-related policies have been justified on gender-equity grounds. Using a resume audit, we can explore whether women or racial minorities enjoy greater success on the labor market because of sports participation.

We generate fictitious resumes by randomly assigning some to include college athletics and compare the callback rates of resumes with and without athletics. We sent these in to more than 450 jobs listed on a large, well-known job board. For each job listing, we submitted two fictitious resumes (one resume pair). Within each resume pair, one included experience in collegiate varsity athletics. Other parts of the resume such as gender, race, degree field, and postsecondary institution were held constant within pairs. Remaining parts of the resume such as work experience and other extracurricular involvement were extracted from actual resumes and randomly assigned to our fictious resumes.

The results from this study may be most valuable to a student who is undecided about participating in collegiate athletics. They may wonder whether labor market prospects will be limited, unaffected, or improved by listing this experience on a resume. Overall, we find that listing sports participation does not significantly change whether an applicant receives a callback or interview request. Among males and females, there were no meaningful differences in callback rates for athletes relative to non-athletes. We observed somewhat larger decreases in the

likelihood that nonwhite applicants receive callbacks when their resumes include sports, but these differences also fell short of statistical significance.

In the next section, we review the literature on the effects of athletics on later-later life outcomes, with a focus on labor market outcomes. We then detail our methods and explain our experimental design. Finally, we present results and conclude with a discussion our findings.

Background and Prior Research

Modern debate among education policy researchers about the effect of athletics on later-life outcomes was initiated by Coleman (1961), a sports pessimist who viewed athletics and academic pursuits as a zero-sum game (Hauser & Lueptow, 1978). Athletics come with opportunity costs. Some observers, concerned about United States' middling standing in international achievement, speculate that funds currently spent on athletics should instead be used to enhance traditional academic expenditures (Ripley, 2013). Roza (2010) finds that schools typically spend far more per pupil on student athletes than on students taking advanced, typical, or remedial coursework. An analysis of public Division I colleges and universities likewise found that athletic departments spend three to six times more on the average athlete relative to the average non-athlete student (Desrochers, 2013).

Alternatively, advocates of athletics argue that participating in sports may lead to greater lifetime earnings (Long & Caudill, 1991), educational achievement (Hanks & Eckland, 1976) and expectations (Snyder & Spreitzer, 1977). Recent observers (Greene, 2013) argue that athletics contribute to social capital and, as such, Coleman's perceived trade-off between athletics and academics may be overstated. Moreover, employers may place value on intangible characteristics developed through sports participation (Bauer-Wolf, 2019). Indeed, some observational studies suggest that collegiate student-athletes exhibit higher levels of

interpersonal and leadership skills that may be rewarded in the labor-market (Barratt & Frederick, 2011).

Labor Market Outcomes

Adolescents and young adults who participate in sports may benefit from environmental or genetic factors that are associated with more favorable labor-market outcomes. Selection bias is an inherent problem since individuals cannot be randomly assigned to sports. Although researchers typically employ quasi-experimental or correlational methods to examine the influence of athletics participation on later-life outcomes, there have been a few experimental studies on this subject.

For instance, Rooth (2011) presented causal evidence on the Swedish labor market returns from physical fitness, which is related to—but slightly different from—collegiate sports participation. In this experiment, job applicants included written statements such as "I like to engage in recreational sport activities in order to stay in shape" (Rooth, 2011, p. 405). Male applicants who signaled having skills in athletics were two percentage points more likely to receive callbacks than those who did not signal skills in athletics. These effects were largest in physically demanding occupations, although they were not driven by the physically demanding types of athletics. In another experiment, Tracy, Erkut, and Pappano (2020) found that college athletes were no more likely than non-athletes to receive an interview. In this study, however, the authors presented fictitious resumes to be evaluated by human resource professionals who knew they were participating in an academic survey, rather than job recruiters employed by a company truly seeking to hire an employee.

Researchers have also used instrumental variables to estimate the effect of athletics on labor market outcomes (Yeung, 2015). Unlike much of the correlational research, which suggests

a positive relationship between sports and outcomes, instrumental variables estimations generally suggest null effects. Analyzing the 1980 cohort from the High School and Beyond Survey, Eide & Ronan (2001) used students' height at age 16 as an instrument for the otherwise endogenous decision to participate in sports. The authors estimated no statistically significant relationship between high school sports and earnings for men and women of all races, except for Black males for whom the relationship was positive. Another instrumental variables analysis of males in the National Longitudinal Survey of Youth found statistically significant effects of athletic participation on educational attainment but not for weekly wages (Barron et al., 2000). Furthermore, Stevenson (2010) used variation in boys' athletic participation prior to passage of Title IX to instrument for the change in girls' athletic participation. This study of the National Longitudinal Survey of Youth concluded that increased athletic opportunity for women was associated with an increase in labor force participation. However, no relationship was identified between sports and hourly wages. Further, there is considerable evidence that rising collegiate athletic costs have undermined student learning and fundamentally changed the roles of college and university presidents (Melnick, 2018).

Observational research generally suggests a positive association between athletics and earnings, but these studies cannot account for possible positive selection among students who play sports. Several studies indicated that male athletes earned higher wages than male non-athletes (Ewing, 1995; Curtis et al., 1999; Baron et al., 2000). One analysis found that former college athletes earn more, on average, but the wage advantage was skewed such that the median non-athlete earned more than the median athlete (Henderson et al., 2006). A nationally representative Gallup survey (2016), commissioned by the NCAA, found that 65 percent of former athletes reported being employed full-time compared to 63 percent of non-athletes.

Among those who were employed full-time, former athletes were 4 percentage points more likely to report being "engaged" in the workplace than non-athletes. Similarly, an analysis of high schoolers eight years after graduation found that athletes were more likely to be employed and earn higher incomes than non-athletes (Carlson et al., 2005).

Attainment and Achievement

Correlational evidence suggests benefits of sports participation on achievement. After controlling for poverty levels and student demographics, Bowen and Greene (2012) found Ohio high schools that offer more sports have students with higher test scores and graduation rates. A meta-analysis by the Centers for Disease Control (2010) reviewed 251 associations between physical activity and academic performance, finding that more than half of the associations were positive, less than two percent were negative, and the remainder were null. Other observational studies suggest a positive association between athletics and academic achievement (Soltz, 1986; Holland & Andre, 1987; McCormick & Tinsley, 1987; Marsh, 1993; Broh, 2002; Eccles et al., 2003; Lipscomb, 2006; Troutman & Dufur, 2007). More rigorous methods call into question the effects of sports participation on attainment and achievement. For example, Reese and Sabia (2010) use height as an instrument in their analysis of the National Longitudinal Study of Adolescent Health. The authors estimated null effects of high school sports participation on academic achievement. In this paper, we use a different approach, namely a resume audit experiment, to investigate the value of sports participation. We describe our methods in the next section.

Methods

Setting for Resume Audit

Between March 2020 to February 2021, we submitted resumes to job postings for employment opportunities within a 25-mile radius of four large metropolitan areas in the Northeast and Midwest (New York City, Philadelphia, Pittsburgh, and Milwaukee; See Appendix E) that had both a concentration of collegiate sports programs and job openings. Using a large, popular online job board, we applied for any entry-level positions that sought candidates who recently completed their bachelor's degree.

All job postings sought candidates with four-year degrees in a business-related field, such as business administration, organizational management, marketing, logistics, financial management, accounting, data analytics, and information technology. In these job postings, employers sought candidates to fill positions such as administrative assistants, sales representatives, marketing specialists, customer service representatives, and account managers. We focus on business-related fields because they are among the most popular majors selected by college student-athletes (Schneider et al., 2010; Foster & Huml, 2017). About half of the job postings listed annual salaries, the median of which was about $40,000.

Resume Construction and Experimental Design

In our experiment, we submitted pairs of fictitious resumes to the same job opening. Each resume was crafted to represent an individual who completed a bachelor's degree within the past year. We randomly populated each resume with a name, contact information, educational background, prior professional work experience, skills, and extracurricular activities, following the approach used by past researchers (Lahey & Beasley, 2009; Deming et al., 2016). Within each pair, we also randomly assigned one resume to list participation in collegiate athletics to study its causal effect on receiving a callback from a potential employer. We discuss these components in turn.

Collegiate Sports Experience. To estimate the causal effect of participating in collegiate sports, we constructed one resume that identified the fictitious job candidate as a student athlete and a corresponding resume that made no mention of participation in collegiate sports. We randomly determined which of the two resumes would indicate collegiate sports experience and listed it next to information about the candidate's educational background, contact information, and name. We attempted to raise the salience of collegiate sports experience near the top of the resume. Given the existing evidence and theoretical benefits of athletic participation, we hypothesize that resumes listing college athletics will be more likely to receive callbacks than other resumes that display non-sport extracurricular activities.

On all resumes that included experience with collegiate sports, we listed participation in either soccer, track and field, or cross-country running. As we discuss below, we selected institutions that do not participate at the NCAA Division I level. We made these decisions to lower the chances that employers would recognize fictitious resumes. Listing participation in a major Division I sport might induce employers to look up rosters, and a simple check would harm the candidate's chances of receiving a callback. We attempted to avoid this problem by listing participation in less popular sports like soccer, track and field, or cross-country running at non-Division I postsecondary institutions.

Furthermore, we selected these sports to test our hypothesis that participation in team and individual sports might signal different skills to employers. We use soccer to test the effects of participation in team sports on receiving a callback. Track and cross-country running are used to examine potential effects of participating in an individual sport. We hypothesize that participation in a team sport like soccer signals greater interpersonal skills that may be valued on

the job market (Chaflin et al., 2015). As such, we expect higher callback rates for soccer players relative to track or cross-country athletes.

We sent out 918 resumes (459 pairs). Table 1 disaggregates the resumes we submitted by sport type, gender, and ethnicity.

[Table 1 here]

Candidate characteristics. Because race and gender might influence callbacks and interviews, we followed standard practice of prior resume audit experiments and held race and gender constant within resume pairs but allowed them to vary across pairs (Bertrand & Mullainathan, 2004; Deming et al., 2016). In other words, for a given job posting, we randomly selected a gender (i.e., male or female) and race (i.e., white, Black, Hispanic, or Asian) combination. We then randomly generated two names that fit that gender and race profile based on lists of the most popular names of children born in the year 2000—the population who would be completing their four-year degrees at the time of our experiment. Holding gender and race fixed across both resumes sent to each job posting ensures any differences in callback rates are not attributable to differences in these demographic characteristics.

Disparate Effects. We hypothesize there could be disparate effects of sports participation on employment opportunities by gender and race. Both positive and negative stereotypes about college athletes are likely to be gender and racially coded. Athletic programs for women may be less emphasized than athletic programs for men and therefore be viewed as less likely to be distracting from academic success. However, according to some surveys, employers do not report valuing sports participation differently for men or women (Chaflin et al., 2015).

Prospective employers may see nonwhite athletes as negatively fitting stereotypes of unearned academic accomplishments even while possessing high levels of athletic talents

(Eastman & Billings, 2001). Alternatively, employers may still positively interpret sports participation among nonwhite and white individuals alike as signaling leadership, self-discipline, and other desirable traits. Given limited past research on these issues, we do not have strong priors about the direction of these disparate effects but are inclined to think that negative effects may predominate.

Contact Information. We generated email addresses and phone numbers for each resume. We regularly checked these email and voicemail accounts for callbacks by employers. Both email and voicemail messages were coded as callbacks. As is conventional practice in resume audits, we did not respond to any callbacks. To generate addresses, we listed units in large apartment complexes near the postsecondary institution named as the degree-granting institution on the resume.

Educational Background. Every resume listed completion of a bachelor's degree program in a business-related field at the end of an academic term in 2020. No resume listed the completion of a post-baccalaureate degree. We identified 30 postsecondary institutions for our fictitious resumes (Appendix F). These institutions were selected because they had non-Division I college athletics programs in soccer, track and field, or cross-country running. These institutions were also geographically located near the job markets for the setting of our experiment, and each institution offered degree programs in a business-related field. Like gender and race, we held the institution and degree fixed within each resume pair to rule out the possibility that callbacks from the same job posting were the result of differences in employer preferences for these characteristics.

Work Experience. We followed the practice of prior resume audits to populate our fictitious resumes with work experience (Deming et al., 2016). Specifically, we began by using

the same job board to which we were submitting resumes to obtain nearly 1000 resumes of real individuals who completed a bachelor's degree program in a business-related field from the postsecondary institutions in our study setting during the spring of 2020. We collected up to the three most recent work experiences listed in each of these actual resumes.

When crafting fictitious resumes, we randomly selected a work history from the resume of a real individual who attended the same postsecondary institution and degree. With the random selection of work histories, callbacks are unlikely to be driven by differences in work histories across pairs in the aggregate.

Skills. We likewise populated fictitious resumes with skills that were listed on real resumes that we sampled. For example, individuals listed competencies in a variety of computer software or foreign languages. We randomly selected lists of skills from the sampled resumes and added them to the fictitious resumes. Again, this approach reduces the possibility that overall differences in callback rates within resume pairs are attributable to differences in listed skills.

Extracurricular Activities and Awards. It is common for genuine resumes to list participation in extracurricular activities, membership in student groups, volunteering, and awards. As with skills and work experience, we randomly selected these items and populated our fictitious resumes with this content. Sometimes, resumes from which we sampled listed participation in collegiate sports; in these cases, we never used this content to populate our fictitious resumes. Examples of extracurricular activities include serving as a volunteer camp counselor, a grader for an accounting class, and participation in various clubs such as Glee Club, Voice Club, and Management Club.

Analytic Strategy

We estimate differences in callback rates using a regression framework:

$$Callback_{ij} = \beta_0 + \beta_1 Sports_i + \omega_j + \varepsilon_{ij}$$

where $Sports_i$ is a dummy variable indicating whether resume i listed college athletics experience, ω_j is a vector of job listing fixed effects, and ε_i is the error term. For ease of presentation, we describe results based on linear probability models; results are not substantively different based on logistic models. Standard errors are clustered at the job vacancy level. In a series of additional exploratory analyses, we estimate models that include interactions of $Sports_i$ with indicators for race and gender to examine whether there are subgroup effects for white, nonwhite, male, and female individuals.

We operationalize our dependent variable $Callback_{ij}$ in two ways. We first use a binary indicator of whether the particular resume received a callback from a prospective employer. We consider a callback to be any phone message or email left by the employer desiring information about the job candidate. The second dependent variable is a binary indicator of whether the callback specifically requested an interview. The independent variable of interest is $Sports_i$, the binary indicator of whether the resume included collegiate athletics. No further control variables are required to estimate the effect of listing collegiate athletics because we held race, gender, educational background, and degree program constant within pairs and randomized all the content in each resume.

Results

General Results

We first present overall results comparing callback and interview request rates for resumes with and without collegiate sports experience. As is evident in Figure 1, there are no meaningful differences in callback or interview request rates between these two groups. Slightly more than 24 percent of resumes that do not list collegiate sports received a callback, whereas nearly 23 percent of resumes that list collegiate sports received a callback. Approximately 15

percent of resumes that did not include sports received a callback specifically requesting an interview, which is 1.7 percent points greater than resumes that did list sports. Neither of these differences were statistically significant. The full set of regression coefficient estimates for these results and all subsequent results are in Table 2. The callback rates in this study are higher than rates in other resume audit experiments, which we speculate are a function of the job postings to which we applied, which were entry-level Business-related jobs.

[Figure 1 here]

[Table 2 here]

In Figure 2, we display callback and interview requests rates by sport type. There are no statistically significant differences in the likelihood an applicant receives a callback or interview request among those who list soccer compared to those who list track or cross country. In absolute terms, callback and interview requests rates are marginally higher for soccer resumes relative to track and cross country, but the results are neither statistically significant nor substantively large.

[Figure 2 here]

Subgroup Results

We find practically larger differences in callback rates within subgroups. For example, as illustrated in Figure 3, 23.6 percent of nonwhite applicants who do not list sports receive callbacks, while only 20.7 percent of nonwhite applicants who list sports receive callbacks. This apparent 3 percentage point penalty for sports participation is not statistically significant (p= .18). There is a similar finding among nonwhites for interview requests. Some 15.3 percent of nonwhite, non-sport playing applicants received requests for interviews compared to only 12.1 percent of nonwhite, sport playing applicants (Figure 4). This difference is nearly twice the

magnitude as the overall estimate of sports participation on interview requests, and although it still falls short of statistical significance ($p = .13$).

Among white applicants, the likelihood for a callback or interview request increases, in absolute terms, when listing sports on a resume. But these increases are neither statistically significant nor substantively large. The callback rate and interview request rate for white applicants are both 1.4 percentage points higher for resumes that list sports relative to resumes that do not list sports.

Both males and females show small, non-statistically significant decreases in the likelihood of receiving both types of callbacks when listing collegiate sports on their resumes. In absolute terms, the penalty for listing sports is larger for females than males. Males who list sports see a 0.9 percent decrease in the likelihood of receiving any callback and a 0.8 percent decrease in receiving an interview request. Females see a 2.1 percent decrease in receiving any callback and a 2.5 percent decrease in receiving an interview request.

[Figure 3 here]

[Figure 4 here]

Discussion and Conclusion

We conduct a resume audit to examine the effects of collegiate sports experience on one type of labor market outcome. Overall, we find that sports participation does not have a significant effect on whether an applicant receives a callback or interview request. Moreover, employers in our sample did not prefer one type of sport over another. Thus, our hypotheses that sports participation would lead to higher callback rates—and that team sports like soccer would drive the advantage more than individual sports like track or cross country—were not supported.

These findings are inconsistent with studies that document a self-reported preference among employers for athletes presumably because they possess traits such as teamwork, leadership, or conscientiousness, that are conducive to labor-market success (Barratt & Frederick, 2011; Chaflin et al., 2015; Baird & Parayitam, 2019). On one hand, our diverging results may be attributable to the unique circumstances in which we conducted our experiment (e.g., job markets in the Northeast United States, majors in business-related fields, job applications during the Covid-19 pandemic). On the other hand, by conducting an experiment to create an exogenous source of variation in collegiate sports participation as well as by relying on the revealed behavior of employers, we offer new evidence that calls into question the conventional view about collegiate athletics as advantageous.

We also observe larger decreases in the likelihood that female and nonwhite applicants receive callbacks and interview requests when they list sports on their resumes, although the differences within subgroups fell short of statistical significance. Given other evidence that finds white male athletes tend to be described by their hard work and mental skills, while Black male athletes tended to be described for being athletic and other physical attributes (Eastman & Billings, 2001), we believe further research—with a larger sample size—should investigate potential racial bias.

There are several avenues for more research on this subject. For example, what is the effect of different types of sports participation within different labor markets? Moreover, given our subgroup findings, we are interested to explore whether there is indeed a penalty for sports participation among females and nonwhites. A similar study could be conducted in which more than two fictional resumes are submitted to the same job posting—which would allow the listing of sports experience and the gender or race of the applicant to both be randomized. Future

research could also expand our experiment to include three different treatment arms—resumes with sports, resumes with non-sport extracurriculars, and resumes with no extracurriculars—to better understand how much employers value sports relative to different control conditions.

We acknowledge some limitations in this study. First, as is common in resume audits, we only observe whether applicants receive callbacks. Our study was not designed to measure outcomes such as whether a job was offered, whether earnings were affected, or how long one remains in a job once hired. Each of these outcomes may be more salient measures of labor market success. The callback, however, is a crucial first step toward labor market productivity. Collegiate sports participation may be rewarded at other downstream stages of the job application process, such as the interview. In fact, it is conceivable that collegiate sport experience may instill qualities that make employees more productive workers in ways that are not evident on a resume but become apparent once assuming a job. Moreover, sports may contribute to social capital in ways that are not captured by our field experiment.

Second, because we limited our resumes to include only certain types of sports at Division III institutions and applied to entry-level openings in business fields, our study is limited in external validity. The most common job titles to which we applied were Administrative Assistant, Account Executive, Business Development Representative, Customer Service Representative, Entry Level Sales Representative, Executive Assistant, Sales Representative, Project Coordinator, and Sales Representative. Our study does not address whether employers in other fields value participation in sports or whether participation in higher profile, Division I sports has an effect. Third, we acknowledge that our experiment is underpowered relative to other resume audit studies that investigate other research questions. Finally, we note that the study was conducted during the Covid-19 pandemic. The global

pandemic conceivably depressed callback rates across the board, although it seems unlikely this would systematically increase or decrease the desirability of collegiate athletics to potential employers. It is also possible that the pandemic increased employers' desire for remote employees, but again, we have little reason to suspect that college athletes would be more or less coveted for remote jobs relative to in-person jobs.

Despite these limitations, our study is among the first to investigate the causal effect of listing sports participation on labor market outcomes. We hope this research can be most valuable to athletes on the margin who are deciding whether it is worthwhile to continue participating in athletics beyond high school, and whether it is worthwhile to include athletic participation on their resumes.

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Appendices

Appendix E. Institutions Included in Study

College or University Listed on Resume	% of all Resumes
Arcadia University	5
Brooklyn College	2
Bryn Athyn College	4
Cabrini University	5
Carnegie Mellon University	2
Carroll University (Wisconsin)	4
Chatham University	4
College of Mount Saint Vincent	2
College of Staten Island, CUNY	2
Concordia University Wisconsin	4
Geneva College	4
Immaculata University	3
La Roche College	5
Lehman College	2
Manhattanville College	3
Medgar Evers College CUNY	4
Milwaukee School of Engineering	3
Neumann University	3
Penn State Berks College	3
Penn State University, Abington	4
Rosemont College	4
Saint Vincent College	2
St. Joseph's College (Brooklyn)	6
SUNY College at Old Westbury	3
The City College of New York	4
Widener University	3
Wisconsin Lutheran College	4
Yeshiva University	3
York College (CUNY)	2

Appendix F. Location of Job Vacancies

Metropolitan Area	% of all Resumes
Milwaukee, Wisconsin	16
New York City, NY	34
Philadelphia, PA	32
Pittsburgh, PA	18

Tables

Table 1: Demographic Characteristics and Callback Rates

	Observations	% of total	Callback Rate (%)	Interview Request Rate (%)
Total Resumes	918	100	24	14
Total Sport Participation	459	50	23	14
No Sport Participation	459	50	24	15
By Sport Type				
Soccer	225	49	24	14
Track/Cross Country	234	51	22	13
By Gender				
Female	472	51	26	15
Male	446	49	22	14
By Ethnicity				
White	290	32	27	16
Black	202	22	28	14
Hispanic	214	23	22	14
Asian	212	23	17	14

Table 2: Regression Results

Panel A	(1)	(2)	(3)	(4)
Dependent Variable: Any Callback				
Sport	-0.015			
	(0.018)			
Sport White		0.014		
		(0.039)		
Sport NonWhite		-0.029		
		(0.022)		
Sport Female			-0.021	
			(.026)	
Sport Male			-0.009	
			(0.025)	
Soccer				-0.009
				(0.027)
Track				-0.021
				(0.025)
Control Group Mean for:				
Overall Sample	0.244			0.244
White		0.262		
NonWhite		0.236		
Female			0.267	
Male			0.220	

Panel B	(1)	(2)	(3)	(4)
Dependent Variable: Interview Request				
Sport	-0.017			
	(0.018)			
Sport White		0.014		
		(0.034)		
Sport NonWhite		-0.032		
		(0.021)		
Sport Female			-0.025	
			(.025)	
Sport Male			-0.009	
			(0.025)	
Soccer				-0.013
				(0.026)
Track				-0.021
				(0.025)
Control Group Mean for:				
Overall Sample	0.153			0.153
White		0.152		
NonWhite		0.153		
Female			0.161	
Male			0.143	

Notes. All models include fixed effects indicating a pair of resumes sent to a specific job opening. Standard errors are clustered at the job vacancy level. In columns 2 and 3, the reference group is non-sport version of the same subgroup. Standard errors are presented in parenthesis. n=918.

Figures

Figure 1: Callback and Interview Request Rates, with and without Collegiate Athletics

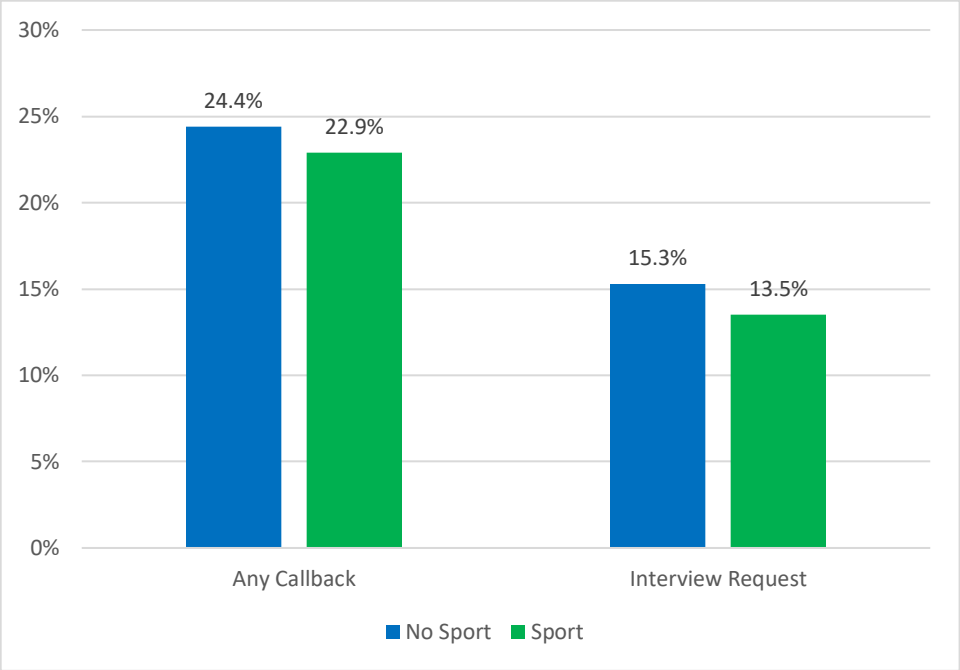


Figure 2: Callback and Interview Request Rates, by Sport Type

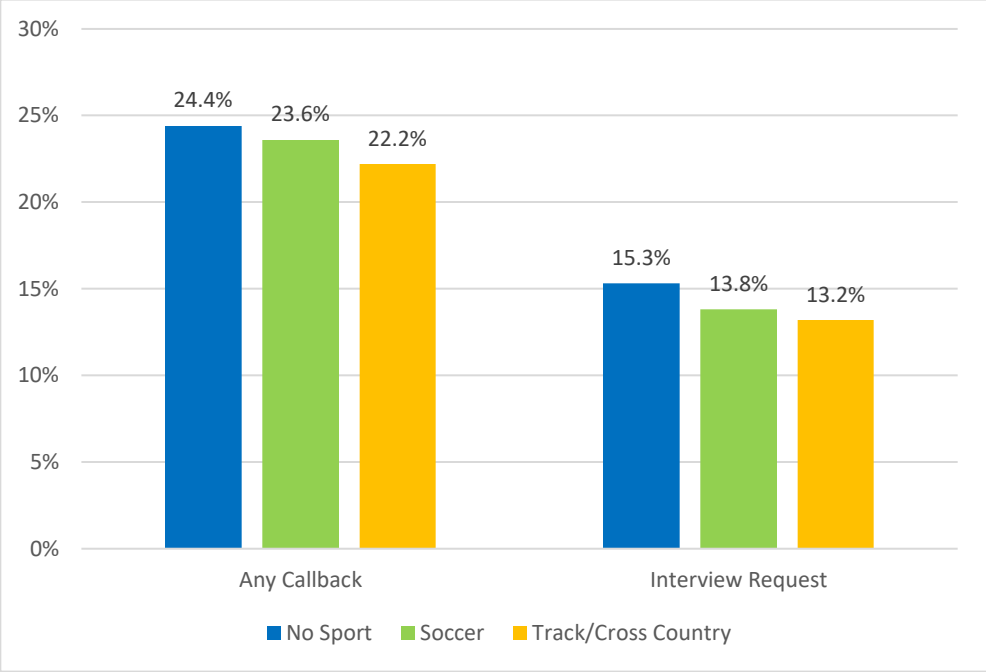


Figure 3: Callback Rates for Subgroups, with and without Collegiate Sports

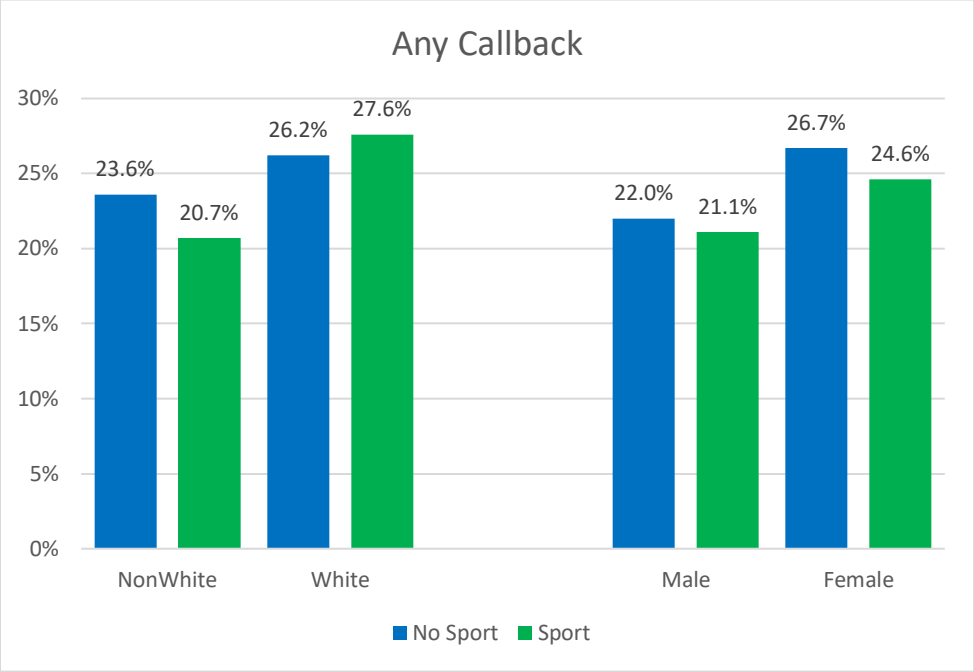
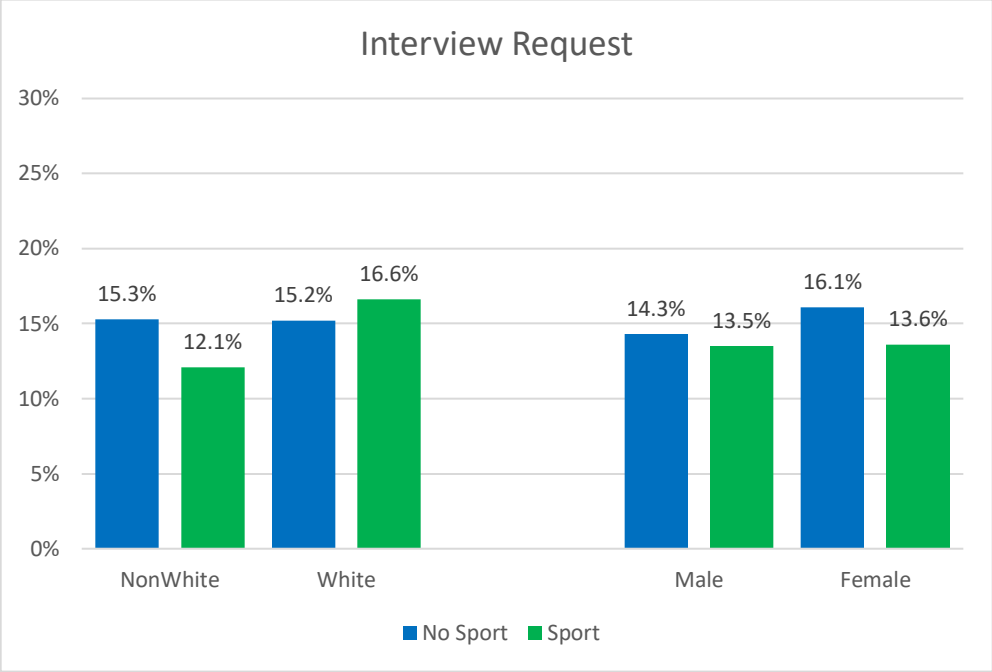


Figure 4: Interview Request Rates for Subgroups, with and without Collegiate Sports



Conclusion

DEI initiatives appear likely to remain prominent in both higher education (Sailer, 2022) and K-12 public schools (Najarro, 2022). This dissertation contributes some of the first quantitative, empirical evidence on DEI trends, requirements, and efficacy.

In chapter one, I fill a gap in the literature by investigating the prevalence of DEI statement requirements and how these requirements vary by academic discipline, geographic region, type of faculty position, and university prestige. After generating a representative sample of academic job postings, my analysis reveals that nearly one-in-five jobs require that candidates express a commitment to DEI. The coding scheme I developed was conservative and, if anything, likely underestimated the prevalence of mandatory DEI statements. Prestigious universities are significantly more likely to have DEI requirements than non-prestigious universities. Perhaps surprisingly, these statements are as prevalent in science, technology, and math fields as in the social sciences.

The analysis in chapter one is cross-sectional, but I expect diversity statement requirements will become more common in coming years. Less-selective universities often take cues from more selective institutions (Rothman and Lichter, 2009), and the use of mandatory DEI statements may become standard practice across faculty hiring. What would be the implications of this development for higher education? If critics are right that DEI requirements erode free speech and serve as narrow political litmus tests, we should expect further ideological conformity among faculty. This would result in the narrowing of research questions, with negative consequences for intellectual pursuits. To combat this trend, legislators could pursue policies that would limit, or even ban, the use of DEI statements in faculty hiring, but I am not aware of any lawmakers pursuing this approach. On the other hand, it is possible that an

industry-wide emphasis on DEI for the next generation of faculty could create a more inclusive, representative, and culturally affirming environments for all students to succeed.

Future research could build on the limitations of chapter one by sampling a greater number of job postings from a greater number of online job boards. I could examine a broader range of academic disciplines to learn if certain academic subfields are significantly more or less likely to require DEI statements. Additionally, I could replicate my original analysis to obtain longitudinal data, which would provide the first evidence on growth over time. Finally, while the essay in chapter one studies DEI requirements for new faculty hires, there is an opening to study DEI contribution statements for faculty seeking tenure or promotion. Even less is known about the frequency of these requirements.

In chapter two, I demonstrate that public school districts—especially large districts in Democratic-controlled states—have imitated their higher education counterparts and created senior administrative DEI positions. CDOs working in K-12 schools may attempt to advance social justice goals. Perhaps counterintuitively, I hypothesize why CDOs may be unlikely to pursue policies that close achievement gaps. Indeed, my exploratory analysis reveals that districts with CDOs have not been more successful at closing gaps relative to districts without professionalized diversity infrastructure. Granted, the analysis in chapter two is subject to several limitations—chief among them being that I cannot reliably determine the date when a school district first hired a CDO. Future research could produce more plausibly causal estimates of the effects of CDOs on achievement gaps. For now, I have produced a theory—that in conjunction with descriptive facts and an exploratory quantitative analysis—can begin to help policymakers, school leaders, and parents better understand the relationship between CDOs and student achievement.

Although I hypothesize that CDOs may be focused on equity concerns separate from achievement gaps, it is possible that a CDO who was indeed focused on closing gaps would nonetheless face resistance. Downs (1967) observes that large bureaucracies with many internal interest groups have higher levels of goal variance. Without goal consensus, there are more intense conflicts, and the bureaucracy becomes harder to maneuver. Accordingly, it may be more difficult for CDOs in large bureaucracies to ensure their agenda is faithfully implemented. Further research could explore if CDOs in smaller school districts are more successful at closing achievement gaps, although it seems that CDOs are more likely to be hired in large, urban districts.

State legislators concerned about the growth of professional diversity administrators could take a more active role in regulating the process by which CDOs are hired. Moreover, school district evaluation units could build on the analysis in chapter two to investigate whether hiring CDOs are indeed associated with improved academic outcomes. Above all else, district leaders could clarify the precise mission of existing diversity administrators—which would help parents, taxpayers, and researchers to determine if professionalized DEI officers are worth further public expense.

Chapter three studies DEI issues in the college graduate job market. I conduct a resume audit to measure the effects of college athletics on employer callbacks and test for subgroup effects by ethnicity and gender. As is common in many experimental evaluations, the study has limited external validity. Resumes included only certain types of sports at Division III institutions and were sent to entry-level openings in business fields. Additionally, as is common in resume audits, the study cannot measure outcomes such as whether a job was offered, whether earnings were affected, or how long one remains in a job once hired.

Despite these limitations, the study in chapter three is the first to estimate the causal effect of listing collegiate athletics on proximal labor market outcomes. Contrary to my hypothesis, listing sports participation makes it marginally less likely that an applicant receives a callback or interview request, although the differences are not statistically distinguishable from zero. However, I observe larger decreases in the likelihood that females and nonwhite applicants receive callbacks when their resumes include sports, even though these disparities also fall short of statistical significance.

Further research, with a large sample size, should investigate whether there is indeed a penalty for sports participation among females and nonwhites. The design of the experiment in chapter three does not allow for causal inference about callbacks or interview requests across genders or ethnicities. A similar study could be conducted in which more than two fictional resumes are submitted to the same job posting—which would allow the listing of sports experience and the gender or race of the applicant to both be randomized.

Given other evidence that finds white male athletes tend to be described by their hard work and mental skills, while Black male athletes tended to be described for being athletic and other physical attributes (Eastman & Billings, 2001), there are theoretical reasons to worry about potential labor market bias. Advocates of DEI programming, at the K-12 and higher education level, could fairly point to experimental evidence of bias as justification for policy interventions like diversity statements and professionalized diversity bureaucracies.

The question remains whether DEI interventions will achieve their stated goals or whether they will ultimately prove divisive, unsuccessful, or even counterproductive. DEI issues can be politically charged and informed by one's individual values. Resolving these

controversies will require open debate, free academic inquiry, and evidence-based research such as this dissertation.

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