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FROM A NATURAL FIELD EXPERIMENT ON JOB-ENTRY DECISIONS

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Do Equal Employment Opportunity Statements Backfire? Evidence From A Natural Field
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ABSTRACT

Labor force composition and the allocation of talent remain of vital import to modern economies. For their part, governments and companies around the globe have implemented equal employment opportunity (EEO) regulations to influence labor market flows. Even though such regulations are pervasive, surprisingly little is known about their impacts. We use a natural field experiment conducted across 10 U.S. cities to investigate if EEO statements in job advertisements affect the first step in the employment process, application rates. Making use of data from nearly 2,500 job seekers, we find considerable policy effects, but in an unexpected direction: the presence of an EEO statement dampens rather than encourages racial minorities' willingness to apply for jobs. Importantly, the effects are particularly pronounced for educated job seekers and in cities with white majority populations. Complementary survey evidence suggests the underlying mechanism at work is "tokenism", revealing that EEO statements backfire because racial minorities avoid environments in which they are perceived as regulatory, or symbolic, hires rather than being hired on their own merits. Beyond their practical and theoretical importance, our results highlight how field experiments can significantly improve policymaking. In this case, if one goal of EEO regulations is to enhance the pool of minority applicants, then it is not working.

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“But freedom is not enough. You do not wipe away the scars of centuries by saying: Now you are free to go where you want, and do as you desire, and choose the leaders you please.

You do not take a person who, for years, has been hobbled by chains and liberate him, bring him up to the starting line of a race and then say, "you are free to compete with all the others," and still justly believe that you have been completely fair.

Thus it is not enough just to open the gates of opportunity. All our citizens must have the ability to walk through those gates.

This is the next and the more profound stage of the battle for civil rights. We seek not just freedom but opportunity. We seek not just legal equity but human ability, not just equality as a right and a theory but equality as a fact and equality as a result.

For the task is to give 20 million Negroes the same chance as every other American to learn and grow, to work and share in society, to develop their abilities--physical, mental and spiritual, and to pursue their individual happiness.....*To this end equal opportunity is essential...*”

--Lyndon B. Johnson, 1965 Howard University commencement speech

Introduction

Sweeping changes in the 1960s potentially altered employment and lifetime opportunities in the U.S. that were unprecedented. A few months after President Lyndon B. Johnson gave his moving Howard University commencement speech, the New York Times (August, 1965) reported that “The President's Committee on Equal Employment Opportunity said today it had helped place more than 100,000 Negroes and other nonwhites in jobs in the last two years with its Plans for Progress program.”

This landscape change has altered every aspect of the employer-employee relationship. In the past half century, for example, Equal Employment Opportunity (EEO) statements were added as a requirement in the Code of Federal Regulations, and nearly every employer in the U.S. has grappled with how to provide equal opportunities. Even with such policies and affirmative action programs in place, racial inequalities remain ubiquitous in labor markets (Altonji and Blank, 1999; Bertrand, 2010; Blau et al., 2010).¹ Relative to whites, blacks are twice as likely to be unemployed and earn more than 20% less in the U.S. A critic of EEO regulations might interpret such data

¹ Affirmative action can be defined as “any measure, beyond simple termination of a discriminatory practice, adopted to correct or compensate for past or present discrimination or to prevent discrimination from recurring in the future” (US Commission on Civil Rights, Statement on Affirmative Action, October 1977).

patterns as stark evidence of a policy gone awry, whereas a supporter of EEO regulations might view such data under an optimistic lens, noting that such comparisons would be even more highly skewed absent the sweeping EEO policies enacted in the 20th century.²

Rather than turning back the clock and examining how EEO regulations in totality have influenced labor market patterns over the past several decades, we present initial insights into how an important element of EEO regulations affects labor markets today. In this sense, we aim to provide initial empirical evidence on how EEO statements *currently* affect racial minorities and their labor market choices. Such an exercise is important for several reasons. First, several states and the U.S. federal government require EEO statements in job advertisements today.³ Second, aside from these cases, employers have to decide whether they want to include an EEO statement in their job advertisement. Third, many public and private employers in the U.S. and elsewhere still use EEO statements in job advertisements. Fourth, there are broad recommendations and regulations surrounding their inclusion.⁴ Finally, as racial minorities remain disadvantaged in many labor markets, it is of utmost importance to evaluate common practices and policies that aim to reduce labor-market inequalities. To our best knowledge, causal estimates of actual EEO statements do not exist despite their pervasiveness and arguments that they could discourage minorities (Kanter, 1977 and 2008; McKay and Avery, 2005; Kang et al., 2016).⁵

² Interestingly, it is difficult to find research motivating EEO regulations requiring the inclusion of EEO statements in job advertisements. Examining the Federal Register for policy changes related to EEO policy, we are unable to find research cited. Likewise, scouring older issues of the *New Yorker* and *New York Times* to find policymakers mentioning research findings to justify the policies yields nothing of substance. While it is difficult to prove there was no research motivating the policies, a relatively thorough search has yielded nothing.

³ For instance, the state of New Jersey requires the inclusion of EEO statements in all advertisements for employees (http://www.state.nj.us/treasury/contract_compliance/pdf/njac_17_27_ac.pdf), the University of California San Diego recommends the following in all ads: “All external ads should include ‘UCSD is an Equal Opportunity Employer (...)’” and the federal government requires all contractors to hire using EEO statements.

⁴ One of the largest job board providers, Monster.com, advises “DO include language [in your job description] indicating that you are an ‘Equal Opportunity Employer.’” (<http://hiring.monster.com/hr/hr-best-practices/recruiting-hiring-advice/acquiring-job-candidates/legal-hiring-process.aspx>). Interestingly, however, Monster.com also discusses job seeker concerns to become a token worker if there is a perceived corporate focus on recruiting minorities (<https://www.monster.com/career-advice/article/are-you-a-token-worker>).

⁵ However, in a recent working paper, Flory et al. (2018) find evidence that signalling explicit interest in diversity in job advertisements for a Fortune 500 company in the U.S. can increase interest in racial

We use a large-scale natural field experiment aimed at exploring the causal impact of EEO statements in job advertisements to provide a first step into understanding the effects of EEO policy. To investigate how EEO statements affect the job-applicant pool, we advertise real jobs and investigate more than 2,300 job-entry decisions across various labor market settings. Our working hypothesis is that EEO statements encourage minorities to apply for a job. Our experiment renders it possible to investigate interesting heterogeneities because we post the job advertisements in 10 large U.S. cities with substantially different racial compositions.

We find that EEO statements do affect job-entry decisions. However, the statement that all job applicants receive equal consideration irrespective of race leads to unexpected outcomes. In particular, we find that EEO statements *discourage* racial minorities to apply for jobs in important ways. Educated non-whites are less likely to apply if the job description entails an EEO statement, and the discouragement effect is particularly pronounced in cities with white majority populations.⁶ The impact of EEO statements on job applications from minorities is economically significant, as their application likelihood drops by up to 30 percent.

To explore the underlying mechanism at work, we conduct complementary surveys with job-seekers drawn from the same subject pool. We find that the inclusion of EEO statements significantly affect anticipated discrimination, stereotype threat, and tokenism. That is, we observe that the inclusion of the EEO statement in the studied job advertisements decreases the likelihood with which job-seekers anticipate discrimination during hiring and career advancement and that it lowers stereotype threat. At the same time, however, we observe that the inclusion of the EEO statement significantly increases the perception of tokenism. This effect is particularly pronounced in cities with white majority populations, where more than two-thirds of job-seekers believe that the inclusion of the EEO statement signals that there will be token hires.

Our survey findings augment the field experimental results and provide insights into the mechanism underlying the observed discouragement effect of EEO statements.

minority candidates. Similarly, Ibanez and Riener (2018) find that the promise of preferential treatment for women in Columbia increases their job applications.

⁶ Non-whites include African American, Hispanic, Asian, and Native American. We use the term ‘non-whites’ for simplicity and brevity.

They suggest that racial minorities prefer not to apply for jobs where there is a high likelihood that they are token hires. These tokenism concerns are so strong that they outweigh other desirable impacts of EEO statements, such as lower anticipated discrimination and stereotype threat.

Combined with the insights in Bertrand and Mullainathan (2004) and Kang et al. (2016), who report that employers who use EEO statements are not less likely to discriminate against racial minorities, our findings paint a rather bleak picture of current EEO policies having a positive impact on minority labor market representation. This does not imply that EEO statements have never had their intended impacts, that EEO policies requiring the mandatory inclusion of EEO statements across-the-board cannot have their intended impacts, or that differently formulated statements cannot have their intended impacts (Flory et al., 2018). Rather, the results suggest that there is little support for the inclusion of standard EEO statements in job ads in today's labor market, and even evidence that important deleterious effects arise from such statements.

Beyond informing policy, taken as a whole, our work fits in nicely with several strands of research. First, we provide novel evidence on the role of perceived tokenism in the allocation of talent. Tokenism (see, e.g., Kanter, 1977 and 2008), the practice of recruiting minorities to give the appearance of an equal opportunity employer, can lead to performance pressures, social isolation, and role encapsulation – especially in workplaces where minorities are significantly underrepresented. Our findings suggest that the perception of tokenism can distort the allocation of minority talents, especially in cities where they also represent the statistical minority.

Second, our work contributes to research on affirmative action, labor market discrimination, and stereotype threat. The empirical literature on affirmative action policies is largely focused on quotas and based on observational data (Card and Krueger, 2005; Dickson, 2006; Adams and Ferreira, 2009; Bertrand et al., 2010; Hinrichs, 2012; Ahern and Dittmar, 2012; Matsa and Miller, 2013) or laboratory experimental data (Bull et al., 1987; Schotter and Weigelt, 1992; Balafoutas and Sutter, 2012; Niederle et al., 2013; Leibbrandt et al., 2017).⁷ The experimental literature on discrimination provides clear evidence that racial and gender minorities still face

⁷ An exception is Beaman et al. (2009), who investigate gender quotas using a randomized control trial in India. The results show that gender quotas can reduce gender-occupation stereotypes in the long term.

significant hurdles in labor markets, which likely contribute to racial and gender inequalities (Goldin and Rouse, 2000; Bertrand and Mullainathan, 2004; List, 2004; Bertrand et al., 2005; Fryer et al., 2013; Mujcic and Frijters, 2015) and may affect job-entry decisions (Bertrand and Mullainathan, 2004; Carlson and Rooth, 2007; Banerjee et al., 2009; Pager et al., 2009; Kass and Manger, 2012). The literature on stereotype threat provides manifold evidence that racial and gender cues can harm minorities (Coate and Loury, 1993; Steele and Aronson, 1995; for a more recent summary, Nguyen and Ryan, 2008). We show that EEO statements can mitigate fear of discrimination and stereotypes suggesting the importance of employers to provide clear signals, but that it is crucial that these statements do not feed other fears, such as tokenism.

The remainder of our study proceeds as follows. The next section details the field experimental design. Section 3 discusses the experimental results. Section 4 presents the survey design and findings. Section 5 concludes.

2. Experimental Design

We investigate the impact of EEO statements for job-entry decisions with a large-scale natural field experiment (see Harrison and List, 2004) in 10 actual labor markets in the U.S. with different racial compositions. In our natural field experiment, we posted job advertisements asking job seekers to express interest. After this initial expression of interest, we expose job seekers to two different treatments, culminating with a request to submit a formal job application. We randomize whether we include an EEO statement in the job description received by interested job seekers. In this way, our field experiment renders it possible to estimate causally the effect of EEO statements on the proportion of initially interested job seekers who ultimately apply.

Our two-stage field experimental method is in the spirit of Flory et al. (2015) and Leibbrandt and List (2014), who investigate gender differences in preferences for wage contracts and initiating negotiations. Using this two-step methodology, we can randomize job environments across job seekers without affecting the normalcy of the field setting. Moreover, we can collect individual characteristics, such as race and

education, even for those subjects who expressed interest but chose not to apply after they were informed about the job environment.⁸

Our job advertisements closely resembled other advertisements for similar positions. They identified the employer and its location. We explicitly used a genuine organization to minimize any risk of suspicion. The advertisement was signed by a current employee of our organization. Having a genuine employee of the organization sign off the email added further insurance, should any job seekers wish to perform a brief internet search to verify the authenticity of the advertisement. The advertisement ended with a single sentence requesting interested job seekers to email their resume.

To operationalize our natural field experiment, we posted employment advertisements for administrative assistant positions. There are several advantages of choosing this occupation. On the practical side, we are able to offer real administrative assistant positions and can afford to pay market salaries. Further, administrative assistant positions are the most common occupation in the US (13% of the workforce; <http://www.bls.gov/opub/ee/empearn201001.pdf>). We posted two openings for administrative assistant positions with the same job function (Appendix, Section II). One job advertisement sought someone to help with administrative assistant duties in an environment focused on arts, culture, and business. The other job advertisement sought someone to help with administrative assistant duties in an environment focused on sports.

2.1 Equal employment opportunity treatment

We randomly inserted in the job description (i.e., in the second stage) the following statement with a 50% probability: “(employer redacted) is an equal opportunity employer. All qualified applicants will receive consideration for employment without regard to sex, color, age, or any other protected characteristics.”

This EEO statement is common on this job board. More precisely, during the period of our experiment, approximately 12% of the job advertisements posted on the

⁸ A simpler approach is to post employment advertisements, which do or do not include EEO statements at the outset, and then compare the ratio of white-to-black applicants across treatments. However, we would then observe only job seekers who decide to apply (i.e., we would not know the denominator); the number and characteristics of job seekers who would have been interested in the position in the presence and absence of EEO statements would remain unknown. This presents two major problems. First, the power of the design would be limited, compared to our preferred approach. Second, inference based on changes in absolute numbers of final applicants is limited, and it is problematic to use the white–black application ratio without knowing the underlying race ratio of those interested prior to treatments.

job board included an EEO or affirmative action statement. The language of our EEO statement mirrored the other most frequently used EEO statements in other job advertisements on this job board, and it matches the spirit of EEO statements used more broadly by governments, firms, and other institutions.

The job description was given to job seekers who had already expressed interest in the job, and they received the description usually within 2 days of expressing this interest (83% received it within 24 hours, 96% within 2 days). To ultimately apply for the job, job-seekers had to fill out a questionnaire. We asked job seekers to answer ten interview questions that were attached to the job environment description and related to the employment advertisement (Appendix, Section IV). In addition, in the job description, job seekers received information about the wage of the advertised job. The posted wage was slightly higher than the median wage for comparable jobs in most cities and was identical across cities and employment advertisements. In addition, we signaled that we were open to questions, apologized for any questions about the job they may have asked to which we had not yet responded, and welcomed further inquiries. To avoid heterogeneous treatment, we did not interact with job seekers until they applied. The only difference between the two treatments is the existence of the EEO statement at the end of the job description. The scripts are included in Section III of the Appendix.

2.2 Response variable and job-seeker characteristics

Our key outcome variable is the individual decision to apply for our job. Our subject pool consists of every individual who contacted us to express interest in the job (this represents the denominator in the fraction of people applying for our jobs). In order to submit an actual application, the interested job seeker must fill out an interview attachment and return it to us. Therefore, we classify all subjects who returned the questionnaire as having applied, and those who did not return the questionnaire as having not applied.

Our most important job-seeker characteristics are race and education. To determine race, we first employed two sets of raters who independently searched through social networking websites to look for pictures of the job seekers using their names and other information included in their resumes. The raters were blind to treatment and used five

main categories for assignment: *White, Black, Hispanic, Others* (Asian, Indian, Middle Eastern, Pacific Islander), and *Not found*.

The assignment of race was as follows. First, we assigned race to all job seekers where both raters identified race and agreed on it. There was an agreement of 75.9% and the level of inter-rater agreement is high ($k = 0.675$). In this manner, we were able to assign race to 1,391 out of 2,321 job seekers (59.9%). Appendix Table S1 shows the corresponding racial categorization outcome from two independent raters for each job seeker. The table indicates that the largest disagreements occurred in the category *Not found*. Consequently, we employed more raters who searched more intensively for the job seekers for which race was not yet assigned (930 out of 2,321). We then assigned race for any of the 930 job seekers if a rater identified race and no other rater identified a different race.⁹ Thus, in total, we were able to assign race for 93.7% of all job seekers (N=2,175 out of 2,321).

Education is often used as an important criterion for job suitability. While we are also interested in the overall effect of EEO statements on racial minorities, arguably, it is more important to estimate the effect of EEO statements on racial minorities that are regarded as potentially suitable for a certain advertised job. For administrative assistant jobs and other comparable jobs, high school graduation is a typical necessary criterion. We determine education from the resumes sent to us by job seekers. The resumes reveal that 70% graduated from high school (N=1,623) and that 44.8% obtained at least the equivalent of a B.A. degree (N=1,040).

2.3 Advertisement locations and statistical racial minorities

The job advertisements were posted in popular city-specific internet job boards and we used the same job-board provider in all cities. To conclude the study, we offered real jobs to applicants and hired 10 people. We posted the advertisements in 10 major US cities. Table 1 illustrates that we chose cities with greatly different racial compositions. We can separate them into cities with a clear white majority population (Denver, Dallas, Houston, Los Angeles, San Francisco) and cities which are more racially diverse (Chicago, New York city, Philadelphia, Washington DC, Atlanta).

⁹ In addition, we used other categorizations of race, for example, majority decisions in which race was assigned as soon as at least two raters agreed. Our findings are very similar using different categorizations of race.

{INSERT TABLE 1 ABOUT HERE}

2.4 Standard and alternative hypotheses

Labor market discrimination, regardless of whether it is actual or perceived, can be an important reason for racial inequalities, such as lower callback rates, earnings, and higher unemployment. EEO laws are common in many countries to assist overcoming such discrimination and have their origins in protecting minorities in labor markets. Although EEO laws already exist, it is still possible that the inclusion of an EEO statement in a job advertisement sends a positive signal to minority job seekers. This is likely one main reason why some institutions require or strongly recommend the use of EEO statements.

Our standard hypothesis is based on the assumption that the explicit inclusion of an EEO statement can reduce the expectation of discrimination and that this translates into a higher perceived likelihood of minorities to be hired (and under certain standard labor productivity assumptions, without significantly affecting majorities). The impact of the signal depends on the actual expectation of discrimination and the credibility of the EEO signal. If job seekers do not expect discrimination or doubt the credibility of the signal, then EEO statements should not affect job-application likelihoods. However, if minority job seekers expect discrimination and perceive the signal to be credible, then EEO statements should increase their job-application likelihood. To summarize:

H₀: Job seekers are equally, or more likely to apply if a job advertisement includes an EEO statement.

Yet, it is possible that the inclusion of an EEO statement in a job advertisement sends different, and unintended, signals. Following the literature, we consider three such mechanisms. First, it is possible that EEO statements do not reduce, but activate, expectations of discrimination. It is possible that EEO statements are perceived as strategically managed propositions, or semantic moves (Van Dijk, 1993; Bonilla-Silva, 2002). A typical example of a semantic move is “*I treat everyone equally, I am not a racist, some of my best friends are black*”. In this respect, EEO statements may deter minorities. Further, it is also possible that EEO statements are perceived by majorities as a signal that they could be discriminated in the hiring process.

Second, it is possible that EEO statements activate stereotype threat. Stereotype threat describes a situation in which one’s social group is at risk of confirming a

negative stereotype when the salience of the stereotyped group identity is emphasized (Steele and Aronson, 1995). Stereotype threat can be a pervasive phenomenon (Nguyen and Ryan, 2008; but see Fryer et al., 2008). There is evidence that priming race can activate stereotype threats, and consequently affect behavior, such as test performance (Steele and Aronson, 1995; Shih et al., 1999), labor market behavior (Roberson and Kulik, 2007; Gupta et al., 2008; von Hippel et al., 2011), and that affirmative action programs can create stereotype threat as minority workers fear being marked by the stigma of incompetence (Heilman et al., 1992).¹⁰

Third, it is possible that EEO statements increase the belief that there is tokenism (Kanter, 1977 & 2008) and that minorities prefer not to apply to a job where employment appears to be not primarily based on merit but on tokenism. That is, they do not want to risk to be considered as token hires, and voluntarily forego applying for a job when they believe that their application success is enhanced because of their minority status. We these mechanisms in mind, a useful alternative hypothesis is:

H_A: Job seekers are less likely to apply if a job advertisement includes an EEO statement.

It is conceivable that the impact of EEO statements on racial minorities depends on the racial composition of the local labor market. Relatedly, there is evidence that racial gaps in callback rates are smaller in racially mixed neighborhoods than white neighborhoods (Bertrand and Mullainathan, 2004).¹¹ More generally, anticipated discrimination, stereotype threat, and perception of tokenism may systematically interact with the composition of the local labor market.

In particular, it seems plausible that these factors are more important for non-white job-seekers in white cities, where non-whites are not only historical minorities but also statistical minorities. Non-whites may be more concerned with discrimination and tokenism in primarily white cities. If this is true, then the signaling value and thus the impact of EEO statements should be stronger in primary white cities compared to

¹⁰ Moreover, studies suggest that stereotype threat can lead to self-handicapping strategies, such as reduced effort for a task (Stone, 2002), reduced sense of belonging to a stereotyped domain (Good et al., 2008), and even reduced utility of the domain in question (Osborne, 1995; Steele, 1997; Aronson et al., 2002).

¹¹ However, there is also evidence that wages from African Americans vary negatively with the fraction of a state that is black (Charles and Guryan, 2008).

racially mixed cities. Consistent with our previous hypotheses this signaling value may lead to an increase or decrease of job applications.

H_{0 city}: Non-white job-seekers are more likely to apply for a job that includes an EEO statement in cities with primary white populations.

H_{A city}: Non-white job-seekers are less likely to apply for a job that includes an EEO statement in cities with primary white populations.

With these hypotheses in mind, we turn to the field experimental results.

3. Experimental Results

3.1 Descriptive overview

In total, we observe that 43.7% of the job seekers with identified race ultimately applied for our advertised positions (n=951 out of 2,175).¹² In our sample of job-seekers, 42.5% are characterized as white. Racial minorities are composed as follows: 39% are African Americans, 14.3% Hispanic, and 4.3% others (mainly Asian). Table 1 summarizes the distribution of racial minority job seekers in each city. 70.7% of the job seekers have obtained at least a high school degree and satisfy the typical minimum criteria for this kind of job. Race and education are important predictors for the likelihood of job application in the baseline. When no EEO statement was included in the job advertisement, we observe that whites are significantly more likely to apply than racial minorities (49.5% vs. 41.4%, $p < .01$, 2-sided Fisher's exact).

3.2 Overall impact of EEO statements

Figure 1 provides a first illustration of the impact of EEO statements on job applications from all job seekers (left) and all sufficiently qualified job seekers who graduated from high school (right). We observe that the application likelihood is lower for both samples of job seekers if an EEO statement is included. In the sample of all job seekers regardless of qualifications, the application likelihood drops from 0.449 to 0.425, a difference that is not significant at conventional levels ($p = 0.261$, 2-sided Fisher's exact test, $N = 2,175$). In the sample of job seekers who are sufficiently qualified

¹² The application rate is slightly higher than in the two other studies using a similar experimental design. In Flory et al. (2015), 39.3% applied and 36.2% applied in Leibbrandt and List (2015). This suggests that the interview questions in this study did not deter job-seekers from applying.

for the advertised job, the negative impact of the EEO statement from 0.485 to 0.436 is marginally statistically significant at $p = 0.058$ (2-sided Fisher's exact test, $N=1,537$).

{INSERT FIGURE 1 ABOUT HERE}

To provide conditional estimates in a regression framework, we use linear probability models to estimate the impact of EEO statements on job applications.¹³ In these models, we regress the application decision on treatment (EEO statement yes/no), education (minimal education criteria and/or highly educated), type of job advertisement (arts, culture, business vs. sports), response delay (time between job-seeker signaled interested and we responded with treatment), and racial minority (African American, Hispanic, Others; models 4-6).

Table 2 provides an overview of the impact of EEO statements for the full sample of racial minorities and whites. Model (1) estimates the overall impact of EEO statements. We observe that the inclusion of an EEO statement has no significant impact on the job application likelihood at conventional levels ($p=0.183$, 2.8 pp). We also observe that highly educated job-seekers are more likely to apply ($p<.01$), and that job-seekers are more likely to apply for the job advertisement focused on sports ($p=0.026$). Whether job-seekers are sufficiently educated for the job has no significant impact on application likelihoods ($p=0.317$). The treatment delay is also insignificant ($p=0.238$).

Model (2) estimates the impact of EEO statements for all job-seekers who satisfy the minimum education criteria. Here, in the sample of qualified job-seekers we observe that the inclusion of an EEO statement significantly lowers the application likelihood by 5.2 pp ($p=0.042$). Highly educated job-seekers are again more likely to apply ($p<.01$). Model (3) estimates the impact of EEO statements for all job-seekers who do not satisfy the minimum education criteria. For this sample, we do not observe a significant impact of EEO statements on the application likelihood ($p=0.624$, 1.9 pp). None of the control variables is significant. Thus, consistent with our alternative hypothesis H_A the first result is:

RESULT 1 – *EEO statements deter job applications from qualified job seekers.*

¹³ The correction procedure of List et al. (2016) is not applicable with our current analysis since we use regression models with controls. Using Bonferroni and Holm corrections where applicable yield results similar to those presented.

3.3 Impact of EEO statements on racial minorities and whites

Next, we separately examine the impact of EEO statements on racial minorities and whites. Models (4) – (6) in Table 2 correspond to models (1) – (3) but estimate the impact of EEO statements on racial minorities (i.e., non-whites). Similar to Model (1) for the whole sample of job seekers, Model (4) shows that EEO statements have no significant impact on the sample of all racial minority job-seekers ($p=0.302$, -2.9 pp.). In Model (5), however, we observe in the sample of sufficiently qualified non-white job-seekers that EEO statements significantly deter job applications. Qualified non-white job-seekers are 6.4 pp less likely to apply if an EEO statement is included, a substantial negative impact that is statistically significant at $p \leq 0.05$. In contrast, for insufficiently qualified racial minorities, we observe that they are considerably more likely to apply if an EEO statement is included (5.7 pp), but given the relatively small sample size this effect is not significant ($p=0.270$; Model 6).

We do not observe corresponding patterns for whites. Models (7) – (9) in Table 2 correspond to models (1) – (3) but estimate the impact of EEO statements on whites. In contrast to non-whites, we do not find any significant impact of EEO statements on whites, regardless of whether we consider the whole sample ($p=0.370$, model 7), the sample of sufficiently qualified ($p=0.380$, model 8), or the sample of not sufficiently qualified ($p=0.887$, model 9). This leads to our second result:

{INSERT TABLE 2 ABOUT HERE}

RESULT 2 – *EEO statements deter job applications from qualified racial minorities. EEO statements do not significantly affect job applications from white job seekers and insufficiently qualified racial minority job seekers.*

3.4 The impact of EEO statements in white and mixed cities

To test our hypotheses H_0 city and H_A city, we first compare the impact of EEO statements on job application rates of non-whites in the five cities with white majority populations and then in the five more racially diverse cities.¹⁴ Consistent with H_A city, we observe that (i) the job application likelihood of non-whites drops significantly from 0.469 to 0.344 if an EEO statement is included in the white cities ($p=0.012$, 2-sided

¹⁴ We use Census data to separate the cities into white and mixed cities. The patterns presented are qualitatively similar if we use instead the racial distribution data from our experiment.

Fisher's exact test) and that (ii) there is no significant impact of the EEO statement in the mixed cities (0.385 vs. 0.419; $p=0.324$, Fisher's exact test).

Figure 2 provides a more fine-grained illustration of job application likelihoods from non-whites in our two treatments in each of the ten studied local labor markets. On the top row of this figure we observe the five cities with white majority populations. We can see that non-whites are less likely to apply in all of these primary white cities if an EEO statement is included. In contrast, in the bottom row, which illustrates behavior from non-whites in racially mixed cities, we do not observe a clear pattern. Job application likelihoods appear to be unaffected by EEO statements in four of the five cities.

{INSERT FIGURE 2 ABOUT HERE}

Regression Table 3 corresponds to Table 2 but takes into account whether the job advertisement was posted in primary white (Models 1-4) or mixed cities (Models 5-8). Several insights emerge. First, we observe that the impact of EEO statements is much stronger in primary white cities (between -7 pp and -18.6 pp) as compared to mixed cities (between -0.01 and 0.028 pp). Second, we observe pronounced negative impacts of EEO statements in primary white cities, consistent with our alternative hypothesis $H_{A \text{ City}}$. Model (1) shows the overall impact of EEO statements in primary white cities, and we observe a highly significant negative impact of EEO statements on the job application likelihood of all job seekers ($p<.01$, -10.8 pp). Model (2) shows that non-whites in primary white cities are 15.2 pp less likely to apply if the job advertisement contains an EEO statement ($p<.01$). Model (3) reveals that the impact of EEO statements is even stronger for sufficiently educated non-whites in primary white cities ($p<.01$, -18.6 pp).

Third, we observe that EEO statements do not affect job application likelihoods in mixed cities. For example, there is no discernible impact on non-whites (Models 5-7; $p>0.405$) and there is also no significant impact of EEO statements on applications from whites in white and mixed cities (Models 4 and 8; $p>0.145$).

{INSERT TABLE 3 ABOUT HERE}

Figure 3 further examines the relevance of the city type and illustrates the impact of the EEO statement in each city ordered according to the share of the white population for African Americans and Hispanics. Each circle represents the percentage

point change in application likelihoods if the job advertisement included an EEO statement. We observe that there is a negative relationship between the impact of the EEO statement on job applications and the share of the white population in a given city ($r=-0.414$, $p=0.0695$, $N=20$). This negative relationship is particularly pronounced for African Americans ($r=-0.783$, $p<.01$). Together, these data lead to our third result:

{INSERT FIGURE 3 ABOUT HERE}

RESULT 3 – *EEO statements deter job applications from non-whites in cities with primary white majority populations. EEO statements do not significantly affect job applications from non-whites in racially mixed cities.*

We provide further robustness checks concerning race and gender in the first section of the Appendix. Table A2 corresponds to Table 3 but distinguishes between the sample of African Americans and Hispanics. We observe that the EEO statement negatively affects both African Americans’ and Hispanics’ application likelihoods (e.g., -12.22 to -12.99 pp for African Americans in Models 1 and 2 of Table A3 and -15.4 to -20.5 pp for Hispanics in Models 5 and 6). Table A3 corresponds also to Table 3 but distinguishes between the sample of females and males. We observe that the EEO statement also negatively affects both gender, females’ application likelihood is 9.1 to 11.1pp lower (Models 1 and 2) and males’ application likelihood is 10.2 to 11.5 pp lower (Models 5 and 6).

4. Complementary evidence exploring the mechanisms underlying EEO effects

4.1 Survey design

Our natural field experiment provides causal evidence that EEO statements lower job application rates, reveals that qualified non-white job seekers are most affected, and that EEO statements backfire in cities with primary white majority populations. Yet, while the experiment is able to measure such effects, alone it cannot detail the mechanisms responsible for the observed effects.

To understand the drivers behind these data patterns, we conducted surveys with job seekers drawn from the same population as the job seekers in our natural field experiment. After we concluded our field experiment, we advertised paid surveys on the same job board provider and in the same category (Office/Admin Jobs). In the surveys, we asked job seekers several questions to understand the perceived signals of the EEO statement in our job advertisement. Each survey participant received a \$10

Amazon gift voucher immediately after completion. There were two surveys and both were administered more than a year after we completed the natural field experiment. The surveys were advertised in two primary white cities (Denver and San Francisco) and two mixed cities (Atlanta and Chicago).

In the two surveys, we asked job seekers to read through a job advertisement that very closely followed the job advertisements used in our natural field experiment. The only difference was that we joined the two steps in the field experiment (job advertisement and job description). All participants first read through the job advertisement with the job description which did not contain an EEO statement. They were then asked a number of questions (six questions in survey I and two questions in survey II) before we confronted them with the EEO statement used in the natural field experiment. More precisely, we told them: “*Imagine now you see the same job advertisement but it includes the following statement (...)*”. Thereafter, we asked the job seekers to respond to the same set of questions. The surveys are reproduced in Section V of the Appendix.

We were particularly interested to understand how EEO statements affect the expectation of discrimination, stereotype threat, and tokenism. In addition, we were interested in whether EEO statements signalled the extent to which the employer already employs diverse job seekers. All of these four factors are candidates to explain the backfiring of EEO statements. For example, if job seekers expect a greater level of stereotype threat if the job advertisement contains an EEO statement, then this would suggest that EEO statements lower application rates from minorities because they increase stereotype threat. We report responses from N=175 job seekers in survey I and N=87 job seekers in survey II.¹⁵

4.2 Survey Findings

Table 4 summarizes our main survey findings. A first interesting insight is that job seekers perceive that the EEO statement lowers expected discrimination in the application stage and during employment. More precisely, they believe that qualified

¹⁵ We collected a total sample of N = 400 survey responses (N = 250 survey I, N = 150 survey II). However, because of a glitch in the software we collected from some participants multiple observations who figured out that they can receive multiple gift vouchers (the software missed blocking IP addresses from further participation). To avoid the multiple observation issue, we constrain our sample to unique IP addresses within each city where survey advertisements were posted and only count the first survey response for those IP addresses.

African American and Hispanic job applicants have a higher probability to be hired if the job advertisement entails an EEO statement (+7.3 pp, $p < .001$, t-test), and have less difficulty to advance once hired (45.2% expect easier advancement if an EEO statement is included vs. 10.9% who expect more difficult advancement; $p < .001$). The positive impact of EEO statements to address expected discrimination is similarly pronounced in primarily white and mixed cities.

Moreover, the survey indicates that the EEO statement lowers stereotype threat. Importantly, the respondents believe that African American and Hispanic job seekers are less anxious to perform at the advertised job if the advertisement has an EEO statement included (32.6% less anxious vs. 16% more anxious), regardless of the city type. Further, job seekers do not perceive that an EEO statement signals something about employer diversity. More precisely, they believe that the percentage of current white employees is similar regardless of whether the job advertisement includes an EEO statement and whether the advertisement was posted in white or mixed cities.

{INSERT TABLE 4 ABOUT HERE}

However, job seekers believe that the inclusion of an EEO statement considerably raises the belief that African Americans and Hispanics are token hires. More precisely, more than half of the job seekers (50.7%) believe that the EEO statement signals that African Americans and Hispanics are token hires. Importantly, this raised belief of tokenism is city dependent. In primary white cities, more than two-thirds of the participants believe that the inclusion of an EEO statement signals tokenism (69.2%). In contrast, in mixed cities less than one-third (29.4%) believe so, and a greater number actually believe the opposite—that EEO statements signal a decrease in tokenism (38.2%). These data are important in that the pattern of tokenism concerns overlaps with the pattern of the EEO statement's dampening effect on application rates from non-whites, consistent with the hypothesis that tokenism concerns are one important driver for the backfiring. This leads to our final result:

RESULT 4 – *EEO statements increase the perception that racial minorities are token hires, especially in primary white cities. At the same time, EEO statements generally lower anticipated discrimination against non-whites and alleviate stereotype threat.*

5. Discussion

Dozens of public policies are rolled out daily around the world. While we have the necessary empirical tools to evaluate them on their merits, very few policies undergo a systematic diagnosis. This is likely due to both a lack of resources and a lack of knowledge about how to analyze formally the policy at hand. Beyond its direct policy significance, our research underscores how field experiments can be used to examine policies more broadly. Our natural field experiment provides a case study for how to understand one such policy: equal employment opportunity regulations. We focus on EEO statements that potentially affect racial minorities. EEO statements in job advertisements arguably belong to one of the least invasive and controversial affirmative action policies. Perhaps these circumstances together with the belief that EEO statements can do no harm may explain why the empirical study of their impact has been neglected.

We make use of a natural field experiment combined with a labor market survey to explore the effect of EEO statements. The participants in our natural field experiment are unaware of being investigated, belong to different minorities/majorities, and have different backgrounds. Because we are concerned primarily with job-entry decisions and we did not want to endanger the natural environment of the job application, we did not ask job seekers about potential drivers for the impact of EEO statements such as expectations of discrimination. Instead, we ask these questions in our complementary job seeker surveys. These features allow us to not only directly measure the causal impacts of our EEO statement, but also shed light on the underlying mechanisms for the observed effects.

We show that EEO statements can backfire, discouraging the very population they are meant to help. The discouragement effect is in line with our alternative hypothesis that EEO statements activate tokenism concerns and that minority job seekers prefer to avoid the chance to be perceived as a token hire. As such, our study provides information and guidance to managers and policymakers on the direct use of EEO statements. Viewed more generally, our approach represents a roadmap for the empirical investigation of other public and private regulations—from health and safety to environment to labor market policies—that have yet to be scrutinized. Even in those cases where policymakers and managers failed to use science to guide initial decision making, we show how field experiments can be used intermittingly to assess whether the regulation is working as intended.

Certainly, more research is warranted to increase our understanding of how EEO statements and other affirmative action policies affect labor markets. Caution should also be exercised as it remains the case that we are examining only the first step in the employment process. Of course, it is also important to understand other aspects of employment, such as actual hiring and advancement in the job. Moreover, it is important to gain understanding of whether the impact of EEO statements depends on the nature of the employer. For instance, it is possible that the negative impact of EEO statements is more pronounced for smaller and private employers than for larger and public employers. Finally, it is important to investigate whether the deterrence of EEO statements is a general phenomenon that translates into different jobs or is dependent on the description of the statement or job type. We leave these research topics for another occasion.

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Tables

Table 1: Racial distribution across cities

<i>City</i>	<i>Job-seekers</i>	<i>Racial distribution in sample</i>				<i>Racial distribution (2010 Census data)</i>	
		<i>Whites</i>	<i>Blacks</i>	<i>Hispanics</i>	<i>Others</i>	<i>Whites</i>	<i>Blacks</i>
<i>Denver</i>	<i>N=153</i>	<i>111</i>	<i>15</i>	<i>23</i>	<i>4</i>	<i>68.9%</i>	<i>10.2%</i>
<i>Dallas</i>	<i>145</i>	<i>80</i>	<i>39</i>	<i>22</i>	<i>4</i>	<i>50.7%</i>	<i>25.0%</i>
<i>Houston</i>	<i>156</i>	<i>59</i>	<i>59</i>	<i>35</i>	<i>3</i>	<i>50.5%</i>	<i>15.0%</i>
<i>Los Angeles</i>	<i>207</i>	<i>87</i>	<i>31</i>	<i>79</i>	<i>10</i>	<i>49.8%</i>	<i>9.6%</i>
<i>San Francisco</i>	<i>176</i>	<i>87</i>	<i>31</i>	<i>34</i>	<i>24</i>	<i>48.5%</i>	<i>6.1%</i>
<i>Chicago</i>	<i>217</i>	<i>101</i>	<i>72</i>	<i>31</i>	<i>13</i>	<i>45.0%</i>	<i>32.9%</i>
<i>New York City</i>	<i>230</i>	<i>99</i>	<i>76</i>	<i>48</i>	<i>7</i>	<i>43.4%</i>	<i>32.3%</i>
<i>Philadelphia</i>	<i>288</i>	<i>155</i>	<i>105</i>	<i>18</i>	<i>10</i>	<i>41.0%</i>	<i>43.4%</i>
<i>Washington DC</i>	<i>298</i>	<i>65</i>	<i>207</i>	<i>12</i>	<i>14</i>	<i>38.5%</i>	<i>50.7%</i>
<i>Atlanta</i>	<i>305</i>	<i>80</i>	<i>213</i>	<i>8</i>	<i>4</i>	<i>38.4%</i>	<i>54.0%</i>
	<i>N=2175</i>	<i>N=924</i>	<i>N=848</i>	<i>N=310</i>	<i>N=93</i>		

Notes: The dashed line separates cities into 'white' (above line) and 'mixed' (below line) cities.

Table 2: The impact of EEO statements

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Race/ethnicity	all	all	all	non-white	non-white	non-white	white	white	white
Satisfy min. education criteria?		yes	no		yes	no		yes	no
EEO statement	-0.0282 (0.0211)	-0.0516** (0.0253)	0.0191 (0.0389)	-0.0286 (0.0277)	-0.0644** (0.0329)	0.0566 (0.0513)	-0.0293 (0.0327)	-0.0346 (0.0394)	-0.0088 (0.0622)
Minimal education criteria	0.0293 (0.0293)			0.0163 (0.0374)			0.0765 (0.0477)		
Highly educated	0.0947*** (0.0269)	0.0957*** (0.0273)		0.0814** (0.0345)	0.0795** (0.0349)		0.0679 (0.0441)	0.0680 (0.0450)	
Job advertisement type	0.0482** (0.0216)	0.0503* (0.0258)	0.0482 (0.0417)	0.0478* (0.0285)	0.0454 (0.0341)	0.0856 (0.0561)	0.0359 (0.0331)	0.0439 (0.0393)	0.0333 (0.0668)
Response delay	0.0009 (0.0008)	0.0005 (0.0009)	0.0021 (0.0016)	0.0011 (0.0011)	0.0011 (0.0013)	0.0009 (0.0022)	0.0008 (0.0011)	0.0001 (0.0012)	0.0039 (0.0025)
Hispanic				-0.0305 (0.0370)	-0.0399 (0.0437)	-0.0274 (0.0698)			
Other race/ethnicity				0.1313** (0.0564)	0.1483** (0.0671)	0.0553 (0.1122)			
Constant	0.3446*** (0.0368)	0.4050*** (0.0453)	0.2778*** (0.0612)	0.3569*** (0.0454)	0.4117*** (0.0551)	0.2563*** (0.0765)	0.3349*** (0.0663)	0.4433*** (0.0826)	0.2320** (0.1095)
N	2174	1536	638	1250	887	363	924	649	275

Notes: *p<.1, **p<.05, ***p<.01. Minimal education criteria equals 1 if job-seeker has obtained the equivalent of a high-school degree, 0 otherwise. Highly educated equals 1 if job-seeker has obtained at least the equivalent of a B.A. degree, 0 otherwise. Job advertisement type equals 1 if the focus is on sports, 0 if the focus is more general. In models (4) - (6) the baseline race is African American. Other race/ethnicity includes Asians. All models include city fixed effects.

Table 3: The impact of EEO statements in white and mixed cities

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
City type	white	white	white	white	mixed	mixed	mixed	mixed
Race/ethnicity	all	non-white	non-white	white	all	non-white	non-white	white
Satisfy min. education criteria?			yes				yes	
EEO statement	- 0.1077*** (0.0339)	- 0.1521*** (0.0481)	- 0.1862*** (0.0567)	-0.0701 (0.0480)	0.0205 (0.0269)	0.0282 (0.0338)	-0.0063 (0.0404)	0.0021 (0.0448)
Minimal education criteria	0.0790* (0.0470)	0.0688 (0.0656)		0.1077 (0.0694)	0.0126 (0.0375)	-0.0053 (0.0458)		0.0614 (0.0662)
Highly educated	0.0495 (0.0446)	0.0780 (0.0601)	0.0635 (0.0609)	0.0115 (0.0677)	0.1002*** (0.0341)	0.0921** (0.0423)	0.0910** (0.0428)	0.0995* (0.0586)
Job advertisement type	0.0405 (0.0348)	0.0777 (0.0496)	0.1007* (0.0591)	0.0159 (0.0489)	0.0454* (0.0275)	0.0406 (0.0347)	0.0286 (0.0417)	0.0454 (0.0454)
Response delay	0.0007 (0.0012)	0.0028 (0.0018)	0.0033 (0.0021)	-0.0004 (0.0016)	0.0008 (0.0010)	0.0003 (0.0013)	0.0002 (0.0015)	0.0018 (0.0017)
African American	-0.0602 (0.0450)				-0.0944 (0.0309)			
Hispanic	-0.395 (0.0445)	0.0370 (0.0540)	-0.0054 (0.0635)		- 0.1935*** (0.0494)	-0.0947* (0.0508)	-0.0848 (0.0607)	
Other race/ethnicity	0.0573 (0.0764)	0.1382* (0.0828)	0.1417 (0.0955)		0.0414 (0.0761)	0.1396* (0.0760)	0.1743* (0.0928)	
Constant	0.3223*** (0.0662)	0.3216*** (0.1007)	0.3466*** (0.0994)	0.3431*** (0.0744)	0.4003*** (0.0474)	0.3490*** (0.0500)	0.3882*** (0.0612)	0.2979*** (0.0750)
N	836	412	300	424	1338	838	587	500

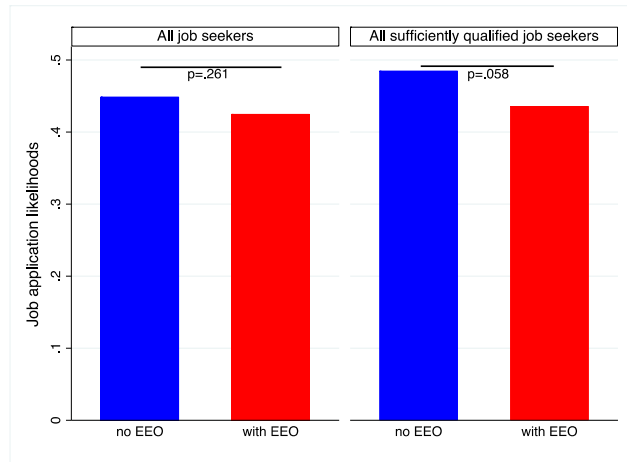
Notes: *p<.1, **p<.05, ***p<.01. Minimal education criteria equals 1 if job-seeker has obtained the equivalent of a high-school degree, 0 otherwise. Highly educated equals 1 if job-seeker has obtained at least the equivalent of a B.A. degree, 0 otherwise. Job advertisement type equals 1 if the focus is on sports, 0 if the focus is more general. In models (1) & (5) the baseline race is white; in models (2), (3), (6), (7) it is African American. Other race/ethnicity includes Asians. All models include city fixed effects.

TABLE 4: Job-seeker survey findings on EEO statements

	Expected discrimination in application stage	Expected discrimination during employment	Perceived employer diversity	Perceived stereotype threat	Perceived tokenism
	<i>"What percentage of all qualified African Americans and Hispanics will be offered a job?"</i>	<i>"Do you believe it will be (...) for African American and Hispanics to advance on the job?"</i>	<i>"What percentage of the current employees do you believe is white?"</i>	<i>"How anxious do you believe will African Americans and Hispanics be to perform at this job?"</i>	<i>"Do you believe that African Americans and Hispanics are token hires for this job?"</i>
Overall impact of EEO statement	7.3 pp (from 44.7% to 52%; p<.001)	45.2% less 30.9% equally 10.9% more difficult (p<.001)	0.3 pp (from 64.1% to 64.4%; n.s.)	32.6% less 51.4% equally 16% more anxious (p<.001)	24.7% less 24.7% equally 50.7% more likely (p<.001)
in white cities	6.1 pp	39.4% less 48.5% equally 12.1% more	-0.9 pp	37.8% less 51.5% equally 10.6% more	12.8% less 18% equally 69.2% more
in mixed cities	8.1 pp	48.6% less 41.3% equally 10.1% more	1.1 pp	29.3% less 51.4% equally 19.3% more	38.2% less 32.4% equally 29.4% more
Does city type matter?	no	no	no	no	Yes (p<.002)
Expected impact of EEO statement on application likelihood from minorities	increase	increase	none	increase	decrease in white cities

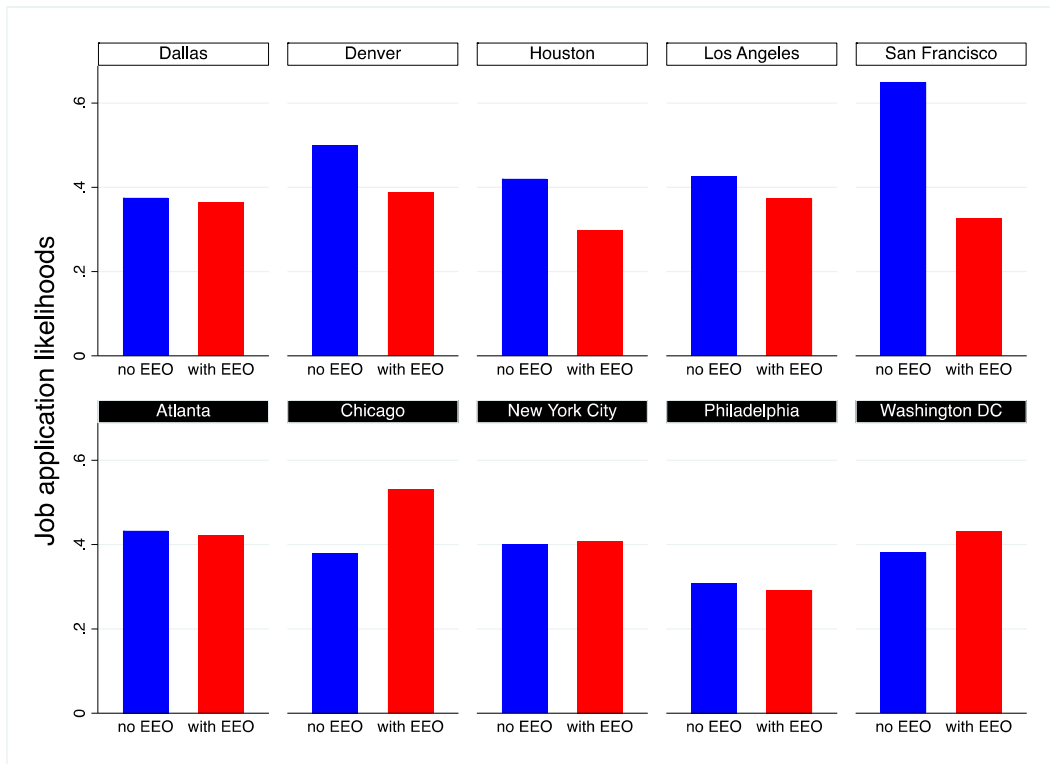
FIGURES

FIGURE 1: Overall impact of EEO statements on job applications



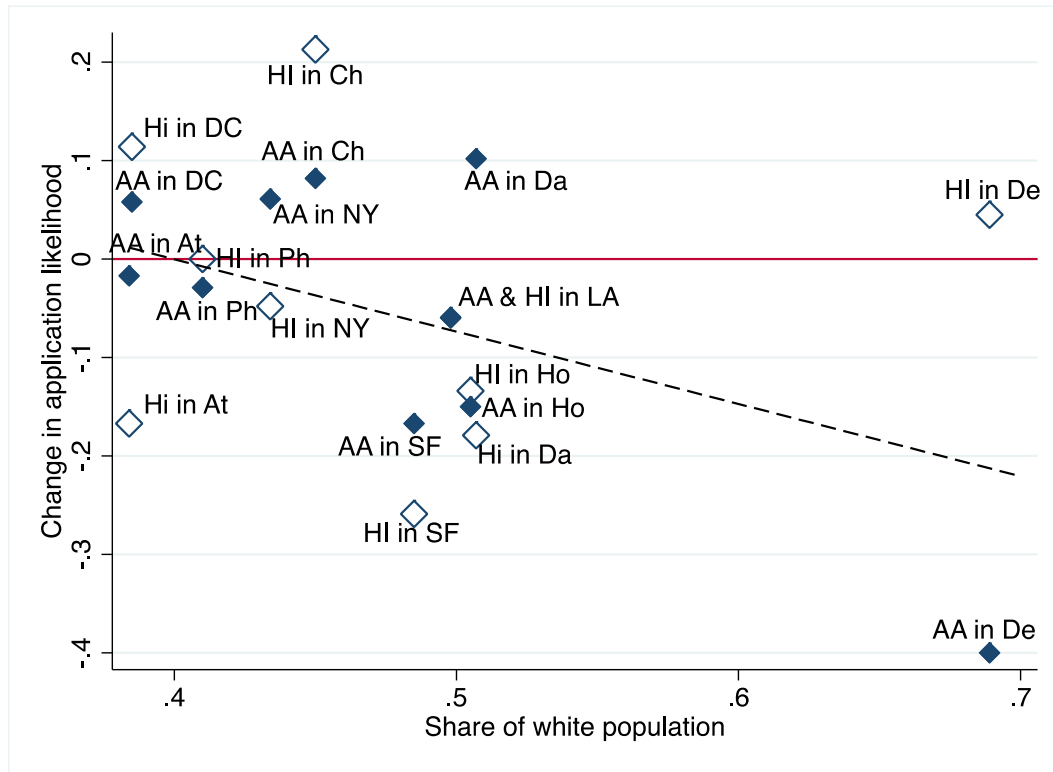
Notes: Sample of all job seekers N=2,175. Sufficiently qualified job seekers have at least the equivalent of a high school degree (N=1,537). P-values from 2-sided Fisher's exact test.

FIGURE 2: Impact of EEO statements on job applications from non-whites in each city



Notes: The top row shows job application likelihoods from non-whites in white cities as defined by Census data in Table 1. The bottom row shows job application likelihoods from non-whites in mixed cities as defined by Census data in Table 1.

FIGURE 3: Impact of EEO statements on job applications from African Americans and Hispanics in each city



Notes: Circles show change in application likelihood when an EEO statement was included depending on race/ethnicity. Full circles for African Americans (AA), hollow circles for Hispanics (HI). City names are abbreviated to the first two letters. Dashed line is line of best fit.

Appendix

Overview

- I. Appendix Tables
- II. Job advertisements
- III. Job descriptions
- IV. Interview attachments
- V. Job seeker surveys

I. Appendix Tables

Table A1: Racial categorization of job seekers (first round)

		First set of raters				
		White	Black	Hispanic	Others	Not Found
Second set of raters	White	593	20	33	1	102
	Black	9	532	2	0	64
	Hispanic	5	4	211	1	16
	Others	1		1	55	15
	Not found	109	125	38	13	371

Notes: Shows first round racial categorization only. Illustrates level of agreement between first two sets of raters to calculate Kappa.

Table A2: The impact of EEO statements on African Americans and Hispanics

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
City type	white	white	mixed	mixed	white	white	mixed	mixed
Race/ethnicity	African American	African American	African American	African American	Hispanic	Hispanic	Hispanic	Hispanic
Satisfy min. education criteria?		yes		yes		yes		yes
EEO statement	-0.1222 (0.0744)	-0.1299 (0.0906)	0.0219 (0.0377)	-0.0120 (0.0449)	0.1542** (0.0714)	0.2051** (0.0836)	0.0571 (0.0955)	0.0085 (0.1166)
Minimal education criteria	0.1656* (0.0997)		-0.0030 (0.0515)		-0.0014 (0.0937)		-0.0450 (0.1232)	
Highly educated	0.0045* (0.0025)	0.0051 (0.0033)	0.0012 (0.0015)	0.0007 (0.0017)	0.0008 (0.0030)	0.0007 (0.0031)	-0.0024 (0.0029)	-0.0014 (0.0042)
Job advertisement type	0.0618 (0.0949)	0.0622 (0.0987)	0.0970** (0.0475)	0.1034** (0.0481)	0.0540 (0.0860)	0.0501 (0.0874)	0.0694 (0.1167)	0.0569 (0.1187)
Response delay	0.0356 (0.0761)	0.0684 (0.0919)	0.0442 (0.0389)	0.0249 (0.0463)	0.1075 (0.0729)	0.1302 (0.0889)	0.0049 (0.0935)	0.0809 (0.1218)
Constant	0.0778 (0.1302)	0.2756* (0.1581)	0.3418*** (0.0548)	0.3847*** (0.0653)	0.3395** (0.1345)	0.3088** (0.1552)	0.1373 (0.1436)	0.1322 (0.2436)
N	175	130	673	478	192	135	117	79

Notes: *p<.1, **p<.05, ***p<.01. Minimal education criteria equals 1 if job-seeker has obtained the equivalent of a high-school degree, 0 otherwise. Highly educated equals 1 if job-seeker has obtained at least the equivalent of a B.A. degree, 0 otherwise. Job advertisement type equals 1 if the focus is on sports, 0 if the focus is more general. All models include city fixed effects.

Table A3: The impact of EEO statements on Women and Men

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
City type	white	white	mixed	mixed	white	white	mixed	mixed
Gender	female	female	female	female	male	male	male	male
Satisfy min. education criteria?		yes		yes		yes		yes
EEO statement	-0.0906** (0.0408)	-0.1105** (0.0502)	0.0070 (0.0329)	-0.0240 (0.0393)	-0.1145* (0.0595)	-0.1024 (0.0693)	0.0541 (0.0486)	0.0172 (0.0574)
Minimal education criteria	0.0654 (0.0546)		0.0092 (0.0443)		0.1358 (0.0918)		0.0128 (0.0744)	
Highly educated	0.0015 (0.0014)	0.0016 (0.0016)	0.0009 (0.0013)	0.0005 (0.0015)	-0.0015 (0.0025)	-0.0018 (0.0029)	-0.0002 (0.0016)	-0.0008 (0.0019)
Job advertisement type	0.0590 (0.0538)	0.0518 (0.0552)	0.1013** (0.0407)	0.1014** (0.0412)	-0.0374 (0.0824)	-0.0391 (0.0848)	0.0697 (0.0663)	0.0591 (0.0672)
Response delay	0.0156 (0.0423)	0.0107 (0.0526)	-0.0302 (0.0347)	0.0054 (0.0416)	-0.0386 (0.0674)	-0.0672 (0.0767)	0.1476*** (0.0489)	0.0686 (0.0575)
African American	-0.0022 (0.0532)	0.0276 (0.0661)	-0.0468 (0.0383)	-0.0527 (0.0448)	-0.1323 (0.0867)	-0.1193 (0.0942)	-0.1235** (0.0551)	0.2305*** (0.0658)
Hispanic	0.0740 (0.0543)	0.0408 (0.0655)	0.1584*** (0.0604)	-0.1501** (0.0732)	0.2343*** (0.0762)	0.2522*** (0.0909)	-0.2382** (0.0934)	0.3079*** (0.1107)
Other race/ethnicity	0.1335 (0.0977)	0.1646 (0.1160)	0.1100 (0.1057)	0.0510 (0.1353)	-0.0607 (0.1303)	-0.0721 (0.1459)	-0.0443 (0.1168)	0.0112 (0.1339)
Constant	0.3136*** (0.0758)	0.3984*** (0.0982)	0.3932*** (0.0565)	0.4438*** (0.0686)	0.5497*** (0.1200)	0.7338*** (0.1310)	0.4256*** (0.0890)	0.5392*** (0.1134)
N	548	377	888	634	277	199	420	302

Notes: *p<.1, **p<.05, ***p<.01. Minimal education criteria equals 1 if job-seeker has obtained the equivalent of a high-school degree, 0 otherwise. Highly educated equals 1 if job-seeker has obtained at least the equivalent of a B.A. degree, 0 otherwise. Job advertisement type equals 1 if the focus is on sports, 0 if the focus is more general. All models include city fixed effects.

II. Job advertisements

1.1. Sports job advertisement

Posting Category: admin/office jobs

Title: Sports News Assistant

The {redact institution} is seeking a {insert city}-area administrative assistant to help gather information on sports stories. The assistant will provide us with up-to-date information on local news and views on basketball, football, baseball, soccer, Nascar, golf, and other sports. Responsibilities for the available positions include reading local sports-related news coverage (pro-, semi-pro, and college), and preparing short reports. The successful candidates will also be comfortable with typical administrative duties—light correspondence, proofreading, filing, email and phone communication, etc.

If you are interested, please email us your CV or resume, attention: {obscure employee name}

Affiliation

Address

1.2. News job advertisement

Posting Category: Admin/Office Jobs

Title: Administrative Assistant

The {redact employer} is hiring a {insert city}-area administrative assistant to help gather information on a variety of local news issues in the {insert city} region. The assistant will provide us with up-to-date information on community events, arts and culture, business, entertainment, policy issues, crime, and other stories.

Responsibilities for the position include seeking out, reading, and summarizing local news stories and preparing short reports. The successful candidate will also be comfortable with typical administrative duties—light correspondence, proofreading, filing, email and phone communication, etc.

If you are interested, please email us your CV or resume, attention: {obscure employee name}

Affiliation

Address

III. Job description (treatments)

2.1. Without EEO statement

Thank you for your interest in the position.

We are sending this general first response to interested applicants. We apologize if you have any unanswered questions.

First, a little more information about the job: we have frequent deadlines, and timely quality information from you is important. The position pays \$20/hour.

If you are interested, please answer the attached interview questions and return them to us to complete your application.

Please also include your CV or resume (if not already sent to us), and any remaining questions you have about the position.

Best Regards,

{redact employee name }

Affiliation

Address

2.1. With EEO statement

Thank you for your interest in the position.

We are sending this general first response to interested applicants. We apologize if you have any unanswered questions.

First, a little more information about the job: we have frequent deadlines, and timely quality information from you is important. The position pays \$20/hour.

{obscure employer} IS AN EQUAL OPPORTUNITY EMPLOYER.
ALL QUALIFIED APPLICANTS WILL RECEIVE CONSIDERATION FOR
EMPLOYMENT WITHOUT REGARD TO SEX, COLOR, AGE, OR ANY OTHER
PROTECTED CHARACTERISTICS.

If you are interested, please answer the attached interview questions and return them to us to complete your application.

Please also include your CV or resume (if not already sent to us), and any remaining questions you have about the position.

Best Regards,

{redact employee name }

Affiliation

Address

IV. Interview Attachment

3.1. Sports job advertisement

Please answer the following questions.

1. Which NBA player who is still active has made the most rebounds in his career?
2. What is a perfect passer rating in the NFL?
3. What is the fastest time ever for 100m running?
4. Which team won the UEFA Champions League 2011-12: Real Madrid, FC Barcelona, or Chelsea?
5. Which team has lost the most NBA finals: Los Angeles Lakers, Chicago Bulls, or Boston Celtics?
6. Which MLB team(s) won the most games in a season?
7. Where did the Olympic Summer Games take place in 2000?
8. How many NBA titles has Michael Jordan won?
9. Which team has won more NCAA titles: Kentucky, North Carolina, or UCLA?
10. Which country won most Gold Medals during the 2008 Summer Olympics: China, the United States, or Russia?

3.2. News job advertisement

Please answer the following questions.

1. What does MoMA stand for?
2. Which state had the highest murder rate in 2011?
3. Which state has the highest unemployment rate at the moment: Alaska, Nebraska, New York, or Nevada?
4. Which album was sold the most in 2012: Red/Taylor Swift, Born this way/Lady Gaga, or Believe/Justin Bieber?
5. Which state had the highest domestic migration in 2011?
6. Who directed Pulp Fiction?
7. When was Father's Day in 2013?
8. Which is the largest government employer?
9. Which is the largest private employer?
10. For how many seasons did Desperate Housewives run?

V. Job seeker surveys

Note that the two surveys were posted on the same job board and in the same category (Admin/Office Jobs) where the job advertisements were posted.

Title: Paid Survey for Administrative Assistants

Please take part in an anonymous 10 minutes university labor market survey and earn a \$10 Amazon gift voucher.

Please click link to participate

{Institution & IRB Nr. blinded}

Once a participant clicked link they received the following:

- Thank you for your interest in participating in this survey.
- The survey usually takes no longer than 10 minutes.
- As a thank you for your participation we will immediately send you a \$10 Amazon gift voucher to your designated email address.
- To receive the gift voucher please read through the survey and fill out all questions.

Imagine you see the following job advertisement on {name of job board} in your city:

Title: Administrative Assistant

The {redact employer} is hiring a {insert city}-area administrative assistant to help gather information on a variety of local news issues in the {insert city} region. The assistant will provide us with up-to-date information on community events, arts and culture, business, entertainment, policy issues, crime, and other stories.

Responsibilities for the position include seeking out, reading, and summarizing local news stories and preparing short reports. The successful candidate will also be comfortable with typical administrative duties—light correspondence, proofreading, filing, email and phone communication, etc.

A little more information about the job: we have frequent deadlines, and timely quality information from you is important. The position pays \$20/hour.

If you are interested, please answer the attached interview questions and return them to us to complete your application.

Please also include your CV or resume (if not already sent to us), and any remaining questions you have about the position.

Best Regards,

{redact employee name }

Affiliation

Address

Survey 1

- What percentage of all qualified white job seekers do you believe will be offered a job?
- What percentage of all qualified African American and Hispanic job-seekers do you believe will be offered a job?
- What percentage of the current employees do you believe is white?
- Do you believe that it will be harder for African Americans and Hispanics to advance on the job?
- How anxious do you believe will African Americans and Hispanics be to perform at this job?
- Do you believe that African Americans and Hispanics are under special supervision at this job?

Survey 2

- What percentage of all qualified white job seekers do you believe will be offered a job?
- Do you believe that African Americans and Hispanics are token hires for this job?

Imagine now you see the same job advertisement but it includes the following statement:

**“WE ARE AN EQUAL OPPORTUNITY EMPLOYER.
ALL QUALIFIED APPLICANTS WILL RECEIVE CONSIDERATION FOR
EMPLOYMENT WITHOUT REGARD TO SEX, COLOR, AGE, OR ANY OTHER
PROTECTED CHARACTERISTICS.”**

Survey 1

- What percentage of all qualified white job seekers do you believe will be offered a job if it includes such a statement?
- What percentage of all qualified African American and Hispanic job seekers do you believe will be offered a job if it includes such a statement?
- What percentage of the current employees do you believe is white if it includes such a statement?
- Do you believe that it will be harder for African Americans and Hispanics to advance on the job if it includes such a statement?
- How anxious do you believe will African Americans and Hispanics be to perform at this job if it includes such a statement?
- Do you believe that African Americans and Hispanics are under special supervision at this job if it includes such a statement?

Survey 2

- What percentage of all qualified white job seekers do you believe will be offered a job if this advertisement includes this statement?
- Do you believe that African Americans and Hispanics are token hires for this job if this advertisement includes this statement?