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IZA DP No. 14383

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ABSTRACT

Signals from on High and the Power of "Growth Mindset": A Natural Field Experiment in Workplace Diversity*

We conduct a large-scale natural field experiment with a Fortune 500 company to test several approaches to attract minorities to high-profile positions. 5,000 prospective applicants were randomized into treatments varying a portion of recruiting materials. We find that self-selection at two early-career stages exhibits a substantial race gap. Importantly, we show that this gap can be strongly influenced by several treatments, with some increasing application rates by minorities by 40 percent and others being particularly effective for minority women. The heterogeneities we find by gender, race, and career stage shed light on the underlying drivers of self-selection barriers among minorities.

JEL Classification: J15, J16, C93, D22

Keywords: diversity, race, gender, labor, experiment, field experiment

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1. Introduction

Companies and organizations invest significant resources into various initiatives to increase demographic diversity in their rank and file and to make their workplaces more inclusive and welcoming to minority groups. Billions are spent every year on diversity and inclusion training despite evidence that such trainings are ineffective (Gilbert and Ivancevich, 2000; McKay and Avery, 2005; Kalev et al., 2006; Apfelbaum et al., 2016; Dobbin and Kalev, 2016). However, despite significant advances in education over the last few decades by those from less represented groups[2], the managerial landscape continues to be largely dominated by white men, and firms still struggle to recruit, retain, and promote women, people of color, and other marginalized groups. Thus, more and more advocate for significant workplace interventions to remove barriers against minority groups – despite implementation costs and emerging evidence that interventions like mandatory quotas for minorities may backfire (Matsa and Miller, 2013, Leibbrandt et al., 2018; Erkal et al., 2019).

We conduct a large-scale natural field experiment to investigate a much less disruptive and less costly approach. Our experiment aims to identify how ethnic minorities and women can be attracted to apply to highly competitive high-profile jobs. It is embedded in the annual recruitment drive of a major US corporation in the financial service industry where we study actual application choices from over 5,000 highly educated prospective employees for two key full-time positions. We randomize these job seekers into different treatments in which we systematically vary a very small part in the recruitment process. In particular, we implement minimal changes in wording in recruiting materials and test several predictions from the literature on the impacts of racial biases and identities on opting into different work settings and on gender differences in selecting into high profile or competitive work environments.

In this study, we test the functioning of leadership signals (List and Lucking-Reiley, 2002; Andreoni, 2006; Potters et al., 2007; Koukoumelis et al. 2012; Brandts et al., 2016), growth mindset perspective (Murphy and Dweck, 2010; Emerson and Murphy, 2015; Bettinger et al., 2018), competitive advantage strategy (Hoogendoorn et al., 2012, 2013; Lazear, E.P., 1999a,

[2] For example, the proportion of MBA graduates in the US accounted for by African Americans has risen from 4% in 1990 to 14% in 2015, while the proportion of black men in management at companies with 100 or more workers has barely changed from 3% in 1985 to 3.3% in 2014. White women have gone from accounting for 22% of MBA graduates in 1980 to 47% in 2014, and yet the proportion in management has stayed relatively flat since 2000 at under 30%. For statistics on representation by different demographic groups in management at US companies, see Dobbin and Kalev (2016). For statistics on MBS-holders by demographic group, see National Center for Education Studies.

1999b; Nathan and Lee, 2013; Griffin-EL and Olabisi, 2018), and team orientation (Dargnies, 2012; Flory et al., 2015) and compare it to the corporation's default recruitment materials. We intentionally design the experiment to sample from two different populations that face different constraints and stakes due to their differing stages in the career progress. This enables us to test predictions on heterogeneous effects by career stage and help shed light on the drivers of impacts.

We document several striking results. For example, we find that in both populations there is a substantial racial gap in likelihood to apply, even among individuals who have signaled interest. Conditional on being interested, whites are approximately 15% more likely than ethnic minorities to submit their application in the baseline treatment. In addition, we find one approach is particularly powerful at closing this race gap among job-seekers: an explicit pro-diversity statement by the company's CEO situating diversity as a core part of the firm's culture and values increases application rates by ethnic minorities by 21-40%. This simple intervention completely erases the race gap in application rates and even slightly reverses it in favor of ethnic minorities. A sub-treatment enables us to isolate the driver of this effect as stemming from the fact that it was stated by the company CEO (and not, for example, by the content of the message). We also find that this effect is driven predominantly by ethnic minority men, among whom the CEO statement raises application probability by as much as 63%.

In addition, the impacts of the CEO statement differ markedly across the two populations, appearing limited to those preparing to enter their first post-graduate job. The estimated effects among the internship population are not significantly different from zero. On the other hand, the internship population does respond strongly to the treatment designed to emphasize growth mindset and malleable intelligence as opposed to innate skill and ability. Emphasizing that many of the critical skills for the position may be strengthened through experience at the company reduces the racial gap among internship-seekers by 12.2 percentage points to mildly reverse it in favor of minorities. Moreover, this treatment has a particularly powerful impact on application probabilities by ethnic minority women – a group of critical policy relevance, as well as theoretical interest due to the potential "piling up" of multiple underrepresented social identities – raising likelihood of applying by almost 22%. In contrast, we find no clear evidence that emphasizing competitive advantages through diversity and team orientation has any discernable impact on ethnic minorities and women.

This experiment complements audit studies on employer discrimination of job-seekers (e.g. Bertrand and Mullainathan, 2004; Carlson and Rooth, 2007; Pager et al., 2009) and advances the emerging literature on labor market choices depending on race, gender, and other social identities (Dal Bó et al., 2013; Ashraf et al., 2014; Buser et al., 2014; Flory et al., 2015; Leibbrandt and List, 2018; Marinescu and Wolthoff, 2016; Bertrand and Duflo 2017; Blau and Kahn 2017; Del Carpio and Guadalupe, 2018; Ibañez and Riener, 2018). It is closely related to our recent study that examined choices of undergraduate freshmen and sophomores to apply for a one-day professional development workshop in the same corporation (Flory et al., 2021). The present study represents a crucial next step in our understanding of increasing workplace diversity by moving closer to the future employee make-up and investigating actual employment. More precisely, we investigate two representative and large applicant pools for the corporation's two main entry-level positions: permanent analyst and summer internship. This renders it possible to test self-selection of minority applicants at two important career stages and identify whether firms should target diversity signals depending on the job-seekers' specific career stage. In addition, this study also tests new signals that are based on hypotheses related to the literature on gender and confidence in competitive environments (Flory et al., 2015; Preece and Stoddard, 2015; Brandts et al., 2015; Brandts and Rott, 2021), "growth mindset" (Murphy and Dweck, 2010), and team orientation matters (Dargnies, 2012; Flory et al., 2015).

2. Hypotheses and Experimental Design

2.1 Hypotheses

Many high-income careers are perceived to be overwhelmingly dominated by white men. This perception may itself be a barrier that prevents minority groups from applying to these high-profile jobs. Minorities and women may avoid work environments they perceive as low in demographic diversity for several reasons. Less diverse workplaces may be perceived as having stronger negative beliefs about the ability or performance of women and racial minorities which can lead to lower pay and slower career progress. Supervisors who believe minority employees are inherently less productive are less likely to invest in their professional development (training, mentorship, etc.), which can eventually lower their productivity and career progress, relative to other work environments (McDonald and Westphal 2013, Ragins 1997, Ibarra 1995, Thomas 2001). In addition, when there are few others of the same social identity in a workplace, that

identity is likely to be salient. Several studies have shown that making race or gender salient can lower performance, effort and expected success, and increase anxiety, a phenomenon known as "stereotype threat" (Steele and Aronson, 1995; Bertrand and Duflo, 2017). Minorities may therefore avoid low-diversity work environments due to this potential channel for negative impacts on job performance.

These factors underscore strong pecuniary motivations that may cause racial minorities and women to avoid low-diversity work environments for strategic reasons. Furthermore, from a non-pecuniary perspective, individuals may also have a preference for work settings that include others from their own group ("homophily") (Mcpherson 2001, Kabo 2017, Ingram 2007, Ibarra 1992, Cullen and Perez-Truglia 2019, Agarwal 2016). Finally, minority workers may have a taste for environments with greater representation from a variety of different demographics. Being perceived as lacking in diversity of social identities may thus cause employers to have difficulty attracting workers from underrepresented groups. This leads to our first main hypothesis:

Hypothesis 1 (Race and Gender Gap): Conditional on interest in a high-profile professional position, racial minorities and women will be less likely to submit an application to a job opening than whites and men.

If Hypothesis 1 is true, the discussion of possible drivers above suggests a few approaches to overcome this gap in application rates. First, if low investments by one's supervisor or bias in performance evaluations are important drivers, one approach is diversity appeals from leadership. Prior studies have shown that leadership signals have a significant effect on subordinates' behavior. For example, a rich lab experimental literature finds that leading by example (List and Rondeau, 2003; Andreoni, 2006; Potters et al., 2007) and the leader's communication with followers (Brandts et al., 2016; Koukoumelis et al., 2012) increase donations in voluntary contribution games. List and Lucking-Reiley (2002) confirm the leading-by-example effect in a field experiment with charitable giving. Similarly, studies in management have found that gender diversity in images in annual reports (a major publication from leadership) correlates with greater gender diversity at the firm (Bernardi, et al., 2002) and that the mere presence of the Code of Ethics (another document from leadership) is associated with lower perceptions of unethical behavior (Adams et al., 2001). Pro-diversity signals from leaders may thus have effects throughout the firm

and suggest to job seekers a workplace with less stereotype threat, less bias, and more support for underrepresented and minority employees.

In addition, if employers expect minorities to be less productive on average, there are strong theoretical reasons that such expectations will become self-fulfilling (Arrow, 1973; Coate and Loury, 1993). First, managers will rationally invest less time, training, and resources in workers they believe are inherently less productive, thereby causing such employees to become less productive over time. Second, workers who think their boss has low expectations of their productivity and will be slow to update beliefs and thus slow to reward their work with raises and promotions, may rationally invest less effort in work or developing skills – again, making them less productive. Empirically, the social psychology literature has demonstrated in a variety of field settings that leader beliefs about the performance of subordinates is often self-fulfilling (for reviews, see Rosenthal, 1994; and Eden, 1992; Bertrand and Duflo, 2017).

If a leader valorizes diversity as a strength for the firm's core functions and culture, it sends a signal that the leader does not have low performance expectations of individuals from minority groups. Furthermore, if the highest levels of leadership in the organization valorize diversity in this way, it suggests leaders throughout the firm will follow and similarly not hold low expectations of minorities. This would remove a likely barrier to applications by minority candidates – the concern that low expectations for job performance of minority employees will exist among managers in the workplace, will be self-fulfilling, and will impede their career success. The above reasons lead to our second main hypothesis:

Hypothesis 2 (Leadership Signals): Leadership stating diversity as a core value will increase application rates among minority candidates to a high-profile professional position.

If stereotype threat is an important driver pushing minorities away from high-profile jobs, one approach to addressing this is to lower prospective employees' expectations of negative stereotypes. The experimental social psychology literature suggests adherents of the "entity theory" of intelligence (the idea that ability is a fixed and inherent trait) are more likely to believe racial stereotypes and to believe stereotypical traits are fixed from birth, compared to adherents of "incremental theory" (the idea that ability is malleable and can grow). Levy et al. (1998), for example, find that people who believe in fixed intelligence are more likely to believe negative

stereotypes about Blacks and Latinos. They also document that randomly promoting an entity view in the lab can cause people to more strongly believe stereotypes about personality traits based on race or occupation, compared to promoting an incremental view.

Several experiments also find that minorities perform better in environments that endorse incremental intelligence. Blackwell et al. (2007) document among a sample of racial minority students that randomly assigning an incremental intelligence intervention can significantly raise the trajectory of math grades. In Aronson et al. (2002), Black college students randomly assigned to an incremental intelligence treatment obtained higher grades, reported greater enjoyment of academics, and greater identification with the task-domain. Good et al. (2003) find that encouraging students to see intelligence as malleable significantly raised math scores of predominantly (80%) Latino and Black students – particularly for women.

Life experience may thus encourage individuals from minority groups to prefer environments they believe endorse incremental theory, to avoid negative stereotypes about their ability and to excel in their performance. Indeed, Emerson and Murphy (2015) find in the lab that employer cues endorsing incremental intelligence can cause women to expect less negative stereotypes, to believe the employer will treat them fairly, and to be more likely to work for that employer. While field evidence among actual job-seekers is lacking, the existing evidence suggests that minorities may be more attracted to an employer believed to hold an incremental view (increasingly referred to as "growth mindset" in business parlance) and that signals important abilities are malleable and can be acquired over time. This leads to our third hypothesis:

Hypothesis 3 (Growth Mindset): Endorsing an incremental view of intelligence and ability will increase application rates of minority candidates to a high-profile professional position.

The theoretical importance of testing this hypothesis is underscored by the long-standing literature in psychology on the malleability of intelligence (Bandura and Dweck, 1985; Dweck and Leggett, 1988) and empirical evidence that simple interventions on self-theories of intelligence can impact students' motivation and effort (Mueller and Dweck, 1998, Aronson, 1999, Aronson et al.2002, Good et al., 2003, Blackwell et al., 2007). More recently, several studies have found positive effects of simple growth mindset interventions on academic performance and expectations (Yeager et al., 2019; Bettinger et al., 2018; Outes-Leon et al., 2020; Alan et al., 2019). Our

hypothesis takes this literature in a new direction by leveraging its implications to propose that endorsing incremental intelligence can raise confidence and engagement among minority candidates in a high stakes naturally occurring economic setting.

A third approach, and one which seems to be gaining the most traction in practice, is to try to leverage the "business case for diversity". Despite a lack of evidence that this increases employee diversity, more and more firms explicitly promote diversity as a "competitive advantage" and a means to raise firm performance (Hunt et al., 2018). In support of this view, there is some evidence of a positive effect of diversity on performance (Hoogendoorn et al., 2012, 2013), economic activity (Lazear, E.P., 1999a, 1999b) and entrepreneurial outcomes (Nathan and Lee, 2013; Griffin-EL and Olabisi, 2018). However, it is unknown whether publicly endorsing the idea attracts minority candidates to the firm.

On the one hand, it may lower prospective employees' expectations of the prevalence of negative performance stereotypes about minorities. Stating the company values diversity for its own strategic reasons may also add credibility that the firm will support minority employees by investing in skills, training, and professional growth. Both potential mechanisms may attract minority job seekers to the firm. However, how the business case is advanced may also matter. Saying diversity gives the firm a competitive edge (how the business case is typically framed) may actually worsen gender imbalances, given the robust evidence that men prefer competitive work environments more than women (Niederle and Vesterlund, 2007; Flory et al., 2014; Preece and Stoddard, 2015). Also, it has been shown that women are more likely to select team-based incentives (Kuhn and Villeval, 2015) and that emphasizing teamwork can eliminate gender gaps in attraction to work environments believed to be competitive (Flory et al., 2014; Babcock et al., 2015, Dargnies, 2012, Ivanova-Stenzel and Kübler, 2005; Kuhn, 2001). Emphasizing teams may thus attract more female minorities. Finally, if highlighting the business case for diversity is interpreted as trying to acquire something the firm lacks, it may have a weak effect. Thus, using the business case while signaling high diversity may strengthen the effects. The above discussion leads to our fourth hypothesis:

Hypothesis 4 (Business Case): Stating that diversity helps the firm's performance will increase application rates of minority candidates. The strength and gender dimensions of the response will

depend on (i) emphasizing competition; (ii) emphasizing team-work; (iii) perceptions of existing level of diversity.

The Role of Career Stage

Our natural field experiment uniquely positions us to narrow down the role of the career stage for minority candidates' job application patterns and their receptiveness to signaling treatments. In our setting, all job-seekers - independent of their career stage - are recruited through the same channels, undergo identical application procedures, and decide whether to apply for the same corporation and divisions in this corporation. Taking into account the role of the career stage is crucial as it likely plays an important role in how much weight job seekers give to different types of signals and the strength of expectations they have about a new work environment – both of which affect a signal's ability to influence beliefs. Keeping constant the application environment is crucial to link application choices to the signaling treatments.[3]

In particular, job seekers at a later career stage with more professional experience will likely attach more weight to signals from sources that experience has taught them are influential within firms. At the same time, those with more experience are also likely to have stronger priors about what to expect in a future workplace than those with less experience. This suggests important implications for the effectiveness of our signaling treatments and Hypotheses 2 and 3.

With respect to Hypothesis 2, if the effectiveness of leadership signals depends on job seekers appreciating the impact executives have on behaviors throughout a firm, effects are likely to be an increasing function of professional experience. For example, someone with *more* experience with corporate culture or the influence that statements from the top of the hierarchy can have on workplace attitudes is likely to give more weight to messages from executive leaders than those who have not experienced their impact.

With respect to Hypothesis 3, given the novelty of "growth mindset" as a business strategy, and much discussion of the challenges of changing work cultures from fixed to growth mindsets, job seekers who already have professional experience likely worked in fixed-mindset environments in the past. This may give them strong priors that future professional settings will

[3] If we were to investigate job seekers' application choices at different career stages more generally and not just for one specific corporation as we do, we could not infer whether individual variables (career stage) or corporation variables (application and recruitment procedures) would be responsible for signalling treatment effects.

be characterized by the entity view of intelligence. However, for those with no previous experience in professional settings, priors about the type of mindset to expect on entering the professional world will be weaker, making it more likely a job seeker finds an incremental view plausible. This suggests the effect of endorsing a growth mindset may also be a function of career-stage, with stronger effects for those who are at an *earlier* stage of career development.

2.2 Experiment Design – Overview

To test our hypotheses, we embedded an experiment in the normal annual hiring process of a top global financial services firm filling entry-level positions in the US. There were two types of positions for applicants at two different career stages – permanent analyst and summer internship. These serve as the two main feeders into the company for junior-level hires. The permanent analyst position is a highly competitive full-time entry-level job at the company which requires at least a bachelor's degree. The summer internship is a ten-week paid program for students still undergoing their studies (students apply in the summer after their sophomore year, and the internship occurs during the summer before their junior year).[4] This highly competitive opportunity offers college juniors first-hand experience working in the finance sector and at this firm. The positions are thus aimed at two different populations which are at different stages in their career progress – job seekers actively looking for full-time employment, and students who have completed two years of undergraduate study.

Individuals interested in either one of these positions at the company were directed to a webpage with a link for more information. Once they clicked that link, they were asked for their name and university and were randomized (at the individual level) into one of 9 different treatment groups. In particular, a randomly assigned statement displayed at the top of the page gave different types of information, including a neutral statement to serve as a baseline condition. Besides the treatment script, the webpage was identical for all individuals. (See Appendix Fig. A.1 for images of the webpage).

At the bottom of the screen, the webpage contained four possible links: a link to obtain more information about the permanent analyst position, a link to apply to the permanent analyst position, a link to obtain more information about the summer internship, and a link to apply to the

[4] Technically, master's degree students may also apply to the internship just before (or at the beginning of) their penultimate year (the first year, for 2-year degrees), though in practice this rarely occurs.

summer internship. By clicking on the relevant link, subjects self-identified which population they belong to – individuals seeking full-time employment or students with two years of undergraduate study interested in an internship.[5]

We employed a team of independent research assistants unaware of the goals of the study to code job seekers' gender, ethnicity, and graduation date by searching for publicly available social media profiles matching the name and university participants entered on the experiment webpage. These research assistants coded this information based on pictures and publicly available information such as native language, hometown, club and society memberships and graduation or attendance dates for their university. Ethnicity was coded as Asian; Black or African American; Hispanic or Latino; White; Other; and Cannot Tell. Gender was coded as Female; Male; or Cannot Tell. Individuals who applied to the company also self-reported their gender and ethnicity as a part of the application process, which was used as a check with the coded information.[6] Ethnic minorities – also referred to as non-whites in the subsequent sections – are defined as individuals whose ethnicity was coded as Black or African American, Hispanic or Latino, or Asian.[7] To account for the fact that Asians constitute a relatively large fraction in our sample, the Appendices B1 and B2 provide an analysis where only Black or African American and Hispanic or Latino are defined as minorities and shows that which definition is used does not significantly change the findings.

2.3 Experiment Design – Treatments

Table 1 summarizes the treatment messages.[8] Our experiment has four main types of statements, each corresponding to one of our main hypotheses. The baseline statement is the company's default. The second type (*CEO Statement*) tests the power of diversity statements made by the highest level of company leadership, and has two different variants. In the first (T1), we use a quote taken directly from the CEO of the company that states an explicit need for diversity among

[5] Our analysis suggests that measurement error in this self-reported eligibility is quite low: for example, only 1% of the roughly 3,000 subjects who clicked on one of the links for the internship ended up applying to the analyst position.
[6] For applicants, we can compare the coded gender and ethnicity information with the self-identified information from the application form. Gender was coded correctly for over 98% of the applicants in our sample. Similarly, ethnicity was coded correctly for over 94% of the applicants.
[7] This corresponds to the corporation's definition of minorities for all permanent jobs. In general, there is some suggestive evidence for a glass ceiling for Asians: while they are typically not underrepresented in entry-level jobs, they are often underrepresented in leadership positions, which may deter job applications (Gee and Peck, 2018). Asians are not treated as underrepresented in Flory et al. (2021), a setting that examines applications to a one-day workshop rather than an actual job.
[8] Besides the treatment language, the webpage for each treatment is identical. The complete text for each of the treatments is in Appendix Table A1.

its employees and underscores diversity as an important strength in the company's core values. In the second (T2), we use the exact same language but without specific attribution to anyone. That is, it is a statement without quotes and without the CEO's name, so that it appears simply as a statement by the firm, just like the rest of the recruiting text. This enables us to disentangle the drivers and identify the mechanism as being either the content of the message or the source from which the message comes. T2 thus serves as a control specific to the *CEO Statement* (T1).

Table 1. Experimental design

Hypothesis	Message type	Treatment	Description
H1	*Baseline*	T0	A diversity-neutral statement. Company's default.
H2	*CEO Statement*	T1	Quote by the company's CEO, stating diversity as a key part of the company's culture, strengthening its principles.
	CEO Control	T2	Same as T2, but presented as a general statement about the company (not directly from the CEO)
H3	*Growth Mindset*	T3	Statement encouraging individuals to apply even if uncertain they are a strong fit, since the needed skills can be learned on the job.
H4	*Business Case: Competitive*	T4	Statement highlighting the business case for diversity and focusing on the competitive edge it gives to the firm.
	Business Case: Competitive + Stats	T5	T4 plus listing of exact percentages of women and ethnically diverse new hires in a prior year.
	Business Case: Team	T6	Statement highlighting the business case for diversity focusing on a team-orientation among employees.
	Business Case: Team + Stats	T7	T6 plus listing of exact percentages of women and ethnically diverse new hires in a prior year
	Business Case: Team + Seeking	T8	T6 but with language emphasizing that the that firm is seeking employees from diverse backgrounds.

Notes: Individuals randomly received one of nine different treatment statements.

The third message type (*Growth Mindset*) constitutes the first experimental test that we are aware of in an actual labor market with high stakes of the "growth mindset" findings that have been emerging from the psychology and organizational behavior literature. The *Growth Mindset*

message (T3) emphasizes that many of the skills needed can be learned and strengthened on the job, and encourages individuals to apply even if they are less confident in whether they have the requisite experience and background. Ideally, we would have run two versions of this treatment – one as an anonymous recruiting statement and another as a quote from the CEO. Unfortunately, since the CEO had not made such a statement, this was not possible without violating field experiment norms to not deceive subjects.

The fourth message type (*Business Case*) tests the power of statements that leverage the often-repeated claims that employee diversity improves firm performance and has five different variants.[9] The first two (T4 and T5) frame diversity and inclusion as lying at the center of the firm's competitive advantage, indicating that having workers from a variety of backgrounds is a key part of the company's success and competitiveness. T5 is identical to T4 except that it adds two key statistics to support the firm's commitment to diversity – the high proportion of women and ethnically diverse individuals among recent entry-level hires. T5 helps shed light on whether pro-diversity messages stating diversity and inclusion are key to the firm's competitive advantage must be backed by evidence in order to be effective. The other three variants test the impacts of a more team-oriented version of the "business case" approach. The first (T6) is similar to the *Business Case: Competitive* treatment, with two key differences: it states that the firm employs a diverse team of individuals, and it strips language referring to competitive advantage in order to de-emphasize notions of competition and emphasize teamwork. The second variant (T7) has the exact same language as T6, but it also includes the same two statistics as in T5 providing factual evidence that the firm has a diverse workforce. T7 helps identify whether evidence is an important component in the power of a "business case" diversity appeal that has a team orientation. The third variant (T8) tests a final hypothesis about the design of pro-diversity appeals – specifically, whether it matters if the employer signals that it is trying to create diversity among its employees or instead already has diversity among its employees.

After seeing one of the nine messages, individuals could either click on one of the links to apply or get more information, or instead navigate away from the page. The link clicked identifies which population a subject belongs to – job seekers looking for a permanent position or students

[9] We have the highest number of treatments for the Business Case since we wanted to understand it better given that it is already widespread and frequently used and has several potential moderators. The firm also anticipated it would have large effects and was interested in finding ways to maximize them.

with two years of college interested in a summer internship.[10] By linking with the firm's applicant tracking data, we know which treatment message each person sees, whether they click to apply or learn more about either opportunity, whether they complete an application, and whether they are hired as an analyst or selected as an intern. Employees at the firm hiring candidates and selecting interns are blind to the treatments.

3. Findings

3.1 Overview

Our sample consists of 5,364 individuals located in the U.S who landed on the company's employment webpage.[11] 37% (1,998) of the individuals are women, 51% (2,725) are non-white (Asian, African or Hispanic American) – with 44% (2,349) Asian and 7% (376) African or Hispanic American. Job seekers came from over 100 different academic institutions – none of them accounting for more than 6% of the sample.

Nearly all individuals who landed on the webpage expressed interest in a position (97.5%, 5,231) by clicking on one of the 4 links (apply to internship, apply to permanent analyst position, interest in internship, interest in permanent analyst position). 2,204 individuals expressed interest in the permanent analyst position (40% female, 50% non-white – 42% Asian, 8% Black or Hispanic) and 3,027 individuals expressed interest in the internship position (35% female, 51% non-white – 45% Asian, 6% Black or Hispanic).[12]

Of those interested in the analyst position, 66.2% (1,459) submitted an application (composed by 39% women, 47% non-white – 39% Asian, 7% Black or Hispanic) and 11 individuals received a job offer. Among those interested in the internship position, 67.8% (2,051) submitted an internship application (composed by 35% female, 49% non-white – 43% Asian, 6% black or Hispanic) and 36 individuals were offered an internship.

Table 2 reports the number of observations in each treatment and the respective composition of whites vs. ethnic minorities (Asian, Black, or Hispanic) and men vs. women. Both race (χ^2 test,

[10] The vast majority (over 97.5%) clicked one of the links.

[11] We excluded from the analysis 44 individuals because their race was unknown, or they were from another race than the ones listed or a mix of 2+ races. Another 10 individuals were excluded because they did not report their name and/or university. An additional 845 individuals were located outside the U.S. and were not included in the analysis because the design of the landing page outside the U.S. was different.

[12] One individual expressed interest in both types of positions. We did not assign this individual to a sub-sample. 92% of the individuals interested in the permanent analyst position are expected to graduate at the latest one year after the hiring cycle. For individuals interested in the internship the expected graduation year is on average two years later.

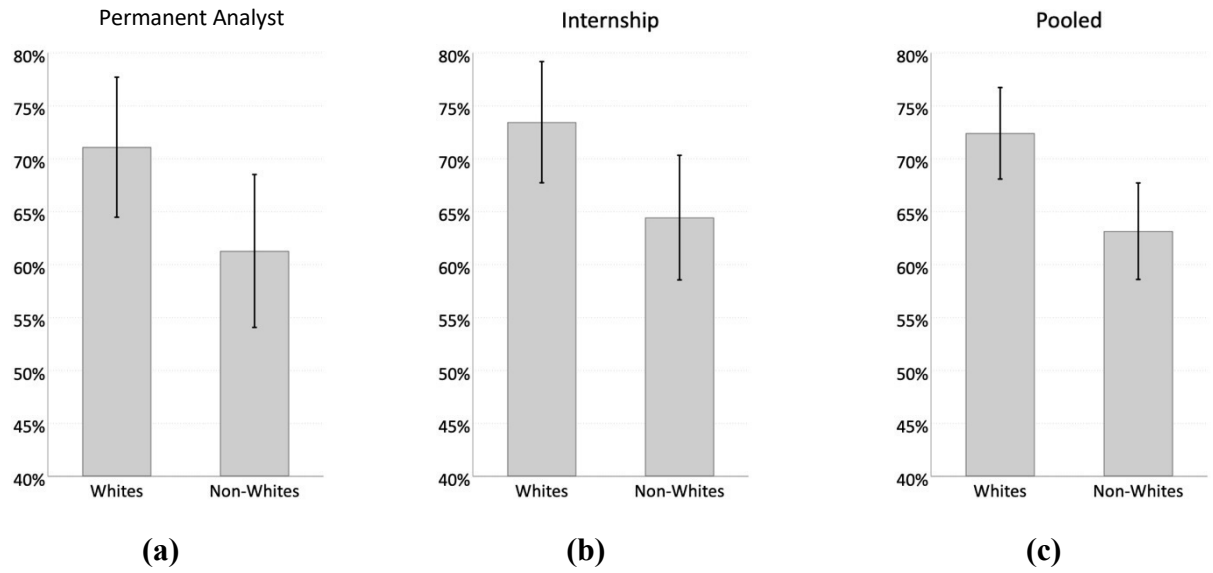
p=0.31) and gender (χ^2 test, p=0.38) are distributed evenly across treatments indicating that the random assignment to treatments was successful. The picture looks similar in the analyst sample (χ^2 test, p=0.93 for race, p=0.151 for gender) and in the internship sample (χ^2 test, p=0.23 for race, p=0.85 for gender) separately.

3.2 Baseline Findings

Figure 1 shows the percentage of whites and ethnic minorities who apply in the baseline condition. Table 3, models (1) through (3) in Panel A provide the corresponding regression analysis where job application probability is regressed on race. In the analyst job-seeker sample (Figure 1.A), 71.1% of whites applied, compared to 61.3% of ethnic minorities. That is, white job seekers were 9.8 percentage points (pp) (16%) more likely to apply to the permanent analysist job than minority job seekers (p=0.10, Table 3, model 1, Panel A). In the internship sample (Figure 1.b), the patterns in the baseline condition are similar: 73.5% of whites apply, compared to 64.4% of ethnic minorities, making whites 9.1 pp (14.1%) more likely to apply to the internship (p=0.07, Table 3, model 2, Panel A). Since we find little differences for the two different populations (permanent analyst position and internship), we also pool the samples to examine the overall difference (Figure 1.c). When combining the two samples, we see that 72.4% of whites and 63.2% of ethnic minorities apply to one of the two positions – a race gap of 9.2 pp, or 14.6% (p=0.02, Table 3, model 3, Panel A). Men and women do not apply with different probabilities (women are maximally 3.4pp less likely to apply than men, p>0.590), also not when analyzing white (p>0.494) and non-white (p>0.434) candidates separately.[13] Since we do not find an overall gender gap in the baseline condition, we focus on the gendered impact of treatments among ethnic minorities.

[13] OLS Regressions where job application probability is regressed on the candidate's gender (robust standard errors). Samples are analyst job seekers, internship sample, and both samples pooled. All three models are also run for white and ethnic minority candidates separately. Regression results are not reported, but available upon request.

Figure 1: Racial Gap in Applications in Baseline



Notes: The three figures show the percentage of individuals who applied in the baseline for (a) permanent analyst positions, (b) internships, (c) permanent analyst or internship positions (pooled) sample. 90% confidence intervals are shown. Non-whites include Asian, African and Hispanic Americans.

Result 1: *There is a substantial race gap in the probability of applying, even among individuals who are interested and confident enough to begin the process. Among both samples (analyst job seekers and internship seekers), whites are about 9-10 pp (14-16%) more likely to submit an application than ethnic minority candidates.*

This racial disparity is interesting in itself, given the selection that has already occurred by the stage in the process of applying where we are capturing behavior – after individuals have already signaled enough interest to navigate to the company webpage and click to go further for additional information or to apply to the opening. Notably, these racial differences are particularly pronounced among male candidates (p=0.02, model 3, Panel B) because the percentage of white male candidates who applied (73.6%) is particularly large and the percentage of minority male applicants (61.9%) is particularly small. The shares for females lie in between these numbers: 69.7% of white female candidates and 64.7% of minority female candidates applied (p=0.439, model 3, Panel C).

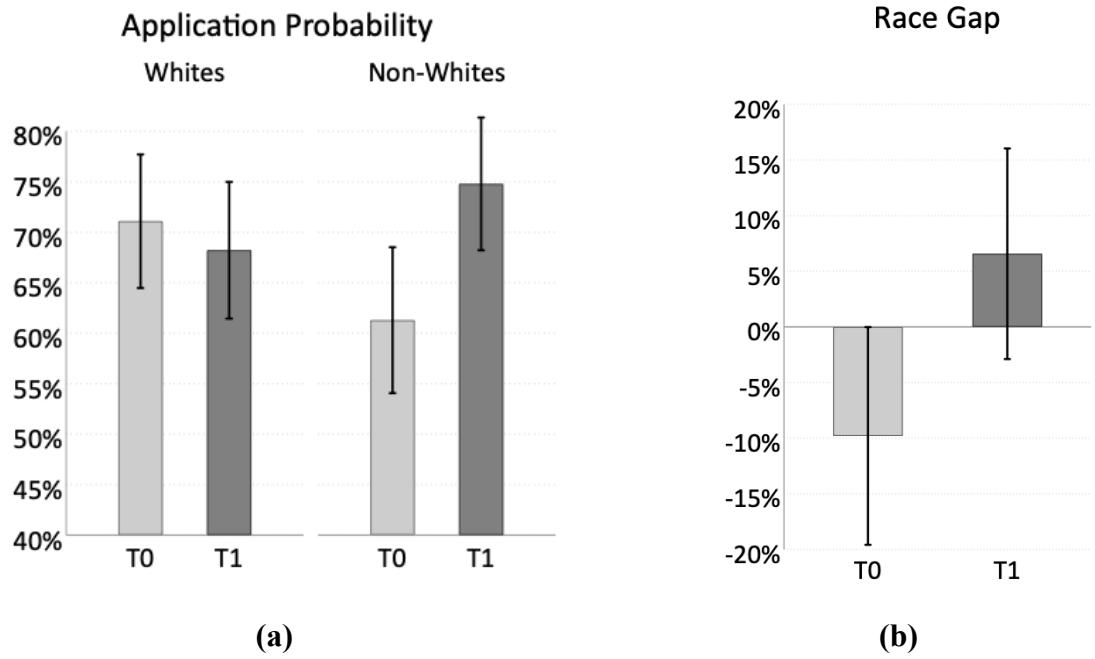
3.3 Experimental Results: CEO Statement

Turning to the treatment effects, we first look at the impacts of T1, *CEO Statement*. For this treatment, there are two different possible control conditions to compare it against – the baseline diversity-neutral statement (T0), and *CEO Control* (T2) which has the same text as *CEO Statement* (T1) but without attributing it to the CEO. The first comparison sheds light on the reduced form effect of the CEO statement. The second comparison sheds light on the channel through which this effect occurs (the message content alone versus the content plus the identity of the person delivering it).

Permanent job seekers

Figure 2 shows the proportion of whites and ethnic minorities in the permanent job seekers sample that apply after seeing the pro-diversity statement by the CEO, vis-a-vis the baseline (T0), along with the race gap within each treatment. Table 4, models 1-3 provide the corresponding regression analysis where job application is regressed on treatment and its interaction with race. As shown in Figure 2.a, whites appear largely unaffected by the CEO statement, with 68.2% applying under T1 – a 2.9 pp insignificant drop from the baseline T0 ($p=0.62$, Table 4, model 1). In contrast, for ethnic minorities, the impact of the CEO statement is large and statistically significant: 74.8% of minorities apply under T1. This is a 13.5 pp increase in the probability of applying and represents a 22% rise in application probability from the baseline ($p=0.02$ Table 4, model 2). As shown in Figure 2.b, this causes a significant change in the race gap in application probabilities among permanent job seekers, not only closing it but even moderately reversing it. While ethnic minorities are 9.8 pp less likely to apply than whites in the baseline, they are 6.6 pp *more* likely to apply than whites after being exposed to the CEO treatment. This is a 16.4 pp change in the race gap caused by the CEO treatment ($p=0.05$, Table 4, model 3).

Figure 2: The impact of the CEO statement relative to baseline on job applications for permanent analyst positions



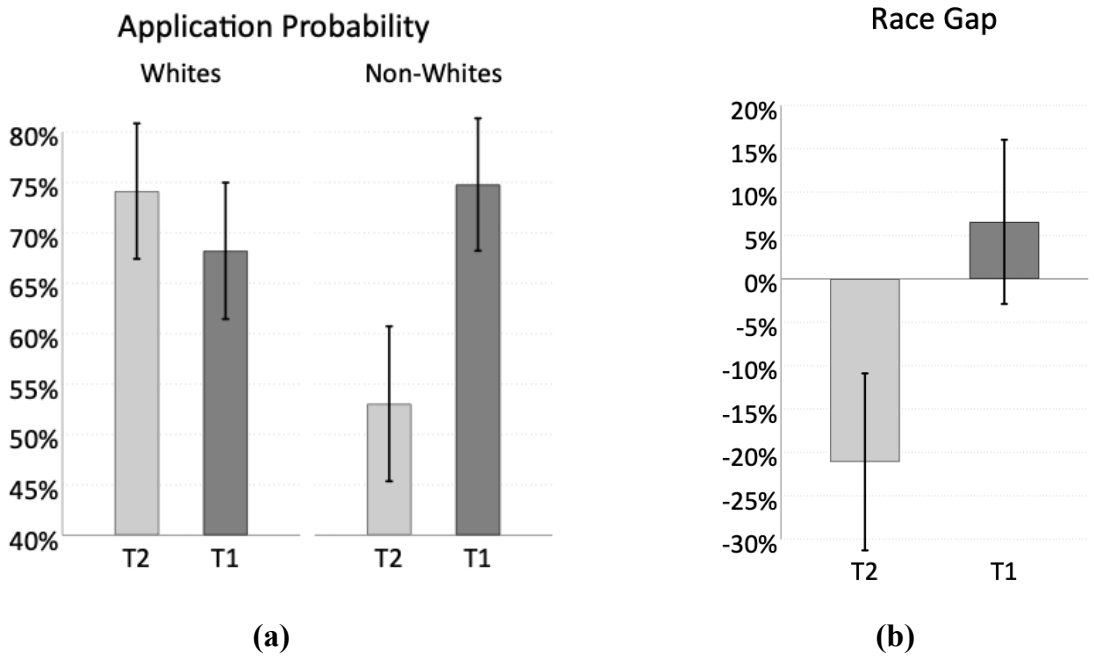
Notes: Figure (a) illustrates the percentage of whites (left) and non-whites (right) that apply for a permanent analyst position in the baseline (T0, light grey) and CEO statement treatment (T1, dark grey). Figure (b) illustrates the corresponding racial gap in job applications in the baseline (light grey) and CEO statement treatment (dark grey). 90% confidence intervals are shown. Non-whites include Asian, African and Hispanic Americans.

Figure 3 is similar to Figure 2, but instead compares percentages under the CEO treatment to the *CEO-Control* message (T2). Table 4, models 4-6 provide the corresponding regression analysis. This comparison allows us to disentangle the effects of the message content from the message source (anonymous firm recruiting material versus CEO of the company). The light grey column represents the comparison group, which is now T2 (*CEO-Control*). The proportion of whites applying is higher in T2 than in T0, though not statistically significantly so – 74.1% apply in T2 compared to 71.1% in T0 (p= 0.60). The change in moving from T2 to T1 in the probability that whites apply is correspondingly larger – a 5.9 pp drop, though the effect of T1 relative to T2 remains statistically non-significant (p=0.31, Table 4, model 4). Moving from *CEO-Control* to *CEO Statement* thus has no statistically significant impact on the probability that whites apply.

Turning to ethnic minorities, the proportion of minorities applying is lower in T2 than in T0, though the difference is not statistically significant – 53.0% apply in T2 compared to 61.3% in T0 (p=0.20). The change in moving from T2 to T1 in the probability that ethnic minorities apply

is correspondingly higher – a 21.7 pp (41%) increase (p=0.00, Table 4, model 5). Figure 3.b shows how the *CEO Statement* affects the gap in application probability between whites and ethnic minorities, relative to *CEO-Control*. While ethnic minorities are 21.1 pp less likely to apply to the permanent analyst job under *CEO-Control*, they are 6.6 pp more likely to apply under *CEO Statement*. This 27.7 pp change in the race gap caused by attributing the statement to the CEO is highly statistically significant (p=0.00, Table 4, column 6).

Figure 3: The impact of the CEO statement relative to CEO control on job applications for permanent analyst positions



Notes: Figure (a) illustrates the percentage of whites (left) and non-whites (right) that apply for a permanent analyst position in the CEO control (T2, light grey) and CEO statement treatment (T1, dark grey). Figure (b) illustrates the corresponding racial gap in job applications in the CEO control (light grey) and CEO statement treatment (dark grey). 90% confidence intervals are shown. Non-whites include Asian, African and Hispanic Americans.

The above analyses lead to our second main finding and first main experimental result:

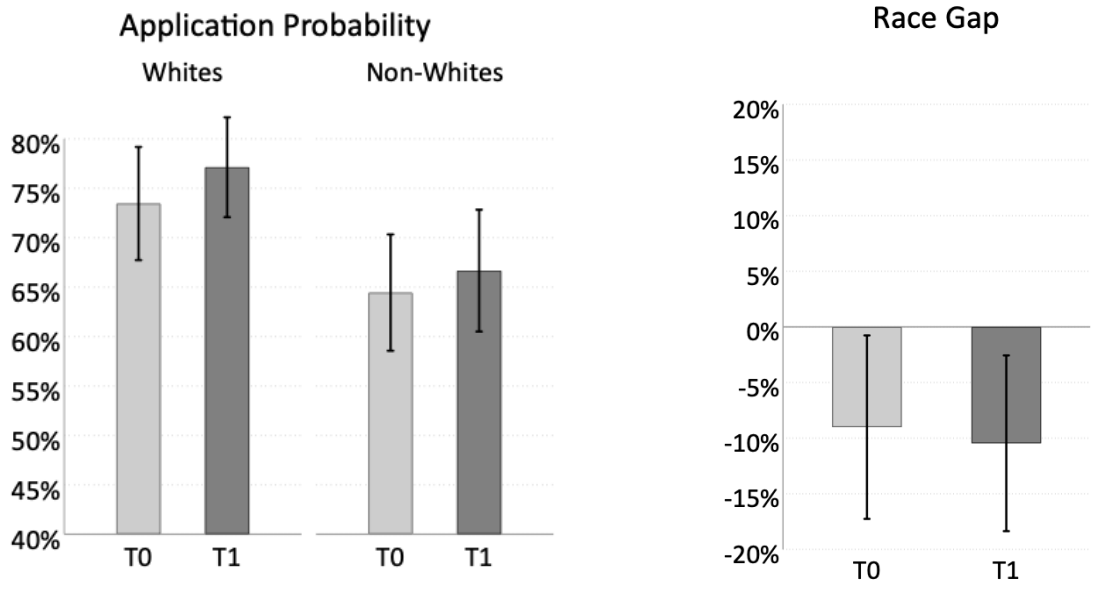
Result 2: *Among those preparing to enter their first post-graduate job, an explicit pro-diversity statement by the CEO significantly raises the probability of applications by ethnic minorities to a high-profile job and closes the race gap, without hurting application rates by whites. Isolating the channel of the effect shows that the same pro-diversity statement, when spoken by the CEO, raises*

application rates from ethnic minorities by 21.7 pp (41%) and changes the race gap by 27.7 pp in favor of applications by minority job seekers, slightly reversing it.

Internship seekers

Turning to impacts on the sample of internship seekers, Figures 4 and 5 are analogous to Figures 2 and 3. However, they now illustrate how the *CEO Statement* treatment affects behavior in the internship population, which is at an earlier stage in their career trajectory, and for whom the stakes are different. Table 5, models 1-3 provide the corresponding regression analysis. Figure 4 shows the proportion of whites and ethnic minorities in the internship sample that apply after seeing the pro-diversity statement by the CEO, vis-à-vis the baseline (T0), along with the race gap in each treatment. As shown in Figure 4.a, white internship-seekers appear largely unaffected by the CEO statement, with 77.1% applying under T1 – a 3.7 pp rise from the baseline T0 (p=0.43, Table 5, model 1). The result is similar for ethnic minority internship-seekers, who also appear largely unaffected by the CEO statement, with 66.7% applying under T1 – a 2.2 pp rise from the baseline (p=0.67, Table 5, model 2). This causes the race gap in application probabilities among internship-seekers to remain essentially unchanged (Figure 4.b; p=0.84, Table 5, model 3).

Figure 4: The impact of the CEO statement relative to baseline on job applications for internship positions



(a) **(b)**

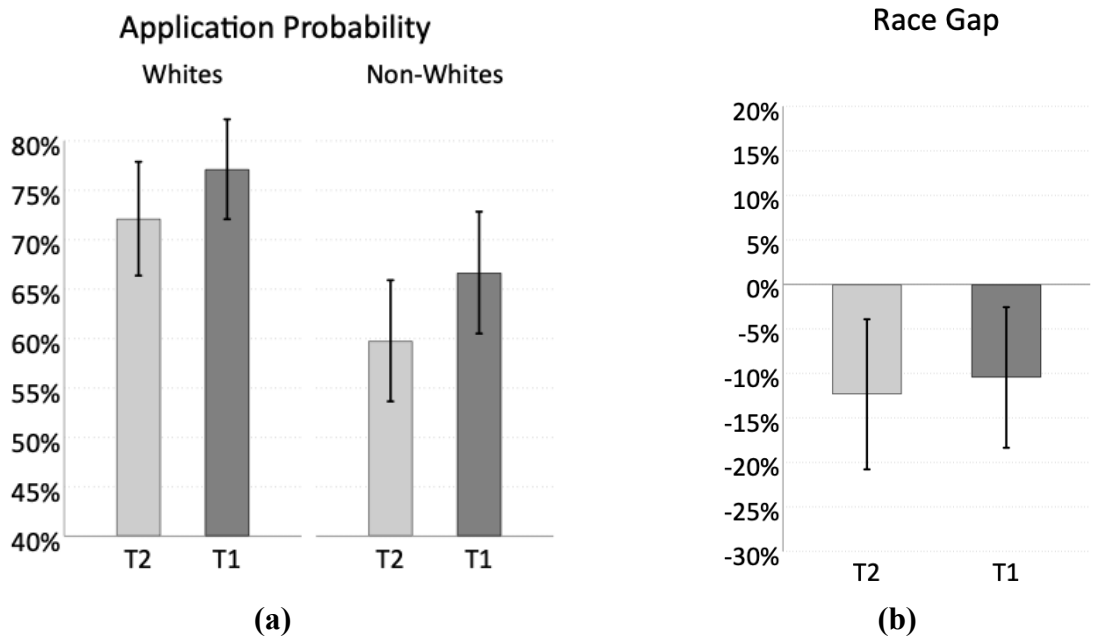
Notes: Figure (a) illustrates the percentage of whites (left) and non-whites (right) that apply for an internship position in the baseline (T0, light grey) and CEO statement treatment (T1, dark grey). Figure (b) illustrates the corresponding racial gap in internship applications in the baseline (light grey) and CEO statement treatment (dark grey). 90% confidence intervals are shown. Non-whites include Asian, African and Hispanic Americans.

Figure 5 shows the patterns for internship seekers when comparing *CEO Statement* to *CEO-Control* (T2). Table 5, models 4-6 provide the corresponding regression analysis. The proportion of whites applying is marginally lower in T2 than in T0 – 72.1% apply in T2 compared to 73.5% in T0 (p=0.79). While the change in moving from T2 to T1 in the probability that whites apply is higher – a 5.0 pp rise, it is statistically insignificant (p=0.28, Table 5, model 4). The proportion of ethnic minorities applying is also lower in T2 than in T0, though not significantly so – 59.8% apply in T2 compared to 64.4% in T0 (p=0.37). The rise in moving from T2 to T1 in the probability that ethnic minorities apply is correspondingly higher than the rise in moving from T0, though it remains statistically insignificant – a 6.9 pp rise from 59.8% to 66.7% (p=0.19, Table 5, model 5). As shown in Figure 5.b, the slightly higher rise in application probability among ethnic minorities than among whites when moving from *CEO-Control* to *CEO Statement* reduces the race gap somewhat, from 12.4 pp to 10.5 pp, but this change is not statistically significant (p=0.79, Table 5, model 6).

Thus, just as moving from the baseline to the *CEO Statement* has no statistically significant impact on application rates by whites or ethnic minorities and no impact on the race gap, moving from *CEO-Control* to *CEO Statement* also has no significant impact on the probability of either group applying or any measurable impact on the race gap. This lack of effects from the *CEO Statement* among the internship population stands in stark contrast to the sharp effects of this treatment among the analyst job-seeker population, and leads to our third main finding:

Result 3: *Impacts of the CEO statement differ markedly across the two populations. While the CEO statement has a remarkably strong impact on application probability by ethnic minorities among permanent job seekers, and a sharp effect on the race gap in application rates among job seekers, it has no measurable effects on application probability by ethnic minorities among the internship population and does not reduce the race gap among internship-seekers.*

Figure 5: The impact of the CEO statement relative to CEO control on job applications for internship positions



Notes: Figure (a) illustrates the percentage of whites (left) and non-whites (right) that apply for an internship position in the CEO control (T2, light grey) and CEO statement treatment (T1, dark grey). Figure (b) illustrates the corresponding racial gap in internship applications in the CEO control (light grey) and CEO statement treatment (dark grey). 90% confidence intervals are shown. Non-whites include Asian, African and Hispanic Americans.

Intersectionality: Impacts of the CEO statement on ethnic minority women vs. ethnic minority men

Ethnic minority women constitute a group of particular interest for many firms as well as many policy makers. From a theoretical perspective, impacts on choices by this group are also of interest since they represent the intersection of two social identities that are underrepresented in high-profile careers – race and gender. This may make them more sensitive to pressures to select out of high-profile careers, compared to ethnic minority men, for reasons other than skill or ability. For example, concerns over unfair or biased assessment of work performance may be higher as ethnic minority women may expect coworkers and supervisors to downwardly bias their performance for two reasons – not only being an ethnic minority but also being female. Stereotype threat, and thus the risk of actual underperformance, may also be higher for minority women than minority men. That is, if ethnic minority women believe the expectation that they will underperform is larger than the expectation that minority men will underperform – due to coming from two demographic groups with negative performance stereotypes – the mere increase in anxiety and stress can cause actual performance to be lower. Either of these reasons would lower the expected pecuniary payoff

from effort. From a non-pecuniary perspective, individuals may derive utility from working with or around others with shared demographic characteristics – such as gender and ethnicity. This would give ethnic minority women more reasons to shy away from work settings they expect will have low representation of women and minorities compared to minority men.

For these reasons, we also test whether applicant gender impacts the effects of the *CEO Statement*. Figure 6 shows application rates for minority male and female permanent analyst job seekers separately, comparing the probability of applying under T1 to applying under T0 (Figure 6.a) and the probability of applying under T1 to applying under T2 (Figure 6.b). Relative to the baseline (T0), T1 raises the probability that ethnic minority men submit an application from 62.0% to 77.3%, a 15.4 pp (25%) increase (p=0.04, Table 6, model 2, Panel A). Among minority women, the estimated effect of T1 is only about half the size, and it loses its statistical significance: relative to the baseline, T1 increases the likelihood that ethnic minority women submit an application from 60.4% to 70.5%, an estimated effect of 10.1 pp (16.7%) increase (p=0.30, Table 6, model 2, Panel B). Turning to the impact of *CEO Statement* relative to *CEO Control* (Figure 6.b), T1 raises the likelihood that minority men submit an application from 47.3% to 77.3%, a 30.1 pp (63%) increase (p=0.00, Table 6, model 5, Panel A). Among minority women, the estimated impact of T1 relative to T2 is only about a third of the magnitude, and it is no longer statistically significant: T1 raises the likelihood minority women apply from 58.3% under T2 to 70.4% under T1, a 12.1 pp (20.8%) rise (p=0.20, Table 6, model 5, Panel B).[14] These findings show that the *CEO Statement* primarily affects ethnic minority men, with large impacts on this group, and smaller impacts on minority women which are not statistically distinguishable from zero.[15] This heterogeneity by gender is captured in our fourth main result:

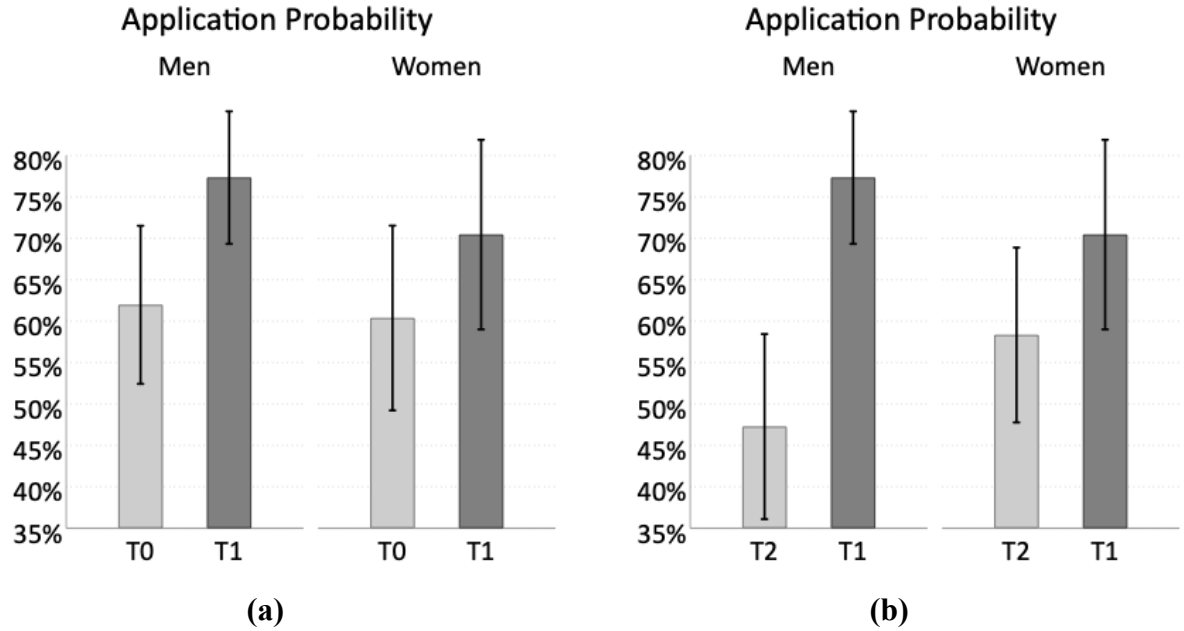
Result 4: *Impacts of the CEO statement on ethnic minority job seekers are driven largely by ethnic minority men, among whom the effects are large and statistically significant. Specifically, the CEO statement raises the probability that minority men submit an application by as much as an*

[14] The estimated impact of the CEO Statement remains non-significant (p=0.18) if the two control treatments (T0 and T2) are pooled.

[15] The CEO statement treatment continues to have no significant impacts when the internship sample is split by gender, similar to the findings above showing no effects from the CEO Statement in the internship population when men and women are pooled (p>0.18).

estimated 30.1 pp (63%). Estimated impacts on ethnic minority women are not significantly different from zero.

Figure 6: The impact of the CEO statement on applications from non-white men and women for permanent positions



Notes: Figure (a) illustrates the percentage of non-white men (left) and non-white women (right) that apply for a permanent analyst position in the baseline (T0, light grey) and CEO statement treatment (T1, dark grey). Figure (b) illustrates the percentage of non-white men (left) and non-white women (right) that apply for a permanent analyst position in CEO control treatment (T2, light grey) and CEO statement treatment (T1, dark grey). 90% confidence intervals are shown. Non-whites include Asian, African and Hispanic Americans.

3.3 Experimental Results: Growth Mindset

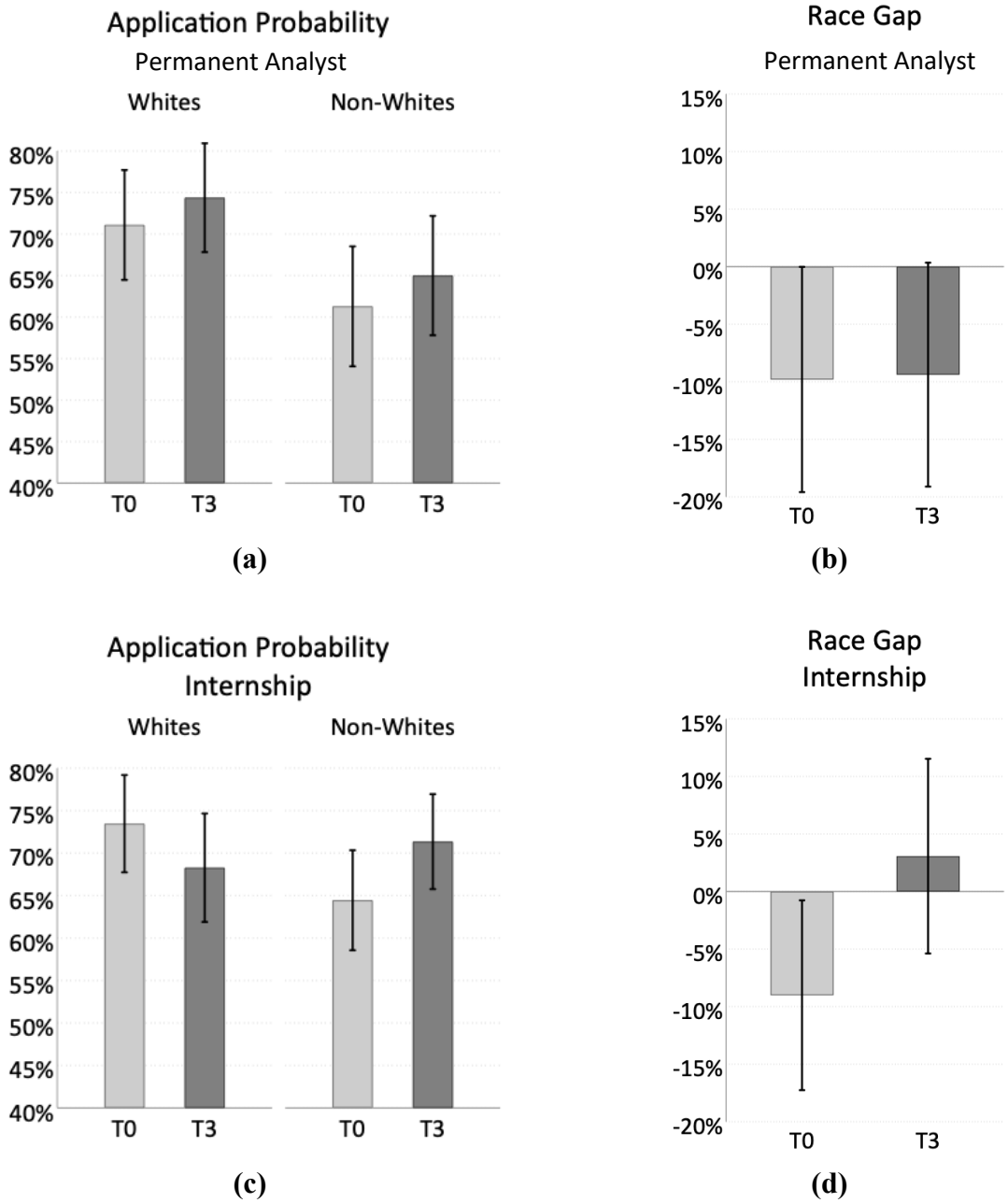
The *CEO Statement* treatment does not impact application rates of non-white women nearly as strongly as non-white men. However, other approaches may be more effective in encouraging female ethnic minorities to throw their hat in the ring and apply. One such approach that has emerged from the psychology literature is to appeal to "growth mindset" and "malleable intelligence" theories of skill and performance. A rich lab experimental literature shows that emphasizing the idea that intelligence is not innate and immutable but rather dynamic and able to be cultivated and strengthened through practice and experience can increase confidence, performance, and willingness to actively engage among individuals from underrepresented ethnic groups in certain environments. (Emmerson and Murphy, 2015; Broda et al., 2018; Lewis and Yates, 2019, Aronson et. al. 2002, Cohen et. al. 1999). These effects are likely to be strongest for

individuals with more than one social identity from underrepresented groups (sometimes referred to as "intersectional identities") – such as women from ethnic minority groups.

Figure 7 shows application rates of whites and non-whites who apply after seeing the *Growth Mindset* treatment, vis-a-vis the baseline (7.a and 7.c), along with the race gap within each treatment (7.b and 7.d). Percentages for the job-seekers sample are shown in the first row (7.a and 7.b), while percentages for the internship population are shown in the second row (7.c and 7.d). For the permanent job seekers, there is little evidence of significant impacts of T3, either on application rates of each group individually or on the gap in application rates between the two groups. Application rates are insignificantly higher under T3 for both whites and non-whites, with estimated impacts of 3.3 pp for whites and 3.7 pp for non-whites ($p>0.55$, Table 7, models 1 and 2), the race gap is hardly affected (0.4 pp, $p=0.96$, Table 7, model 3).

Turning to the internship population, impacts on application rates within each group are also statistically non-significant, with an estimated 5.2 pp decrease for whites ($p>0.32$, Table 7, model 4), and an estimated 6.9 pp rise for non-whites ($p=0.16$, Table 7, model 5). However, it should be noted that the estimated magnitude for ethnic minorities under T3 is twice the size in the internship population and is not small (6.9 pp or 10.7%). Moreover, there is some evidence of an impact from the *Growth Mindset* treatment on the race gap: T3 changes the race gap by 12.1 pp, from -9.0 pp to 3.1 pp ($p=0.09$, Table 7, model 6).

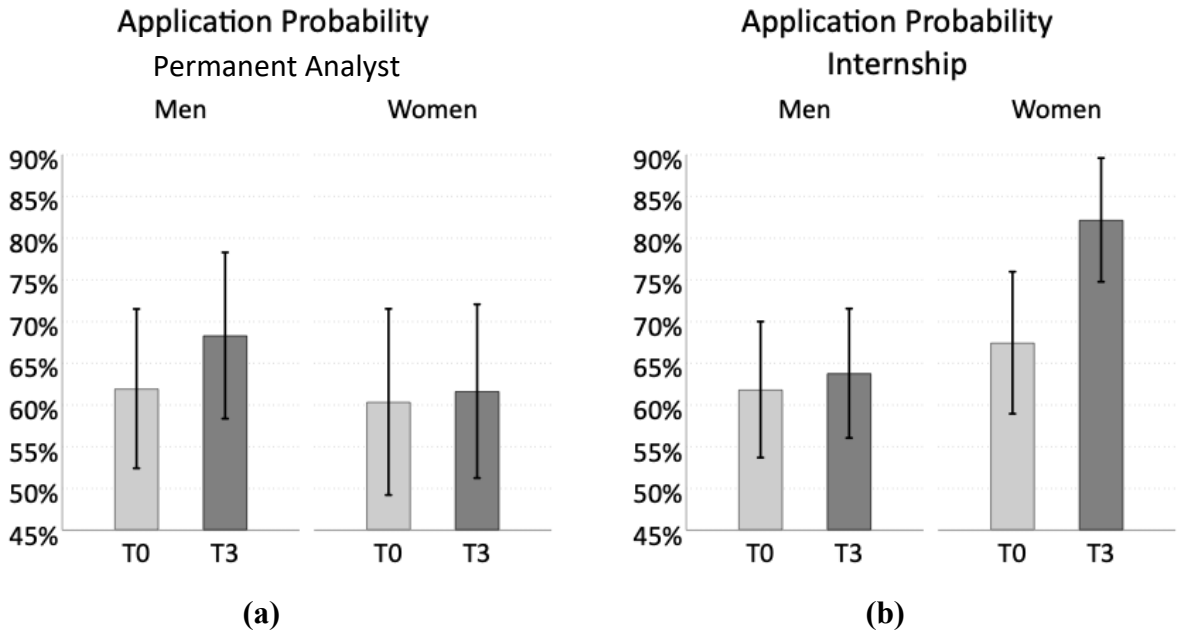
Figure 7: The impact of the Growth mindset treatment on applications for permanent and internship positions



Notes: Figure (a) illustrates the percentage of whites (left) and non-whites (right) that apply for a permanent analyst position in the baseline (T0, light grey) and growth mindset treatment (T3, dark grey). Figure (b) illustrates the corresponding racial gap in permanent analyst applications in the baseline (light grey) and growth mindset treatment (dark grey). Figure (c) illustrates the percentage of whites (left) and non-whites (right) that apply for an internship in the baseline (T0, light grey) and growth mindset treatment (T3, dark grey). Figure (b) illustrates the corresponding racial gap in internship applications in the baseline (light grey) and growth mindset treatment (dark grey). 90% confidence intervals are shown. Non-whites include Asian, African and Hispanic Americans.

Given the importance of the gender question, as discussed above, we also examine the impacts of the *Growth Mindset* treatment on male and female ethnic minorities separately, which reveals another intriguing finding. Figure 8 shows application rates among ethnic minorities split by gender, for both populations. Estimated treatment effects of T3 are positive for both men and women in both of the populations. However, they are statistically significant for only one group – non-white women. While 67.5% of ethnic minority women apply to the internship under the baseline, this ratio rises to 82.2% under the *Growth Mindset* treatment – an estimated effect of 14.7 pp, or 22% (p=0.03, Table 8, model 5, Panel B).

Figure 8: The impact of the Growth mindset treatment on applications from non-white men and women for permanent and internship positions



Notes: Figure (a) illustrates the percentage of non-white men (left) and non-white women (right) that apply for a permanent analyst position in the baseline (T0, light grey) and growth mindset treatment (T3, dark grey). Figure (b) illustrates the corresponding findings for the internship position. 90% confidence intervals are shown. Non-whites include Asian, African and Hispanic Americans.

The above findings lead to our fifth main result.

Result 5: *Whereas the CEO Statement treatment has impacts on permanent job seekers and not the internship populations, the Growth Mindset treatment has impacts on the internship population and not the job-seeker population. Treatment T3 changes the race gap in application probabilities*

by 12.1 pp, closing the gap. In addition, it has a substantial impact on ethnic minority women in the internship population, raising application rates by 14.7 pp (22%), and no negative impacts on application rates by whites.

3.4 Experimental Results: Competitive Advantage and Team Orientation

Next, we investigate whether emphasizing a firm's valuation of diversity as a competitive advantage increases application rates of ethnic minorities. We report the impact of treatments on applications by whites (Panel A) and ethnic minorities (Panel B) in Table 9, and also separately for men and women. Comparing application rates of non-whites in the two competitive advantage treatments T4 and T5 to the baseline, we find no clear evidence for a positive impact as conjectured in Hypothesis 3. In T4, 65.2% of non-whites applying to a permanent analyst position, which is an insignificant increase of 3.9 pp compared to T0 ($p=0.53$, Table 9, model 1, Panel B). In T5, 58.0% of non-whites apply to a permanent position, which is an insignificant decrease of 3.3 pp compared to T0 ($p=0.60$, Table 9, model 1, Panel B). With regards to the internship position, we find that 62.1% in T4 and 66.9% in T5 apply, both insignificantly different from the 64.4% application likelihood of non-whites in the baseline ($p>0.63$, Table 9, model 2, Panel B). Further analysis shows that these two treatments do not significantly increase application likelihoods for either men or women among non-whites ($p>0.52$, Table 9, models 3-6, Panel B) and also do not affect application likelihoods for whites ($p>0.11$, Table 9, models 1-6, Panel A), regardless of whether it is for a permanent analyst position or an internship position and for either gender separately. The only exception is a slightly negative effect of the treatment *Competitive Advantage with Stats* (T5) on the application likelihood of whites for internships ($p=0.09$, Table 9, model 2, Panel A).

Lastly, we investigate whether emphasizing a firm's valuation of team orientation increases application rates of non-whites. Focusing first on permanent positions, we find that application rates of ethnic minorities are lower in treatment *Team Orientation* (T6) (49.6 %, -11.7 pp) than in the baseline, which is statistically significant ($p=0.07$, Table 9, model 1, Panel B). Application rates for non-whites are higher in the two other team orientation treatments T7 (64.8%) and T8 (66.4%) and higher than in the baseline, but the differences are not statistically significant ($p>0.41$, Table 9, model 1, Panel B). We do not find any evidence that team orientation affects application rates of non-whites for internship positions. Corresponding application rates in these treatments vary from 61.3% (T7) to 67.5% (T8) and are similar to the baseline (64.4%, $p>0.54$, Table 9, model

2, Panel B). Further analysis shows that the three team orientation treatments do not significantly increase application likelihoods for either gender among non-whites ($p>0.10$, Table 9, models 3-6, Panel B) and also do not affect application likelihoods for whites ($p>0.12$, Table 9, models 1-6, Panel A), regardless of whether it is for a permanent analyst position or an internship position and for either gender separately.

Result 6: *We do not find that emphasizing diversity as a competitive advantage has a significant positive impact on the application likelihoods of whites and non-whites for permanent analyst or for internship positions. We also do not find that team-oriented pro-diversity statements have any corresponding significant impacts.*

4. Discussion and Conclusion

The toolkit to tackle the persistent lack of workplace diversity mainly consists of drastic policy measures, including mandatory quotas and extensive audits. This study explores a different and much less invasive measure in a large-scale natural field experiment. We investigate signals in job advertisements and the extent to which they encourage applications from diverse job seekers. Our design reveals that there are important self-selection barriers of ethnic minorities in the baseline recruitment process of the studied organization: ethnic minorities are almost ten percentage points less likely than whites to submit a job application after already expressing interest. Importantly, we find that two of our signaling treatments (*CEO Statement* and *Growth Mindset*) have powerful impacts on the probability of applications by ethnic minorities, completely closing the race gap, and moving it even slightly in favor of racial minorities. There are intriguing heterogeneities in the impacts – with the impacts of the CEO statement being driven largely by racial minority males in the job-seeker population and those of *Growth Mindset* driven by racial minority females in the internship population.

More evidence is certainly desirable to confirm the robustness and scope of these signaling treatments and in particular of the functioning of the *Growth Mindset*. Our study is a first attempt to experimentally investigate its impact in the context of employee attraction more generally and with regards to underrepresented minorities specifically. Our *Growth Mindset* findings are significant on their own but unlikely to hold significance under stringent multiple hypotheses

correction procedures, unlike our *CEO Statement* findings.[16] An experimental study exclusively testing *Growth Mindset* with a sufficiently large pool of minority job seekers could strengthen the confidence in this treatment as a tool to attract minorities. In particular, it would be useful to combine the *Growth Mindset* with the *CEO Statement* and investigate whether this encourages underrepresented minorities of either gender to apply in both career stages.

Signaling treatments can be viewed as alternative tools that offer important practical advantages beyond their less invasive nature. They provide an effective approach to increasing demographic diversity among employees that is softer and less overt, attracting individuals from underrepresented groups without directly mentioning applicant origins or social background, and without even mentioning diversity. This is important for a variety of reasons – from avoiding stigmatization of minorities to preventing backlash.[17] They also have the advantage of not relying on prospective employees believing that the firm is already diverse. Such beliefs are likely to be influenced by a number of factors. For example, in our experiment the highlighting of the business case for diversity may be interpreted as an attempt to acquire something the firm lacks, and this could explain why the business case treatments had no positive impact as minorities are likely more attracted to more diverse workplaces. In addition, if the reason diversity is seen as a business advantage is that it creates an image appealing to customers and investors, rather than raising skills and productivity, there is less reason to expect fewer negative stereotypes in the workplace or to expect leadership investment in minority employees.

The similarities and differences across the two different populations in this study (permanent analyst position and summer internship), combined with the population in Flory et al. (2021), who study applications to a professional workshop in the same organization, offers important insights on the role that career stage and stakes can play in the power of different types of appeals to encourage highly qualified racial minorities to apply to high-profile positions and career tracks. In the baseline condition, there is a sizable race gap between majorities and minorities in probability

[16] For example, if we apply the Benjamini-Hochberg correction (Benjamini and Hochberg, 1995) to families of hypotheses, which balances between reducing the likelihood of 'false-positive' and limiting the probability of 'false-negative' results due to reduced power, the results for hypotheses 1 and 2 remain significant after applying the correction; however, the results for hypothesis 3 do not meet the significance level.

[17] This can be very useful from a practical perspective for several reasons. For example, some organizations are less comfortable making explicit appeals to increase employee demographic diversity, even in cases where it is an organizational priority. Backlash against explicit pro-diversity initiatives by employers has also become a concern in some settings (Leibbrandt and List, 2018). In addition, there is the risk of stigmatizing minorities – causing other employees to believe an individual was hired in order to satisfy the desire for more diversity rather than because of skill, ability, or potential.

of submitting an application, conditional on expressing interest, across all three populations. However, the power of the different types of appeals to encourage high-quality candidates to apply differs markedly across the three populations. In particular, we observe that leadership signals – in the form of the CEO stating diversity as a core value – become important later in the career stage when employment spans and stakes increase.

Not unlike other tools to increase workplace diversity, there is the question whether the newly attracted applicants are qualified for the positions that they apply to. In this study, we use the advancement in the hiring process as a proxy to measure the quality of applications.[18] Applicants go through a careful and extensive assessment process by several different parties, which were blind to treatment. Overall, the progress in the hiring process does not differ significantly across treatments - neither for white and non-white applicants pooled nor for non-white applicants separately, indicating that the qualification of attracted applicants is comparable.[19]

We view our study as a significant step towards identifying job environments that increase workplace diversity. Our study goes beyond oversimplified solution approaches and shows that signaling tools need to take into account the type of diversity (e.g. gender and ethnicity) and career stage. We encourage future research to expand these dimensions and investigate other types of diversity (e.g. age, sexual orientation, neurodiversity) and later career stages (e.g. internal promotion applications) to further close the gap.

[18] We could identify hiring stages for 1,234 analyst applications and for 1,619 internship applications. A detailed analysis of the hiring stages is available upon request.
[19] A detailed analysis is included in Appendix C.

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TABLES

Table 2. Ethnicity and gender distribution across treatments

	Treatment									
	T0	**T1**	**T2**	**T3**	**T4**	**T5**	**T6**	**T7**	**T8**	**Total**
Full sample	**607**	**609**	**587**	**580**	**614**	**601**	**564**	**605**	**597**	**5,364**
White	295	322	292	273	317	281	274	283	302	**2,639**
	48.6%	52.9%	49.7%	47.1%	51.6%	46.8%	48.6%	46.8%	50.6%	**49.2%**
Ethnic Minority	312	287	295	307	297	320	290	322	295	**2,725**
	51.4%	47.1%	50.3%	52.9%	48.4%	53.2%	51.4%	53.2%	49.4%	**50.8%**
Asian	*264*	*251*	*259*	*266*	*255*	*277*	*246*	*265*	*266*	***2,349***
Black/ African American	*26*	*14*	*20*	*15*	*11*	*23*	*22*	*33*	*18*	***182***
Hispanic/ Latino	*22*	*22*	*16*	*26*	*31*	*20*	*22*	*24*	*11*	***194***
Men	380	411	364	358	371	383	351	371	377	**3,366**
	62.6%	67.5%	62.0%	61.7%	60.4%	63.7%	62.2%	61.3%	63.2%	**62.8%**
Women	227	198	223	222	243	218	213	234	220	**1,998**
	37.4%	32.5%	38.0%	38.3%	39.6%	36.3%	37.8%	38.7%	36.9%	**37.3%**
Permanent analyst position	**252**	**248**	**231**	**241**	**231**	**247**	**234**	**263**	**257**	**2,204**
Ethnic Minority	49.2%	48.0%	49.8%	49.8%	49.8%	53.0%	48.3%	52.9%	47.5%	**49.8%**
Women	36.5%	32.7%	42.0%	44.8%	42.4%	38.5%	40.2%	43.0%	37.4%	**39.7%**
Internship	**342**	**347**	**339**	**323**	**369**	**340**	**311**	**325**	**331**	**3,027**
Ethnic Minority	52.6%	45.8%	51.3%	55.1%	47.2%	53.2%	53.4%	53.2%	50.2%	**51.2%**
Women	38.9%	32.6%	35.1%	33.8%	37.4%	35.3%	36.0%	35.7%	36.0%	**35.7%**

Table 3. Application Rates: Baseline

	(1) Permanent Analyst Job Seekers	(2) Internship Sample	(3) Both Samples Pooled
Panel A: Male and Female Candidates			
Ethnic minority	-0.0980	-0.0901*	-0.0926**
	(0.0596)	(0.0499)	(0.0382)
Constant	0.711***	0.735***	0.724***
	(0.0402)	(0.0348)	(0.0263)
Observations	252	342	594
R-squared	0.011	0.009	0.010
Panel B: Male Candidates			
Ethnic minority	-0.0994	-0.131**	-0.117**
	(0.0752)	(0.0644)	(0.0488)
Constant	0.719***	0.750***	0.736***
	(0.0479)	(0.0411)	(0.0312)
Observations	160	209	369
R-squared	0.011	0.020	0.016
Panel C: Female Candidates			
Ethnic minority	-0.0885	-0.0253	-0.0496
	(0.101)	(0.0834)	(0.0640)
Constant	0.692***	0.700***	0.697***
	(0.0747)	(0.0653)	(0.0489)
Observations	92	133	225
R-squared	0.008	0.001	0.003

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample are male and female candidates in Panel A and only male (female) candidates in Panel B (C). Observations are from treatment Baseline (T0) of the permanent analyst sample in model (1), the internship sample in model (2), and both samples pooled in model (3).

Table 4. CEO Statement Impact on Application Rates: Permanent Analyst Job Seekers

	Comparing vs Baseline			Comparing vs CEO Control		
	(1) Whites T0 and T1	(2) Minority T0 and T1	(3) All Subjects T0 and T1	(4) Whites T2 and T1	(5) Minority T2 and T1	(6) All Subjects T2 and T1
CEO Statement (T1)	-0.0288	0.135**	-0.0288	-0.0592	0.217***	-0.0592
	(0.0576)	(0.0594)	(0.0576)	(0.0580)	(0.0615)	(0.0580)
Ethnic minority			-0.0980			-0.211***
			(0.0596)			(0.0621)
CEO Statement (T1) * Ethnic minority			0.164**			0.277***
			(0.0827)			(0.0845)
Constant	0.711***	0.613***	0.711***	0.741***	0.530***	0.741***
	(0.0402)	(0.0439)	(0.0402)	(0.0408)	(0.0467)	(0.0408)
Observations	257	243	500	245	234	479
R-squared	0.001	0.021	0.011	0.004	0.051	0.034

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample is the permanent analyst sample. Observations are from the treatments Baseline (T0) and CEO Statement (T1) in models (1)-(3) and from the treatments CEO Control (T2) and CEO Statement (T1) in models (4)–(6).

Table 5. CEO Statement Impact on Application Rates: Internship Sample

	Comparing vs Baseline			Comparing vs CEO Control		
	(1) Whites T0 and T1	(1) Minority T0 and T1	(1) All Subjects T0 and T1	(4) Whites T2 and T1	(5) Minority T2 and T1	(6) All Subjects T2 and T1
CEO Statement (T1)	0.0367	0.0222	0.0367	0.0501	0.0690	0.0501
	(0.0464)	(0.0518)	(0.0464)	(0.0466)	(0.0529)	(0.0466)
Ethnic minority			-0.0901*			-0.124**
			(0.0499)			(0.0511)
CEO Statement (T1) * Ethnic minority			-0.0145			0.0189
			(0.0696)			(0.0705)
Constant	0.735***	0.644***	0.735***	0.721***	0.598***	0.721***
	(0.0348)	(0.0358)	(0.0348)	(0.0350)	(0.0373)	(0.0350)
Observations	350	339	689	353	333	686
R-squared	0.002	0.001	0.013	0.003	0.005	0.020

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample is the internship sample. Observations are from the treatments Baseline (T0) and CEO Statement (T1) in models (1)-(3) and from the treatments CEO Control (T2) and CEO Statement (T1) in models (4)–(6).

Table 6. CEO Statement Impact on Men's and Women's Application Rates: Permanent Analyst Job Seekers

	Comparing vs Baseline			Comparing vs CEO Control		
	(1) Whites T0 and T1	(2) Minority T0 and T1	(3) All Subjects T0 and T1	(4) Whites T2 and T1	(5) Minority T2 and T1	(6) All Subjects T2 and T1
Panel A: Male Candidates						
CEO Statement (T1)	-0.0452	0.154**	-0.0452	-0.0476	0.301***	-0.0476
	(0.0686)	(0.0757)	(0.0687)	(0.0706)	(0.0835)	(0.0707)
Ethnic minority			-0.0994			-0.249***
			(0.0752)			(0.0847)
CEO Statement (T1) * Ethnic minority			0.199*			0.348***
			(0.102)			(0.109)
Constant	0.719***	0.620***	0.719***	0.722***	0.473***	0.722***
	(0.0479)	(0.0580)	(0.0479)	(0.0507)	(0.0678)	(0.0508)
Observations	181	146	327	171	130	301
R-squared	0.002	0.028	0.014	0.003	0.096	0.048
Panel B: Female Candidates						
CEO Statement (T1)	0.0104	0.101	0.0104	-0.0811	0.121	-0.0811
	(0.107)	(0.0972)	(0.107)	(0.103)	(0.0946)	(0.102)
Ethnic minority			-0.0885			-0.200**
			(0.101)			(0.0940)
CEO Statement (T1) * Ethnic minority			0.0904			0.202
			(0.144)			(0.139)
Constant	0.692***	0.604***	0.692***	0.784***	0.583***	0.784***
	(0.0749)	(0.0679)	(0.0748)	(0.0686)	(0.0643)	(0.0685)
Observations	76	97	173	74	104	178
R-squared	0.000	0.011	0.009	0.009	0.015	0.026

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample is the permanent analyst sample and only male (female) observations in Panel A (B). Observations are from the treatments Baseline (T0) and CEO Statement (T1) in models (1)–(3) and from the treatments CEO Control (T2) and CEO Statement (T1) in models (4)–(6).

Table 7. Growth Mindset Impact on Application Rates

	Permanent Analyst Job Seekers			Internship Sample		
	(1) Whites T0 and T3	(2) Minority T0 and T3	(3) All Subjects T0 and T3	(4) Whites T0 and T3	(5) Minority T0 and T3	(6) All Subjects T0 and T3
Growth Mindset (T3)	0.0329	0.0371	0.0329	-0.0518	0.0690	-0.0518
	(0.0566)	(0.0620)	(0.0566)	(0.0521)	(0.0493)	(0.0521)
Ethnic minority			-0.0980			-0.0901*
			(0.0596)			(0.0499)
Growth Mindset (T3) * Ethnic minority			0.00423			0.121*
			(0.0839)			(0.0718)
Constant	0.711***	0.613***	0.711***	0.735***	0.644***	0.735***
	(0.0402)	(0.0439)	(0.0402)	(0.0348)	(0.0358)	(0.0348)
Observations	249	244	493	307	358	665
R-squared	0.001	0.001	0.012	0.003	0.005	0.006

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample is the permanent analyst sample in models (1)–(3) and the internship sample in models (4)–(6). Observations are from the treatments Baseline (T0) and Growth Mindset (T3).

Table 8. Growth Mindset Impact on Men's and Women's Application Rates

	Permanent Analyst Job Seekers			Internship Sample		
	(1) Whites T0 and T3	(2) Minority T0 and T3	(3) All Subjects T0 and T3	(4) Whites T0 and T3	(5) Minority T0 and T3	(6) All Subjects T0 and T3
Panel A: Male Candidates						
Growth Mindset (T3)	-0.00677	0.0636	-0.00677	-0.0528	0.0195	-0.0528
	(0.0717)	(0.0839)	(0.0717)	(0.0604)	(0.0684)	(0.0604)
Ethnic minority			-0.0994			-0.131**
			(0.0753)			(0.0644)
Growth Mindset (T3) * Ethnic minority			0.0704			0.0723
			(0.110)			(0.0912)
Constant	0.719***	0.620***	0.719***	0.750***	0.619***	0.750***
	(0.0479)	(0.0581)	(0.0480)	(0.0411)	(0.0496)	(0.0411)
Observations	162	131	293	221	202	423
R-squared	0.000	0.004	0.007	0.003	0.000	0.012
Panel B: Female Candidates						
Growth Mindset (T3)	0.0994	0.0129	0.0994	-0.0611	0.147**	-0.0611
	(0.0954)	(0.0928)	(0.0953)	(0.104)	(0.0686)	(0.104)
Ethnic minority			-0.0885			-0.0253
			(0.101)			(0.0834)
Growth Mindset (T3) * Ethnic minority			-0.0865			0.208*
			(0.133)			(0.125)
Constant	0.692***	0.604***	0.692***	0.700***	0.675***	0.700***
	(0.0748)	(0.0678)	(0.0747)	(0.0656)	(0.0518)	(0.0653)
Observations	87	113	200	86	156	242
R-squared	0.013	0.000	0.026	0.004	0.028	0.024

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample is the permanent analyst sample in models (1)–(3) and the internship sample in models (4)–(6). Observations are from the treatments Baseline (T0) and Growth Mindset (T3) and only male (female) observations in Panel A (B).

Table 9. Competitive Advantage and Team Orientation Statements: Impact on Application Rates

	Pooled		Men		Women	
	(1) Permanent job	(2) Internship	(3) Permanent job	(4) Internship	(5) Permanent job	(6) Internship
Panel A: Whites						
Comp. Adv. (T4)	0.0477	-0.0628	0.0782	-0.0601	-0.00183	-0.0636
	(0.0567)	(0.0485)	(0.0671)	(0.0580)	(0.104)	(0.0887)
Comp. Adv. w/ Stats (T5)	-0.0558	-0.0868*	-0.117	-0.0711	0.0956	-0.120
	(0.0599)	(0.0515)	(0.0722)	(0.0609)	(0.104)	(0.0963)
Team Orientation (T6)	-0.0167	0.0516	-0.0132	0.0425	-0.0256	0.0692
	(0.0582)	(0.0488)	(0.0691)	(0.0570)	(0.109)	(0.0945)
Team Orientation w/ Stats (T7)	-0.0900	-0.0372	-0.116	-0.0441	-0.0452	-0.0333
	(0.0594)	(0.0511)	(0.0749)	(0.0587)	(0.101)	(0.106)
Team Orientation – Seeking (T8)	0.00758	-0.0740	0.0121	-0.129**	-0.00183	0.0551
	(0.0559)	(0.0508)	(0.0666)	(0.0611)	(0.104)	(0.0902)
Constant	0.711***	0.735***	0.719***	0.750***	0.692***	0.700***
	(0.0402)	(0.0348)	(0.0479)	(0.0411)	(0.0748)	(0.0655)
Observations	740	978	497	691	243	287
R-squared	0.009	0.010	0.022	0.014	0.008	0.020
Panel B: Ethnic minorities						
Comp. Adv. (T4)	0.0393	-0.0238	0.0243	-0.000910	0.0569	-0.0497
	(0.0626)	(0.0514)	(0.0855)	(0.0693)	(0.0931)	(0.0773)
Comp. Adv. w/ Stats (T5)	-0.0328	0.0241	-0.0255	0.0391	-0.0393	0.0110
	(0.0617)	(0.0501)	(0.0832)	(0.0671)	(0.0929)	(0.0762)
Team Orientation (T6)	-0.117*	-0.00589	-0.147	-0.00565	-0.0865	-0.00347
	(0.0645)	(0.0518)	(0.0893)	(0.0710)	(0.0947)	(0.0758)
Team Orientation w/ Stats (T7)	0.0346	-0.0317	0.0426	0.0481	0.0253	-0.120
	(0.0599)	(0.0516)	(0.0795)	(0.0704)	(0.0918)	(0.0755)
Team Orientation – Seeking (T8)	0.0510	0.0303	0.0420	0.0481	0.0629	0.0110
	(0.0614)	(0.0511)	(0.0819)	(0.0693)	(0.0937)	(0.0762)
Constant	0.613***	0.644***	0.620***	0.619***	0.604***	0.675***
	(0.0439)	(0.0358)	(0.0581)	(0.0496)	(0.0678)	(0.0518)
Observations	744	1,040	399	589	345	451
R-squared	0.013	0.002	0.016	0.002	0.012	0.010

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample is the permanent analyst sample in models (1), (3), and (5) and the internship sample in models (2), (4), and (6). Observations are from the treatments Baseline (T0) as well as T4 through T8. Regressions are presented for both gender (1 and 2), men only (3 and 4), and women only (5 and 6) as well as whites and ethnic minorities in Panel A and B, respectively.

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APPENDIX

Appendix A. Webpage and Treatment Language

Figure A1: Screenshot of application webpage (Baseline condition) with Company identifying information blacked out

Table A1: Treatment Language

Message Type	Treatment	Language
Baseline	T0	Company X needs you!
CEO Statement	T1	Wherever you're from, whatever your background, Company X needs you! "We need diversity in our skills and our minds, this does not change our principles but emboldens our principles." (XXX, CEO Company X)
CEO Control	T2	Wherever you're from, whatever your background, Company X needs you! We need diversity in our skills and our minds, this does not change our principles but emboldens them.

Growth Mindset	T3	Company X needs you! We encourage you to apply, even if you are uncertain whether you are a strong fit for the financial sector. Many skills may be learned or strengthened through experience within our firm.
Business Case: Competitive	T4	Wherever you're from, whatever your background, Company X needs you! At Company X, we believe that inclusion and diversity are key to our success. By fully leveraging our diverse experiences, backgrounds and insights, we inspire innovation, challenge the status quo and create better outcomes for our people and our clients. Making inclusion and diversity a competitive advantage is front and center for us.
Business Case: Competitive + Stats	T5	Wherever you're from, whatever your background, Company X needs you! At Company X, we believe that inclusion and diversity are key to our success. By fully leveraging our diverse experiences, backgrounds and insights, we inspire innovation, challenge the status quo and create better outcomes for our people and our clients. Making inclusion and diversity a competitive advantage is front and center for us. In 201X, • 45% of our Analyst class were women, and • 52% were ethnically diverse.
Business Case: Team	T6	Company X needs you! We employ a diverse team of individuals from many different walks of life because we believe that inclusion and diversity are key to our success. By fully leveraging our diverse experiences, backgrounds, and insights, we inspire innovation, challenge the status quo, and create better outcomes for our people and clients.
Business Case: Team + Stats	T7	Company X needs you! We employ a diverse team of individuals from many different walks of life because we believe that inclusion and diversity are key to our success. By fully leveraging our diverse experiences, backgrounds, and insights, we inspire innovation, challenge the status quo, and create better outcomes for our people and clients. In 201X, • 45% of our Analyst class were women, and • 52% were ethnically diverse.
Business Case: Team + Seeking	T8	Company X needs you! We seek a diverse team of individuals from many different walks of life because we believe that inclusion and diversity are key to our success. By fully leveraging our diverse experiences, backgrounds, and insights, we inspire innovation, challenge the status quo, and create better outcomes for our people and clients.

Appendix B. Robustness Checks

In the subsections of Appendix B, we present two robustness checks, in which only Black or African Americans and Hispanics or Latinos are defined as minorities. We compare their application behavior with the application likelihood of Whites (Appendix B.1) and with the applications of Whites and Asians (Appendix B.2). Tables B1.3 – B1.9 and Tables B2.3 – B2.9 correspond to the respective Tables 3 – 9 in the main text. Note that the sample of ethnic minorities is very small in both robustness checks.

Yet, several results remain significant: For instance, the treatment effect of *CEO Statement* on ethnic minorities and on the race gap remains significant for the permanent analyst sample (compared to *CEO Control*; Table B1.4, models 5 and 6; Table B2.4, models 5 and 6). And is also to a large extent driven by male African Americans and Hispanics (Table B1.6, panel A, models 5 and 6; Table B2.6, panel A, models 5 and 6). The effect sizes are even larger in both robustness checks and this is also true for female ethnic minorities (Table B1.6, panel B, models 5 and 6; Table B2.6, panel B, models 5 and 6). Though the comparison to the Baseline condition becomes insignificant, the effect sizes are comparable to those in the main text (Table B1.4 and B1.6, models 2 and 3; Table B2.4 and B1.6, models 2 and 3).

Similarly, *Growth Mindset* significantly increases internship applications by African American and Hispanic women significantly and reverts the race gap (Table B1.8, panel B, models 5 and 6; Table B2.8, panel B, models 5 and 6). The effect sizes of the *Growth Mindset* treatment are larger for Blacks and Latinos in the internship sample (Table B1.7 and B1.8, models 5 and 6; Table B2.7 and B2.8, models 5 and 6).

Appendix B.1 White as majority, Black/ African American and Hispanic/ Latino as minority

Table B1.3. Application Rates: Baseline

	(1) Permanent Analyst Job Seekers	(2) Internship Sample	(3) Both Samples Pooled
Panel A: Male and Female Candidates			
Ethnic Minority	-0.0443	-0.142	-0.0991
	(0.111)	(0.101)	(0.0749)
Constant	0.711***	0.735***	0.724***
	(0.0403)	(0.0349)	(0.0263)
Observations	149	189	338
R-squared	0.001	0.012	0.006
Panel B: Male Candidates			
Ethnic Minority	0.156	-0.131	-0.0467
	(0.128)	(0.114)	(0.0918)
Constant	0.719***	0.750***	0.736***
	(0.0481)	(0.0412)	(0.0312)
Observations	97	133	230
R-squared	0.009	0.012	0.001
Panel C: Female Candidates			
Ethnic Minority	-0.154	-0.200	-0.170
	(0.160)	(0.218)	(0.126)
Constant	0.692***	0.700***	0.697***
	(0.0754)	(0.0660)	(0.0492)
Observations	52	56	108
R-squared	0.020	0.018	0.019

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample are male and female candidates in Panel A and only male (female) candidates in Panel B (C). Observations are from treatment Baseline (T0) of the permanent analyst sample in model (1), the internship sample in model (2), and both samples pooled in model (3).

Table B1.4. CEO Statement Impact on Application Rates: Permanent Analyst Job Seekers

	Comparing vs Baseline			Comparing vs CEO Control		
	(1) Whites T0 and T1	(2) Minority T0 and T1	(3) All Subjects T0 and T1	(4) Whites T2 and T1	(5) Minority T2 and T1	(6) All Subjects T2 and T1
CEO Statement (T1)	-0.0288	0.103	-0.0288	-0.0592	0.436**	-0.0592
	(0.0576)	(0.160)	(0.0577)	(0.0580)	(0.175)	(0.0582)
Ethnic Minority			-0.0443			-0.408***
			(0.111)			(0.129)
CEO Statement (T1) * Ethnic Minority			0.131			0.495***
			(0.167)			(0.180)
Constant	0.711***	0.667***	0.711***	0.741***	0.333**	0.741***
	(0.0402)	(0.106)	(0.0403)	(0.0408)	(0.126)	(0.0410)
Observations	257	34	291	245	28	273
R-squared	0.001	0.012	0.002	0.004	0.190	0.040

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample is the permanent analyst sample. Observations are from the treatments Baseline (T0) and CEO Statement (T1) in models (1)=(3) and from the treatments CEO Control (T2) and CEO Statement (T1) in models (4)–(6).

Table B1.5. CEO Statement Impact on Application Rates: Internship Sample

	Comparing vs Baseline			Comparing vs CEO Control		
	(1) Whites T0 and T1	(1) Minority T0 and T1	(1) All Subjects T0 and T1	(4) Whites T2 and T1	(5) Minority T2 and T1	(6) All Subjects T2 and T1
CEO Statement (T1)	0.0367	0.0892	0.0367	0.0501	0.158	0.0501
	(0.0464)	(0.140)	(0.0465)	(0.0466)	(0.151)	(0.0467)
Ethnic Minority			-0.142			-0.197*
			(0.101)			(0.115)
CEO Statement (T1) * Ethnic Minority			0.0525			0.108
			(0.145)			(0.155)
Constant	0.735***	0.593***	0.735***	0.721***	0.524***	0.721***
	(0.0348)	(0.0966)	(0.0349)	(0.0350)	(0.112)	(0.0351)
Observations	350	49	399	353	43	396
R-squared	0.002	0.008	0.011	0.003	0.026	0.016

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample is the internship sample. Observations are from the treatments Baseline (T0) and CEO Statement (T1) in models (1)=(3) and from the treatments CEO Control (T2) and CEO Statement (T1) in models (4)–(6).

Table B1.6. CEO Statement Impact on Men's and Women's Application Rates: Permanent Analyst Job-Seekers

	Comparing vs Baseline			Comparing vs CEO Control		
	(1) Whites T0 and T1	(2) Minority T0 and T1	(3) All Subjects T0 and T1	(4) Whites T2 and T1	(5) Minority T2 and T1	(6) All Subjects T2 and T1
Panel A: Male Candidates						
CEO Statement (T1)	-0.0452	-0.125	-0.0452	-0.0476	0.417*	-0.0476
	(0.0686)	(0.206)	(0.0690)	(0.0706)	(0.234)	(0.0710)
Ethnic Minority			0.156			-0.388**
			(0.128)			(0.167)
CEO Statement (T1) * Ethnic Minority			-0.0798			0.464**
			(0.206)			(0.233)
Constant	0.719***	0.875***	0.719***	0.722***	0.333*	0.722***
	(0.0479)	(0.125)	(0.0481)	(0.0507)	(0.167)	(0.0510)
Observations	181	16	197	171	17	188
R-squared	0.002	0.026	0.009	0.003	0.174	0.031
Panel B: Female Candidates						
CEO Statement (T1)	0.0104	0.262	0.0104	-0.0811	0.467	-0.0811
	(0.107)	(0.240)	(0.108)	(0.103)	(0.290)	(0.104)
Ethnic Minority			-0.154			-0.450**
			(0.160)			(0.209)
CEO Statement (T1) * Ethnic Minority			0.251			0.548*
			(0.255)			(0.288)
Constant	0.692***	0.538***	0.692***	0.784***	0.333	0.784***
	(0.0749)	(0.147)	(0.0755)	(0.0686)	(0.213)	(0.0693)
Observations	76	18	94	74	11	85
R-squared	0.000	0.058	0.017	0.009	0.218	0.063

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample is the permanent analyst sample and only male (female) observations in Panel A (B). Observations are from the treatments Baseline (T0) and CEO Statement (T1) in models (1)–(3) and from the treatments CEO Control (T2) and CEO Statement (T1) in models (4)–(6).

Table B1.7. Growth Mindset Impact on Application Rates

	Permanent Analyst Job-Seekers			Internship Sample		
	(1) Whites T0 and T3	(2) Minority T0 and T3	(3) All Subjects T0 and T3	(4) Whites T0 and T3	(5) Minority T0 and T3	(6) All Subjects T0 and T3
Growth Mindset (T3)	0.0329	0	0.0329	-0.0518	0.141	-0.0518
	(0.0566)	(0.144)	(0.0568)	(0.0521)	(0.152)	(0.0522)
Ethnic Minority			-0.0443			-0.142
			(0.111)			(0.101)
Growth Mindset (T3) * Ethnic Minority			-0.0329			0.193
			(0.153)			(0.158)
Constant	0.711***	0.667***	0.711***	0.735***	0.593***	0.735***
	(0.0402)	(0.105)	(0.0403)	(0.0348)	(0.0969)	(0.0349)
Observations	249	45	294	307	42	349
R-squared	0.001	0.000	0.003	0.003	0.020	0.008

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The DV takes the value one if the interested candidate applied for a position and zero otherwise. The sample is the permanent analyst sample in models (1)–(3) and the internship sample in models (4)–(6). Observations are from the treatments Baseline (T0) and Growth Mindset (T3).

Table B1.8. Growth Mindset Impact on Men's and Women's Application Rates

	Permanent Analyst Job seekers			Internship Sample		
	(1) Whites T0 and T3	(2) Minority T0 and T3	(3) All Subjects T0 and T3	(4) Whites T0 and T3	(5) Minority T0 and T3	(6) All Subjects T0 and T3
Panel A: Male Candidates						
Growth Mindset (T3)	-0.00677	-0.292	-0.00677	-0.0528	0.0733	-0.0528
	(0.0717)	(0.194)	(0.0720)	(0.0604)	(0.171)	(0.0606)
Ethnic Minority			0.156			-0.131
			(0.128)			(0.114)
Growth Mindset (T3) * Ethnic Minority			-0.285			0.126
			(0.200)			(0.178)
Constant	0.719***	0.875***	0.719***	0.750***	0.619***	0.750***
	(0.0479)	(0.123)	(0.0482)	(0.0411)	(0.109)	(0.0412)
Observations	162	20	182	221	34	255
R-squared	0.000	0.097	0.011	0.003	0.006	0.007
Panel B: Female Candidates						
Growth Mindset (T3)	0.0994	0.212	0.0994	-0.0611	0.500*	-0.0611
	(0.0954)	(0.194)	(0.0961)	(0.104)	(0.236)	(0.105)
Ethnic Minority			-0.154			-0.200
			(0.160)			(0.219)
Growth Mindset (T3) * Ethnic Minority			0.112			0.561**
			(0.213)			(0.234)
Constant	0.692***	0.538***	0.692***	0.700***	0.500*	0.700***
	(0.0748)	(0.144)	(0.0753)	(0.0656)	(0.236)	(0.0662)
Observations	87	25	112	86	8	94
R-squared	0.013	0.048	0.032	0.004	0.200	0.023

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The DV takes the value one if the interested candidate applied for a position and zero otherwise. The sample is the permanent analyst sample in models (1)–(3) and the internship sample in models (4)–(6). Observations are from the treatments Baseline (T0) and Growth Mindset (T3) and only male (female) observations in Panel A (B).

Table B1.9. Competitive Advantage and Team Orientation Statements: Impact on Application Rates

	Pooled		Men		Women	
	(1) Job-Seekers	(2) Internship	(3) Job-Seekers	(4) Internship	(5) Job-Seekers	(6) Internship
Panel A: Whites						
Comp. Adv. (T4)	0.0477	-0.0628	0.0782	-0.0601	-0.00183	-0.0636
	(0.0567)	(0.0485)	(0.0671)	(0.0580)	(0.104)	(0.0887)
Comp. Adv. w/ Stats (T5)	-0.0558	-0.0868*	-0.117	-0.0711	0.0956	-0.120
	(0.0599)	(0.0515)	(0.0722)	(0.0609)	(0.104)	(0.0963)
Team Orientation (T6)	-0.0167	0.0516	-0.0132	0.0425	-0.0256	0.0692
	(0.0582)	(0.0488)	(0.0691)	(0.0570)	(0.109)	(0.0945)
Team Orientation w/ Stats (T7)	-0.0900	-0.0372	-0.116	-0.0441	-0.0452	-0.0333
	(0.0594)	(0.0511)	(0.0749)	(0.0587)	(0.101)	(0.106)
Team Orientation – Seeking (T8)	0.00758	-0.0740	0.0121	-0.129**	-0.00183	0.0551
	(0.0559)	(0.0508)	(0.0666)	(0.0611)	(0.104)	(0.0902)
Constant	0.711***	0.735***	0.719***	0.750***	0.692***	0.700***
	(0.0402)	(0.0348)	(0.0479)	(0.0411)	(0.0748)	(0.0655)
Observations	740	978	497	691	243	287
R-squared	0.009	0.010	0.022	0.014	0.008	0.020
Panel B: Ethnic Minorities						
Comp. Adv. (T4)	0.119	0.0324	-0.0568	-0.00794	0.128	0.167
	(0.154)	(0.140)	(0.172)	(0.162)	(0.326)	(0.301)
Comp. Adv. w/ Stats (T5)	-0.0758	0.207	-0.337*	0.150	0.128	0.357
	(0.151)	(0.133)	(0.189)	(0.164)	(0.223)	(0.261)
Team Orientation (T6)	-0.238	-0.0688	-0.446**	-0.0736	-0.110	0
	(0.153)	(0.148)	(0.184)	(0.191)	(0.248)	(0.277)
Team Orientation w/ Stats (T7)	-0.104	-0.114	-0.296*	-0.0357	0	-0.136
	(0.139)	(0.144)	(0.170)	(0.184)	(0.209)	(0.269)
Team Orientation – Seeking (T8)	0.103	-0.0593	-0.0972	-0.0190	0.212	-0.1000
	(0.160)	(0.164)	(0.189)	(0.195)	(0.274)	(0.322)
Constant	0.667***	0.593***	0.875***	0.619***	0.538***	0.500**
	(0.105)	(0.0968)	(0.122)	(0.110)	(0.148)	(0.219)
Observations	123	130	74	85	49	45
R-squared	0.055	0.043	0.104	0.019	0.034	0.113

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample is the permanent analyst sample in models (1), (3), and (5) and the internship sample in models (2), (4), and (6). Observations are from the treatments Baseline (T0) as well as T4 through T8. Regressions are presented for both gender (1 and 2), men only (3 and 4), and women only (5 and 6) as well as whites and ethnic minorities in Panel A and B, respectively.

Appendix B.2 White and Asian as majority, Black/ African American and Hispanic/ Latino as minority

Table B2.3. Application Rates: Baseline

	(1) Permanent Analyst Job seekers	(2) Internship Sample	(3) Both Samples Pooled
Panel A: Male and Female Candidates			
Ethnic Minority	0.00433	-0.103	-0.0563
	(0.108)	(0.0983)	(0.0728)
Constant	0.662***	0.695***	0.681***
	(0.0312)	(0.0260)	(0.0200)
Observations	252	342	594
R-squared	0.000	0.004	0.001
Panel B: Male Candidates			
Ethnic Minority	0.211*	-0.0778	0.00730
	(0.124)	(0.112)	(0.0898)
Constant	0.664***	0.697***	0.682***
	(0.0385)	(0.0337)	(0.0253)
Observations	160	209	369
R-squared	0.010	0.003	0.000
Panel C: Female Candidates			
Ethnic Minority	-0.120	-0.193	-0.153
	(0.150)	(0.210)	(0.120)
Constant	0.658***	0.693***	0.680***
	(0.0540)	(0.0412)	(0.0327)
Observations	92	133	225
R-squared	0.008	0.007	0.008

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample are male and female candidates in Panel A and only male (female) candidates in Panel B (C). Observations are from treatment Baseline (T0) of the permanent analyst sample in model (1), the internship sample in model (2), and both samples pooled in model (3).

Table B2.4. CEO Statement Impact on Application Rates: Permanent Analyst Job seekers

	Comparing vs Baseline			Comparing vs CEO Control		
	(1) WhtAsAm T0 and T1	(2) Minority T0 and T1	(3) All Subjects T0 and T1	(4) WhtAsAm T2 and T1	(5) Minority T2 and T1	(6) All Subjects T2 and T1
CEO Statement (T1)	0.0483	0.103	0.0483	0.0532	0.436**	0.0532
	(0.0430)	(0.160)	(0.0431)	(0.0439)	(0.175)	(0.0440)
Ethnic Minority			0.00433			-0.324**
			(0.108)			(0.126)
CEO Statement (T1) * Ethnic Minority			0.0543			0.383**
			(0.162)			(0.175)
Constant	0.662***	0.667***	0.662***	0.657***	0.333**	0.657***
	(0.0312)	(0.106)	(0.0312)	(0.0324)	(0.126)	(0.0324)
Observations	466	34	500	451	28	479
R-squared	0.003	0.012	0.003	0.003	0.190	0.021

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample is the permanent analyst sample. Observations are from the treatments Baseline (T0) and CEO Statement (T1) in models (1)=(3) and from the treatments CEO Control (T2) and CEO Statement (T1) in models (4)–(6).

Table B2.5. CEO Statement Impact on Application Rates: Internship Sample

	Comparing vs Baseline			Comparing vs CEO Control		
	(1) WhtAsAm T0 and T1	(1) Minority T0 and T1	(1) All Subjects T0 and T1	(4) WhtAsAm T2 and T1	(5) Minority T2 and T1	(6) All Subjects T2 and T1
CEO Statement (T1)	0.0309	0.0892	0.0309	0.0595	0.158	0.0595
	(0.0359)	(0.140)	(0.0359)	(0.0363)	(0.151)	(0.0363)
Ethnic Minority			-0.103			-0.143
			(0.0983)			(0.112)
CEO Statement (T1) * Ethnic Minority			0.0583			0.0985
			(0.142)			(0.152)
Constant	0.695***	0.593***	0.695***	0.667***	0.524***	0.667***
	(0.0260)	(0.0966)	(0.0260)	(0.0265)	(0.112)	(0.0265)
Observations	640	49	689	643	43	686
R-squared	0.001	0.008	0.004	0.004	0.026	0.008

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample is the internship sample. Observations are from the treatments Baseline (T0) and CEO Statement (T1) in models (1)=(3) and from the treatments CEO Control (T2) and CEO Statement (T1) in models (4)–(6).

Table B2.6. CEO Statement Impact on Men's and Women's Application Rates: Permanent Analyst

	Comparing vs Baseline			Comparing vs CEO Control		
	(1) WhtAsAm T0 and T1	(2) Minority T0 and T1	(3) All Subjects T0 and T1	(4) WhtAsAm T2 and T1	(5) Minority T2 and T1	(6) All Subjects T2 and T1
Panel A: Male Candidates						
CEO Statement (T1)	0.0525	-0.125	0.0525	0.0770	0.417*	0.0770
	(0.0525)	(0.206)	(0.0527)	(0.0560)	(0.234)	(0.0562)
Ethnic Minority			0.211*			-0.307*
			(0.124)			(0.164)
CEO Statement (T1) * Ethnic Minority			-0.178			0.340
			(0.201)			(0.228)
Constant	0.664***	0.875***	0.664***	0.640***	0.333*	0.640***
	(0.0384)	(0.125)	(0.0385)	(0.0431)	(0.167)	(0.0432)
Observations	311	16	327	284	17	301
R-squared	0.003	0.026	0.007	0.007	0.174	0.023
Panel B: Female Candidates						
CEO Statement (T1)	0.0391	0.262	0.0391	0.0160	0.467	0.0160
	(0.0755)	(0.240)	(0.0759)	(0.0723)	(0.290)	(0.0727)
Ethnic Minority			-0.120			-0.348*
			(0.150)			(0.201)
CEO Statement (T1) * Ethnic Minority			0.222			0.451
			(0.241)			(0.276)
Constant	0.658***	0.538***	0.658***	0.681***	0.333	0.681***
	(0.0537)	(0.147)	(0.0540)	(0.0491)	(0.213)	(0.0494)
Observations	155	18	173	167	11	178
R-squared	0.002	0.058	0.010	0.000	0.218	0.021

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample is the permanent analyst sample and only male (female) observations in Panel A (B). Observations are from the treatments Baseline (T0) and CEO Statement (T1) in models (1)–(3) and from the treatments CEO Control (T2) and CEO Statement (T1) in models (4)–(6).

Table B2.7. Growth Mindset Impact on Application Rates

	Permanent Analyst Job seekers			Internship Sample		
	(1) WhtAsAm T0 and T3	(2) Minority T0 and T3	(3) All Subjects T0 and T3	(4) WhtAsAm T0 and T3	(5) Minority T0 and T3	(6) All Subjects T0 and T3
Growth Mindset (T3)	0.0381	0	0.0381	0.00281	0.141	0.00281
	(0.0441)	(0.144)	(0.0442)	(0.0369)	(0.152)	(0.0369)
Ethnic Minority			0.00433			-0.103
			(0.108)			(0.0983)
Growth Mindset (T3) * Ethnic Minority			-0.0381			0.138
			(0.148)			(0.153)
Constant	0.662***	0.667***	0.662***	0.695***	0.593***	0.695***
	(0.0312)	(0.105)	(0.0312)	(0.0260)	(0.0969)	(0.0260)
Observations	448	45	493	623	42	665
R-squared	0.002	0.000	0.002	0.000	0.020	0.002

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample is the permanent analyst sample in models (1)–(3) and the internship sample in models (4)–(6). Observations are from the treatments Baseline (T0) and Growth Mindset (T3).

Table B2.8. Growth Mindset Impact on Men's and Women's Application Rates

	Permanent Analyst Job seekers			Internship Sample		
	(1) WhtAsAm T0 and T3	(2) Minority T0 and T3	(3) All Subjects T0 and T3	(4) WhtAsAm T0 and T3	(5) Minority T0 and T3	(6) All Subjects T0 and T3
Panel A: Male Candidates						
Growth Mindset (T3)	0.0463	-0.292	0.0463	-0.0301	0.0733	-0.0301
	(0.0565)	(0.194)	(0.0567)	(0.0473)	(0.171)	(0.0474)
Ethnic Minority			0.211*			-0.0778
			(0.124)			(0.112)
Growth Mindset (T3) * Ethnic Minority			-0.338*			0.103
			(0.194)			(0.174)
Constant	0.664***	0.875***	0.664***	0.697***	0.619***	0.697***
	(0.0384)	(0.123)	(0.0386)	(0.0336)	(0.109)	(0.0337)
Observations	273	20	293	389	34	423
R-squared	0.002	0.097	0.009	0.001	0.006	0.002
Panel B: Female Candidates						
Growth Mindset (T3)	0.0293	0.212	0.0293	0.0641	0.500*	0.0641
	(0.0717)	(0.194)	(0.0720)	(0.0585)	(0.236)	(0.0588)
Ethnic Minority			-0.120			-0.193
			(0.150)			(0.210)
Growth Mindset (T3) * Ethnic Minority			0.182			0.436**
			(0.202)			(0.214)
Constant	0.658***	0.538***	0.658***	0.693***	0.500*	0.693***
	(0.0537)	(0.144)	(0.0539)	(0.0411)	(0.236)	(0.0413)
Observations	175	25	200	234	8	242
R-squared	0.001	0.048	0.008	0.005	0.200	0.014

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample is the permanent analyst sample in models (1)–(3) and the internship sample in models (4)–(6). Observations are from the treatments Baseline (T0) and Growth Mindset (T3) and only male (female) observations in Panel A (B).

Table 9. Competitive Advantage and Team Orientation Statements: Impact on Application Rates

	Pooled		Men		Women	
	(1) Job-Seekers	(2) Internship	(3) Job-Seekers	(4) Internship	(5) Job-Seekers	(6) Internship
Panel A: Whites and Asians						
Comp. Adv. (T4)	0.0381	-0.0460	0.0568	-0.0348	0.0155	-0.0641
	(0.0441)	(0.0366)	(0.0560)	(0.0467)	(0.0722)	(0.0589)
Comp. Adv. w/ Stats (T5)	-0.0446	-0.0452	-0.0602	-0.0350	-0.0187	-0.0646
	(0.0450)	(0.0373)	(0.0567)	(0.0471)	(0.0748)	(0.0614)
Team Orientation (T6)	-0.0473	0.0255	-0.0296	0.0213	-0.0720	0.0326
	(0.0457)	(0.0370)	(0.0577)	(0.0470)	(0.0755)	(0.0605)
Team Orientation w/ Stats (T7)	-0.0173	-0.0297	-0.0233	-0.00138	-0.00823	-0.0834
	(0.0444)	(0.0376)	(0.0570)	(0.0470)	(0.0720)	(0.0631)
Team Orientation – Seeking (T8)	0.0262	-0.0212	0.0329	-0.0532	0.0157	0.0352
	(0.0431)	(0.0370)	(0.0536)	(0.0477)	(0.0728)	(0.0587)
Constant	0.662***	0.695***	0.664***	0.697***	0.658***	0.693***
	(0.0312)	(0.0260)	(0.0384)	(0.0336)	(0.0537)	(0.0411)
Observations	1,361	1,888	822	1,195	539	693
R-squared	0.005	0.003	0.007	0.003	0.004	0.010
Panel B: Ethnic minorities						
Comp. Adv. (T4)	0.119	0.0324	-0.0568	-0.00794	0.128	0.167
	(0.154)	(0.140)	(0.172)	(0.162)	(0.326)	(0.301)
Comp. Adv. w/ Stats (T5)	-0.0758	0.207	-0.337*	0.150	0.128	0.357
	(0.151)	(0.133)	(0.189)	(0.164)	(0.223)	(0.261)
Team Orientation (T6)	-0.238	-0.0688	-0.446**	-0.0736	-0.110	0
	(0.153)	(0.148)	(0.184)	(0.191)	(0.248)	(0.277)
Team Orientation w/ Stats (T7)	-0.104	-0.114	-0.296*	-0.0357	0	-0.136
	(0.139)	(0.144)	(0.170)	(0.184)	(0.209)	(0.269)
Team Orientation – Seeking (T8)	0.103	-0.0593	-0.0972	-0.0190	0.212	-0.1000
	(0.160)	(0.164)	(0.189)	(0.195)	(0.274)	(0.322)
Constant	0.667***	0.593***	0.875***	0.619***	0.538***	0.500**
	(0.105)	(0.0968)	(0.122)	(0.110)	(0.148)	(0.219)
Observations	123	130	74	85	49	45
R-squared	0.055	0.043	0.104	0.019	0.034	0.113

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the interested candidate applied for a position and zero otherwise. The sample is the permanent analyst sample in models (1), (3), and (5) and the internship sample in models (2), (4), and (6). Observations are from the treatments Baseline (T0) as well as T4 through T8. Regressions are presented for both gender (1 and 2), men only (3 and 4), and women only (5 and 6) as well as Whites and Asians and ethnic minorities in Panel A and B, respectively.

Appendix C. Hiring Stages

Table C1. Hiring Stages Reached by Applicants Across Treatments

	Permanent Analyst Job-Seekers			Internship		
	(1) HR Review	(2) Business Review	(3) First Interview	(4) HR Review	(5) Business Review	(6) First Interview
Panel A: Whites and Ethnic minorities						
CEO Statement (T1)	0.00377	-0.00853	0.0180	-0.00461	-0.0435	-0.0470
	(0.0444)	(0.0431)	(0.0255)	(0.0496)	(0.0489)	(0.0398)
CEO Control (T2)	0.00769	0.00714	-0.00384	-0.000925	-0.00203	-0.0565
	(0.0457)	(0.0450)	(0.0234)	(0.0516)	(0.0513)	(0.0410)
Growth Mindset (T3)	0.0925*	0.0793*	0.0473	0.0339	0.0241	-0.0618
	(0.0483)	(0.0473)	(0.0290)	(0.0516)	(0.0513)	(0.0405)
Comp. Adv. (T4)	0.00161	0.00875	0.00223	-0.0146	-0.0454	-0.0762*
	(0.0455)	(0.0451)	(0.0242)	(0.0500)	(0.0493)	(0.0389)
Comp. Adv. w/ Stats (T5)	-0.00351	-0.0115	0.0130	0.0178	0.00901	-0.0257
	(0.0461)	(0.0450)	(0.0262)	(0.0530)	(0.0525)	(0.0430)
Team Orientation (T6)	0.0197	0.0175	0.0194	0.0223	-0.0310	-0.0711*
	(0.0482)	(0.0474)	(0.0277)	(0.0518)	(0.0509)	(0.0400)
Team Orientation w/ Stats (T7)	0.0430	0.0363	0.0313	-0.0107	-0.0123	-0.0512
	(0.0476)	(0.0466)	(0.0281)	(0.0521)	(0.0518)	(0.0415)
Team Orientation – Seeking (T8)	0.0705	0.0635	0.0211	0.0111	-0.00934	-0.0203
	(0.0475)	(0.0468)	(0.0262)	(0.0528)	(0.0522)	(0.0434)
Ethnic minorities	0.0480**	0.0379*	0.00775	0.0809***	0.0598**	0.0484***
	(0.0232)	(0.0227)	(0.0136)	(0.0245)	(0.0241)	(0.0187)
Constant	0.153***	0.150***	0.0382**	0.363***	0.358***	0.191***
	(0.0323)	(0.0319)	(0.0173)	(0.0381)	(0.0379)	(0.0310)
Observations	1,234	1,234	1,234	1,619	1,619	1,619
R-squared	0.011	0.008	0.005	0.008	0.006	0.008
Panel B: Ethnic minorities						
CEO Statement (T1)	0.000197	-0.0103	0.0320	0.00876	-0.0469	-0.0751
	(0.0722)	(0.0695)	(0.0423)	(0.0724)	(0.0711)	(0.0617)
CEO Control (T2)	0.0291	0.0289	-0.00249	0.0101	0.0188	-0.107*
	(0.0796)	(0.0773)	(0.0413)	(0.0732)	(0.0728)	(0.0599)
Growth Mindset (T3)	0.0790	0.0814	0.00562	-0.0224	-0.0292	-0.121**
	(0.0779)	(0.0761)	(0.0402)	(0.0707)	(0.0700)	(0.0581)
Comp. Adv. (T4)	-0.0863	-0.0690	-0.00432	0.0117	-0.0349	-0.123**
	(0.0701)	(0.0689)	(0.0403)	(0.0732)	(0.0718)	(0.0590)
Comp. Adv. w/ Stats (T5)	-0.0311	-0.0453	0.0253	-0.0194	-0.0131	-0.0680
	(0.0730)	(0.0696)	(0.0448)	(0.0756)	(0.0753)	(0.0645)
Team Orientation (T6)	-0.0292	-0.0119	0.0171	0.0642	0.0366	-0.0400
	(0.0815)	(0.0805)	(0.0499)	(0.0748)	(0.0746)	(0.0648)
Team Orientation w/ Stats (T7)	0.0209	0.0239	0.00361	-0.0344	-0.0376	-0.0872
	(0.0742)	(0.0722)	(0.0397)	(0.0732)	(0.0721)	(0.0616)
Team Orientation – Seeking (T8)	0.0815	0.0652	0.0140	0.0136	0.0217	-0.0644
	(0.0801)	(0.0777)	(0.0432)	(0.0743)	(0.0740)	(0.0630)
Female	0.0225	0.0176	0.0324	0.114***	0.113***	0.0920***
	(0.0363)	(0.0351)	(0.0214)	(0.0351)	(0.0348)	(0.0282)
Constant	0.208***	0.194***	0.0381	0.395***	0.364***	0.228***
	(0.0552)	(0.0533)	(0.0261)	(0.0537)	(0.0534)	(0.0478)
Observations	554	554	554	810	810	810
R-squared	0.015	0.013	0.007	0.016	0.017	0.023

Notes: OLS Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. The dependent variable takes the value one if the applicant reached a particular hiring stage and zero otherwise. The hiring stages are HR review in models (1) and (4), business review in (2) and (5), and first interview in (3) and (6). The sample is the permanent analyst sample in models (1)–(3) and the internship sample in models (4)–(6). Observations are from all treatments T0 through T8. Regressions are presented for whites and ethnic minorities (Panel A) and only ethnic minorities in Panel B.