Increasing Workplace Diversity:

Evidence from a Recruiting Experiment at a Fortune 500 Company

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Abstract

The persistent lack of workplace diversity in management and leadership may lead to organizational vulnerabilities. White males occupy most high-profile positions in the largest U.S. corporations whereas African Americans, Hispanics, and women are clearly underrepresented in leadership roles. We use a natural field experiment to test means to attract minority candidates for top professional careers. We randomly vary the content in recruiting materials of a major financial services corporation with over 10,000 employees to signal the extent to which the employer values diversity among its workers. We find that signaling explicit interest in employee diversity has a strong positive effect on interest in openings among racial minority candidates, the likelihood that they apply, and the probability that they are selected. These results uncover an effective method for disrupting monocultures in management through a minor intervention that influences sorting among job-seekers into high-profile careers.

1. Introduction

Understanding and eliminating barriers to career progress based on race, gender, and other social identities, rather than on skills and ability, continues to be one of the most pressing issues of the 21st century. Removing social identity-based frictions in the flow of human capital to its most productive uses is of clear importance to economic efficiency, while demographic diversity has also become an increasingly high priority for firms throughout the economy. Estimates suggest companies spend nearly $10 billion a year on diversity and inclusion training (Hansen, 2003), some companies dedicating as much as $200 million a year or more to diversity programs (Catalyst, 2005), and the Chief Diversity Officer has by now become an established leadership position in the country's largest firms.[1] However, despite significant education gains among underrepresented groups, and substantial resources devoted to enhancing employee diversity in high-profile occupations, many firms and other organizations still struggle to increase representation by individuals from minority groups. Through a field experiment in a major US corporation, we show how simple changes in presentation can have powerful impacts on selection into high-profile opportunities by underrepresented groups.

As even a brief glance at the data will show, the managerial landscape in many U.S. companies continues to resemble monocultures. Almost 90% of Fortune 500 CEOs are white males, while less than 6% are women and less than 4% are African American or Hispanic.[2] Among all US companies with 100 or more employees, the proportion of black men in management barely increased from 3% in 1985 to 3.3% in 2014 and the proportion of white women has stayed mostly flat since 2000 at under 30% (Dobbin and Kalev, 2016). These percentages have remained remarkably low, despite significant advances in educational achievements of racial minorities and women in the last couple of decades. African Americans and women for example account for ever-larger proportions of MBA-holders in the U.S., rising from 22% in 1980 to 47% in 2014 for women and from 4% in 1990 to 14% in 2015 for African Americans (National Center for Education Statistics). This disparity suggests important barriers in the career trajectory for racial minorities and women, but also suggests significant opportunities for organizations to increase demographic diversity among employees. However, the key question remains how.

Nearly all of Fortune 500 companies and almost half of all mid-size companies in the US have programs to enhance employee diversity (Dobbin and Kalev, 2016). These programs contain a range of company-specific initiatives to reduce unintentional biases and intentional discrimination in employee

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[1] Korn Ferry, the top executive recruiting firm, states that about 60% of the Fortune 500 companies have Chief Diversity Officers, or the equivalent: https://www.kornferry.com/chief-diversity-officer-executive-search-practice.
[2] See e.g. http://fortune.com/2015/12/23/2015-women-fortune-500-ceos, http://www2.ucsc.edu/whorulesamerica/power/rise_and_fall_of_diversity.html, http://fortune.com/2016/06/06/lessons-fortune-500, http://fortune.com/2013/05/09/women-ceos-in-the-fortune-500.

recruiting and promotion, and to provide resources for underrepresented groups, such as partnerships and scholarships, as well as mentoring and support groups for minority employees. However, much remains unknown about the actual impacts of programs aiming to foster workplace diversity. This makes it very difficult to evaluate their cost-effectiveness. To make matters worse, there is suggestive evidence some diversity programs can actually backfire (Gilbert and Ivancevich, 2000; McKay and Avery, 2005; Kalev et al., 2006; Apfelbaum et al., 2016), increasing the urgency for rigorous causal analysis of the effects of different approaches.

In order to better understand how minority candidates can be attracted for future management positions, we conduct a natural field experiment in one of the largest firms in the financial services industry – a setting widely perceived to lack demographic diversity. Candidates from underrepresented groups may avoid such environments for a variety of reasons. By randomizing the content of recruiting information across individuals, we exogenously vary whether and how the employer communicates that it values diversity among its employees in order to test the effects. We also systematically vary whether the diversity statements are backed by facts in order to assess the importance of supporting information when using this type of approach to raise employee diversity. This is important since some organizations may be unable to furnish evidence on stated diversity values, and it is unclear whether individuals respond to unsupported diversity statements or instead view it as cheap talk. Finally, we compare the impact of statements that directly target candidates from underrepresented groups to statements that use a less direct appeal – since there may be settings in which an overt approach to diversity recruiting is impractical or undesirable for other reasons, and since there is suggestive evidence that some types of direct signals can actually push away skilled employees from minority groups (Leibbrandt and List, 2017).

This paper is related to a rich vein of experimental studies on gender differences in the willingness to compete (Niederle and Vesterlund, 2007; Gneezy et al., 2009; Cadsby et al., 2013; Buser et al., 2014; Buser et al., 2015; Reuben et al., 2015; Apicella et al., 2017; Buser et al., 2017; Flory et al., 2017) and how the gender gap can be reduced by affirmative action and quotas (Balafoutas and Sutter, 2012; Niederle and Vesterlund, 2013; Leibbrandt et al., 2017). It is also related to natural field experiments investigating how job applications from men and women are affected by competition in the workplace (Flory et al., 2015) and the presence of affirmative action statements (Ibanez and Riener, forthcoming). Stepping back from this literature to move in a different direction, the present study investigates how information on the value to the firm of having diversity among its employees affects interest and applications by underrepresented ethnic/racial minorities. Finally, our findings are also related to affirmative action studies in higher education (Card and Krueger, 2005; Dickson, 2006; Hinrichs, 2012).

2. Hypotheses and Experimental Design

2.1 Research Hypotheses

Underrepresented groups may be dissuaded by workplaces they perceive as lacking in demographic diversity such as race and gender for several reasons. From a pecuniary perspective, avoiding certain work environments may be a rational payoff-maximizing response to income risks from working in settings with little or no representation of one's own demographic group. This may be due to expectations of discrimination by supervisors, or unconscious biases in performance evaluations, causing an individual to believe her effort will be less rewarded in these settings. It may also be a strategic avoidance of risk that actual performance might become lower in certain work settings. Working in an environment where there are few or no other individuals of the same identity group is likely to make that identity salient, and several studies have shown that emphasizing social identities such as race and gender can undermine performance, lower effort and expected success, and increase anxiety (often referred to as "stereotype threat", Steele and Aronson, 1995, see Bertrand and Duflo, 2017 for a review). This may cause some from less represented groups to seek work settings where their social identity is less salient. From a non-pecuniary perspective, individuals may have a preference for work settings that include others from their own group, or workers from underrepresented groups may prefer environments with greater representation from a variety of different demographics.

This suggests that being perceived as lacking in diversity of social identities may cause an employer to have difficulty attracting individuals from underrepresented groups. However, it also suggests a firm may be able to increase its ability to attract such candidates by presenting itself as diverse or as placing high value on the diversity of its workforce. This leads to our first main hypothesis.

Hypothesis 1: Projecting diversity among employees as an organizational value and priority can increase interest among underrepresented groups and achieve greater demographic diversity in recruiting outcomes.

However, in some circles there is concern about an approach to workplace diversity that is too overt. There have also been reports of instances of backlash against diversity efforts, and discontent among individuals excluded from these efforts – typically, ethnic majority males.[3] Some firms and organizations may therefore be reluctant to seem as if they are intentionally trying to court underrepresented groups, while still wanting to increase their rates of recruitment.

One approach is to use an appeal to cognitive diversity, by encouraging interest among individuals from a variety of *educational* backgrounds. The conceptual basis for this type of approach is threefold.

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[3] For example, see Green (2017), Emerson (2017), Toten (2017), *CEB Talent Daily* (2017).

First, appealing to fields of study other than those typically associated with the industry, occupation, or firm can have a mechanical effect if those fields have greater proportions of underrepresented groups. Second, expressing an interest in diversity of educational background may be interpreted by job-seekers as a signal of an openness or desire for more general diversity among employees (including dimensions of social identity), which may attract candidates from underrepresented groups for reasons similar to the rationale for the more direct approach discussed above. Third, if it breaks stereotypes about skillsets needed in an industry or occupation, this may make some groups more willing to opt in (similar to studies showing increased selection into competitive settings by women when altering gender-task stereotypes – see, e.g. Shurchkov 2012; Flory et al. 2015). Breaking stereotypes may also push individuals across a System 1/System 2 divide (Stanovich and West, 2000; Kahneman, 2011), replacing an intuitive aversion to non-diverse environments with more reflective responses that cause some to opt in as a payoff-maximizing choice. This leads to our second main hypothesis.

Hypothesis 2: Projecting a desire for employees from a variety of academic fields and training, including those not commonly associated with the industry, will increase interest by underrepresented groups and achieve greater demographic diversity among selected candidates.

Finally, it is also important to know whether words are enough, or if a proven track record or commitment to employee diversity is important. The practical relevance of this question is particularly strong for organizations with little existing diversity. There are good reasons to expect facts of this nature may matter. On the one hand, individuals might interpret diversity-friendly statements as cheap talk – a cynical effort by the firm to give the appearance of trying to address a public demand or help promote a social good but without any real commitment behind it. On the other hand, even if the appeal for diversity is interpreted as being made in good faith, it might have far less effect (and potentially even backfire) if not backed up with evidence regarding the firm's priorities, values, or current conditions. For example, an attempt to get underrepresented groups to apply may be interpreted by some as an indicator of a "diversity problem" (little current diversity, lack of support once hired, etc.) – which could dampen the impacts of a diversity appeal (or even push away some candidates that might have otherwise applied). This leads to our third main hypothesis.

Hypothesis 3: Including factual information to support claims about the value of diversity among employees to the organization will increase the ability of pro-diversity statements to raise interest among underrepresented groups.

2.2 Experiment Design Overview

To uncover how to increase workplace diversity and test these hypotheses, we run a field experiment in a high profile sector perceived as lacking in diversity. The financial services industry is widely thought of as dominated by white males – this is discussed for example in the management and sociology literatures (Rivera, 2015; Ho, 2009), and regularly surfaces in the popular press.[4] This may be with good reason. In 2010, African Americans accounted for 2.7% of senior staff in financial services, while Hispanics accounted for 2.9%.[5] In 2014, a survey by the Financial Times found 23.7% of senior roles in finance were occupied by women, while a recent study of US financial services firms put the percentage for women even lower – at 20% to 22%.[6] Perceptions of lack of diversity therefore appear to have at least some support in the data. We take advantage of this setting to test whether different types of information can affect interest by underrepresented groups and recruiting outcomes.

The experiment is embedded in a recruitment drive to fill positions in a professional development program. This highly selective program introduces undergraduate freshmen and sophomores to careers in the financial industry and helps them build their professional networks and strengthen important skills like interviewing, elevator-pitching, resume design, etc. Acceptance provides a critical "foot in the door" opportunity for participants, substantially boosting their chances of post-graduate employment at the firm, and their readiness to enter and advance in the financial sector more broadly.[7]

Figure 1 illustrates the experimental protocol. The firm recruits participants by sending an email advertisement to its nationwide network of campus contacts, including career services centers, student organizations, individual business schools, departments, and job boards. The email consists of a brief announcement with a hyperlink to a webpage that has information about the firm, the program, and how to apply. We use this webpage to test the effects of different types of information on increasing interest from underrepresented groups. A randomly assigned statement at the top of the page either (i) provides information about the value the firm places on diversity among its employees; or (ii) encourages individuals from a broad range of fields of study to apply; or (iii) includes a neutral statement to serve as our control condition. Besides the treatment script, the webpage is identical for all individuals who visit it. (See Appendix Fig. A.2).

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[4] A sample of headlines from the last three years includes, for example, "'White male' culture at banks is difficult even for one of the industry's top leaders", "Wall Street's Young Bankers Are Still Mostly White and Male, Report Says" , "What it's like to be something other than white and male in the hedge fund business", "The Financial Industry Doesn't Want You to Know About Its Lack of Diversity" , "These charts show just how white and male Wall Street really is". Also see Brymer (2016), Crowe and Kiersz (2015), Alden (2014), *Financial Times* (2017).

[5] Government Accountability Office 2013 Report. "Diversity Management: Trends and Practices in the Financial Services Industry and Agencies after the Recent Financial Crisis" (https://www.gao.gov/assets/660/653814.pdf).

[6] See *Financial Times* (2017): https://ig.ft.com/managements-missing-women-data/. See also *Harvard Business Review*: https://hbr.org/2016/10/why-women-arent-making-it-to-the-top-of-financial-services-firms

[7] In 2016, participants in this program were four times more likely than other applicants to be hired as an intern, the majority of whom become full time employees after graduation. Since the program is also designed to build the participants' professional image, acumen, and network in the financial sector more broadly, it is also likely to increase entrance to other major financial firms.
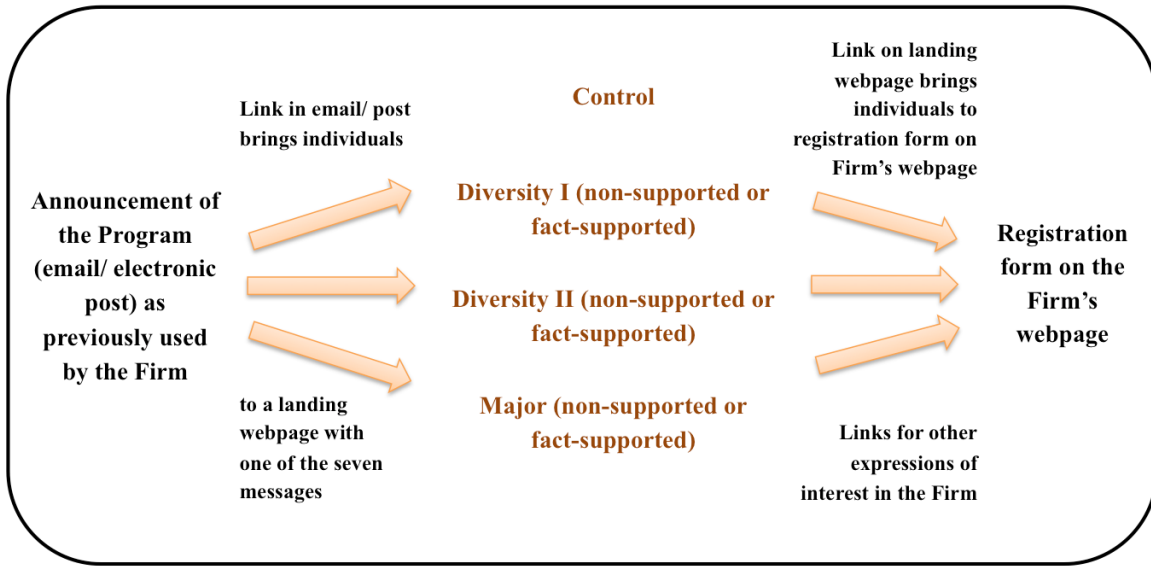
Fig. 1: Overview of experimental protocol.

2.3 Treatments

The treatments are designed to identify best practice and to test the three hypotheses outlined above, plus a minor hypothesis on whether it matters if the reason for wanting a diverse group of employees is its impact on firm performance or instead its inherent value to the firm's culture. Table 1 summarizes the treatment messages.[8] Our experiment follows a 3 x 2 design, with three main message types, each split into a fact-supported and a non-supported version. The first two message types signal the value of diversity to the firm: *Diversity I* emphasizes its value to firm productivity, *Diversity II* emphasizes its value to firm culture. These signals are direct, communicating a desire by the firm to employ people from a variety of backgrounds and a high value placed on diversity per se. These treatments enable us to test Hypothesis 1.

The third message type tests an indirect approach to see if a more diverse pool can be attracted without explicitly appealing to applicant origins or social background, or even mentioning diversity per se. This message type (*Major*) attempts to encourage interest from ethnic minorities and women by appealing to a broader variety in major field of study than is typically associated with finance careers, citing subject

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[8] Besides the treatment language, the webpage for each treatment is identical. The complete text for each of the treatments is in Appendix Table A.1.

areas with greater representation by ethnic minorities and women – such as ethnic studies, nursing, and psychology.[9] This treatment is aimed at examining Hypothesis 2.

Finally, we split each of the three message types into one treatment with no evidence to support its broader claim (non-supported) and one that presents evidence to back up the statement (fact-supported). The facts used are the high percentage of recent hires accounted for by ethnic minorities and women (*Diversity I*), a direct quote from the company's CEO showing endorsement of the statement at the highest levels of company leadership (*Diversity II*), and information on breadth of student majors among past successful applicants (*Major*). This treatment allows us to examine Hypothesis 3.

Table 1. Experimental design

Message type	Treatment	Support type	Description
Control	T0	NA	A diversity-neutral statement.
Diversity I (*direct diversity signal*)	T1	non-supported	Statement emphasizing firm's valuation of diversity as a competitive advantage that raises firm productivity.
	T2	fact-supported	T1 plus listing of exact percentages of women and ethnically diverse new hires in the prior year.
Diversity II (*direct diversity signal*)	T3	non-supported	Statement emphasizing firm's valuation of diversity as a key part of the company's culture.
	T4	fact-supported	T3, presented as quote spoken by the company's CEO, proving endorsement at the highest levels of company leadership.
Major (*indirect diversity signal*)	T5	non-supported	Statement encouraging individuals from a variety of fields of study.
	T6	fact-supported	T5 plus listing the exact number of majors represented in last year's program.

Notes: Individuals randomly received one of seven different treatment statements. The experiment follows a 3 x 2 design. There are three main message types (Diversity I, Diversity II, Major) and for each there are two support types (fact-supported and non-supported).

At the bottom of the webpage, after seeing one of the seven messages, individuals can click on a hyperlink to learn more about the program and submit their application. By linking with the firm's applicant tracking database, we are able to capture the behavior of each individual who lands on the webpage – which treatment message she sees, whether she expresses interest in the program by starting

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[9] In 2015 for example, the proportion of majors accounted for by African and Hispanic Americans rises 62% in moving from business to ethnic studies and rises 25% in moving from business to psychology (13 and 7 percentage points respectively); while the proportion of majors accounted for by women rises 64% in moving from business to psychology and 51% in moving from business to ethnic studies (30 and 24 percentage points);; National Center for Education Statistics, 2016.

an application or asking to be notified of similar events, whether she submits the application, and whether she is selected to participate in the program. Employees at the firm selecting participants from the pool of candidates do not know which treatment applicants are exposed to.

2.4 Outcome Variables

We examine three critical recruiting outcomes to analyze the impact of the different statements on race and gender diversity: (1) the percentage of different types of individuals who express interest by beginning an application or asking to be notified of similar future events; (2) the percentage of different types of individuals who complete and submit an application to the program; and (3) the percentage of different types of individuals selected for the program. We also look at two measures for each variable that are key to assessing impacts on diversity outcomes: the gap between underrepresented groups and overrepresented groups, and the behavior of each group (underrepresented and overrepresented) considered on its own.

The signal of interest provides the most complete measure of treatment effects of the statements on the appeal of the opportunity to individuals, since the decision to submit an application conditional on interest is likely driven by specifics of the program such as its date or location.[10] However, in addition to applicant interest, submitted applications are perhaps just as important to organizations and to diversity recruiting efforts, so we report the effects on both. We also examine evidence on whether the impacts on interest among minority groups translate to impacts on their representation among selected candidates. Minority participants are defined as individuals who are underrepresented in this work setting – in this case, African Americans and Hispanics (racial minority) and women (gender minority). These groups are clearly underrepresented in financial industry leadership roles, and are also the highest priority groups in the firm's diversity recruiting objectives.

2.5 Identification of Diversity Characteristics

To identify ethnicity and gender, we use two independent sets of data. First, we use data from self-reports. Individuals had the possibility to self-identify their ethnicity/race and gender during the application process, and 285 individuals did so. Second, we employed an independent research assistant to code the ethnicity and gender. To do so, the research assistant found each individual on social networking sites using their name and university. Gender and ethnicity were determined based on information such as native language, school clubs and societies of which they were a member, hometown, profile pictures, etc. When either gender or ethnicity was not immediately clear from this information, other publically available personal websites, blogs, or news articles were used. At times, research into the

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[10] For example, some percentage of those who would otherwise apply will learn they have conflicts with the date of the program or decide it is located too far away and thus ultimately not complete and submit their application.

etymology of names was also considered to help determine ethnicity. We use the same categories for the variables ethnicity/ race and gender as used by the company in its application form. We coded gender as Male, Female, and Cannot Tell and ethnicity as Asian; Black or African American; Hispanic or Latino; White; Two or More Races; Native, Hawaiian, or Other; and Cannot Tell.

As a check on the accuracy of the second approach in identifying gender and race, we compare the race and gender data identified through this process to the 285 individuals who applied and for whom we already had self-identified gender and race. We find that all individuals who we identified as African American or Hispanic through this approach also self-identified as such or as having two or more races, that over 99% of those identified through this process as female also self-identified as female, and that over 98% of those identified as male also self-identified as male – suggesting that we were able to quite accurately identify ethnicity and gender.[11]

3. Experimental Findings

3.1 Overview and Global Effects

Our sample consists of 1,121 individuals: 14.8% are defined as ethnic minorities (6.3% African Americans, 8.5% Hispanic) and 48.4% are women.[12] Of these, 385 signal interest after viewing the treatment message and program information (62 African Americans and Hispanics and 211 women), 285 submit applications (50 African Americans and Hispanics and 156 women), and 47 are selected to participate in the program (15 African Americans and Hispanics and 33 women). Each message was seen by approximately 160 individuals (ranging from 150 individuals who saw the *Diversity I (supported)* message to 165 individuals who saw the *Diversity II (non-supported)* message). About 15% of each treatment group is comprised by African Americans or Hispanics (ranging from 13% to 18% across the 7 groups), and about 48% of each treatment group is comprised by women (from 41% to 53%), with no significant differences in percentages across treatment groups. (See also Appendix Table A.2). We first examine impacts of the statements on interest of all individuals, ignoring demographic characteristics. We find that interest in the company and/or a career in the financial sector is higher in all six treatments compared to the control. Pooling all six treatment messages together, we see they raise the overall proportion of individuals interested in the program by 25% (7 percentage points), from 28% of those who

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[11]We also find that the Spearman's correlation coefficient across the values for race is 0.80 (p=0.000) when looking across all ethnicities – including White, Asian, Native/Hawaiian/Other – and is 0.96 (p=0.000) for gender (see Appendix Tables A.5 and A.6). Note that any measurement error in the identification of race and gender (i.e. noise) makes it *more* difficult to identify the impact of treatments targeted to affect racial/gender minorities. Throughout the analysis, we use the coded information. Given the high correlation between coded and self-identified ethnicity and gender, we are confident that we capture the treatment effect on ethnic minorities and women.

[12] Overall, 1,264 individuals clicked on the hyperlink in the email announcement, entered their name and university, and proceeded to the landing page where the treatment was delivered (33 individuals clicked on the hyperlink but did not pass through all the way to the landing page). However, we had to exclude 135 individuals from the sample who logged in multiple times from different IP addresses and thus may have seen different treatment messages and 8 individuals who saw the message after they had already applied to the program. This leaves us with a total sample of 1,121 individuals who saw the control or one of the six treatment messages.

visited the landing page with the status quo *Control* message, to 35% of those who visited the landing page with one of the six messages communicating employer prioritization of diversity among its employees (χ^2-test, p= .057). Splitting by the two different types of approaches to attracting employee diversity (*Diversity* vs. *Major*), we find they each lead to similar positive impacts on individuals overall – a 7 percentage point rise for *Diversity* (χ^2-test, p = .076) and an 8 percentage point rise for the *Major* messages (χ^2-test, p = .069).

3.2 Effects on Ethnic Diversity

We now turn to impacts of the statements on ethnic diversity in recruiting outcomes. There are two distinct and important dimensions with respect to treatment effects on demographic composition of candidates and recruits: impacts on the *gap* between minorities and non-minorities, and impacts on *individuals* from minority and non-minority groups. We examine both. We also first pool the *Diversity* messages separately from the *Major* messages since they represent two fundamentally different approaches to raising interest among underrepresented groups and because we find little difference in impacts within the *Diversity* category overall (see further below).

Figure 2 illustrates the gap between ethnic minorities and non-minorities in the proportion of individuals who express interest (2.a), the proportion who submit an application (2.b), and the proportion who are selected (2.c) in each of the three main message types (*Control, Diversity, Major*). We see that in the *Control* condition, ethnic minorities were 13 percentage points less likely to express interest than non-minorities, 5 percentage points less likely to apply, and did not differ in the rate that they were selected. Turning to the *Diversity* condition, the picture sharply changes: ethnic minority individuals are now 15 percentage points *more* likely to be interested, 14 percentage points *more* likely to apply, and 10 percentage points more likely to be selected. That is, the *Diversity* condition changes the gap by 28 percentage points (p = .006; OLS with robust SE) in favor of ethnic minorities for expressing interest, by 19 percentage points (p = .052) for applying (in both cases, not only closing, but reversing the gap) and by 10 percentage points (p = .073) for being selected.
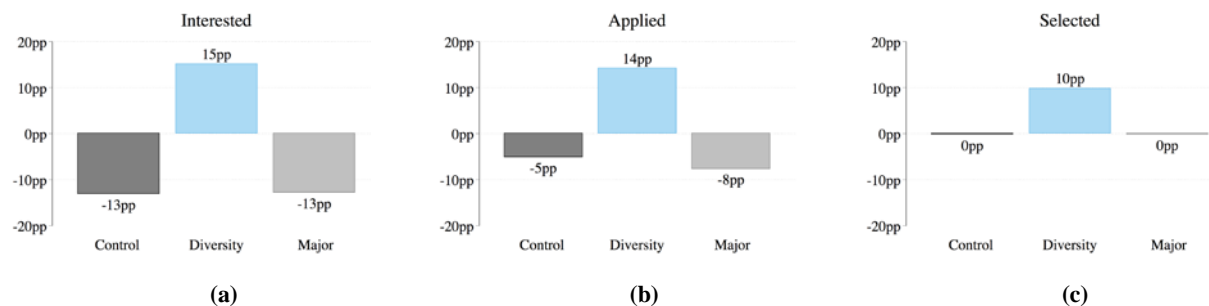
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Fig. 2. Impact of messages on ethnicity gap. Difference between percentage points (pp) of minority and non-minority individuals expressing interest (a), submitting an application (b), and being selected (c).

Table 2 reports results from three linear probability models that examine the robustness of these findings, accounting for gender of the candidate. Panel A shows coefficient estimates for regressions of the outcomes on gender, ethnicity, treatment type, as well as ethnicity-treatment and gender-treatment interactions. The coefficient estimates for the interaction term *African/Hispanic American × Diversity* represent the estimated impacts of the *Diversity* treatment on the ethnicity gap for each outcome variable (i.e. the difference-in-difference estimates – the amount that *Diversity* increases each outcome variable for ethnic minorities, relative to non-minorities). As the estimates show, *Diversity* raises the percentage of ethnic minorities expressing interest by 30 percentage points (p<.01), the percentage applying by 21 percentage points (p<.05), and the percentage being selected by 11 percentage points (p=.053), above that of non-minorities.

Table 2. Probability of Expressing Interest, Submitting Application, and Being Chosen

	(1) Interested	(2) Applied	(3) Selected
Panel A: Treatment Effects on Ethnicity Gap , Gender Gap, and Overall			
Diversity	0.0336	0.0222	-0.0109
	(0.0539)	(0.0480)	(0.0198)
Major	0.0892	0.0674	-0.0130
	(0.0613)	(0.0550)	(0.0199)
African/Hispanic American	-0.145	-0.0614	-0.00758
	(0.0884)	(0.0863)	(0.0436)
African/Hispanic American × Diversity	0.301***	0.207**	0.107*
	(0.104)	(0.101)	(0.0552)
African/Hispanic American × Major	0.0271	-0.00641	0.0155
	(0.114)	(0.109)	(0.0550)
Female	0.106	0.0798	0.0430
	(0.0713)	(0.0655)	(0.0327)
Female × Diversity	-0.0128	-0.0141	-0.0207
	(0.0806)	(0.0740)	(0.0361)
Female × Major	-0.0312	-0.0191	0.0252
	(0.0890)	(0.0819)	(0.0398)
Constant	0.249***	0.182***	0.0241
	(0.0472)	(0.0421)	(0.0179)
Panel B: Treatment Effects on Ethnic Minority Individuals			
Diversity Effect on African/Hispanic American Men	0.335***	0.229**	0.096*
[F-test p-value]	[.0014]	[.0252]	[.0607]
Diversity Effect on African/Hispanic American Women	0.322***	0.215**	0.0756
[F-test p-value]	[.0012]	[.0262]	[.1941]
Major Effect on African/Hispanic American Men	0.1163	0.0610	0.00252
[F-test p-value]	[.3092]	[.5799]	[.9601]
Major Effect on African/Hispanic American Women	0.0851	0.0419	0.0277
[F-test p-value]	[.4381]	[.6898]	[.6359]
Observations	1,121	1,121	1,121

Notes: Estimates from a Linear Probability Model. Dependent variables are dummy variables taking the value 1 if the individual expresses interest in the program (model 1), submits an application (model 2), or is selected (model 3). The explanatory variables *Diversity*, *Major*, *African/Hispanic American*, and *Female* are dummy variables taking the value 1 if the individual is in the respective treatment or demographic group. *Diversity Effect on African/Hispanic American Men* is the sum of the coefficients for *Diversity* and *African/Hispanic American × Diversity,* and *Diversity Effect on African/Hispanic American Women* is the sum of the same coefficients plus the coefficient for *Female × Diversity*. *Major Effect on African/Hispanic American Men* is the sum of the coefficients for *Major* and *African/Hispanic American × Major,* and *Major Effect on African/Hispanic American Women* is the sum of the same coefficients plus the coefficient for *Female × Major*. Robust standard errors in parentheses, F-test p-values in brackets, ***p<.01, **p<.05, *p<.1.

Turning to how the treatments impact behavior and outcomes for individuals, Figure 3 illustrates the effects by ethnic group. It also sheds light on what is driving the above effects on the ethnicity gap for each outcome. The top row reports the percentage of African Americans and Hispanics who express interest (Panel A), submit applications (Panel B), and are selected (Panel C) depending on the three main message types in the job advertisement (*Control*, *Diversity*, *Major*).
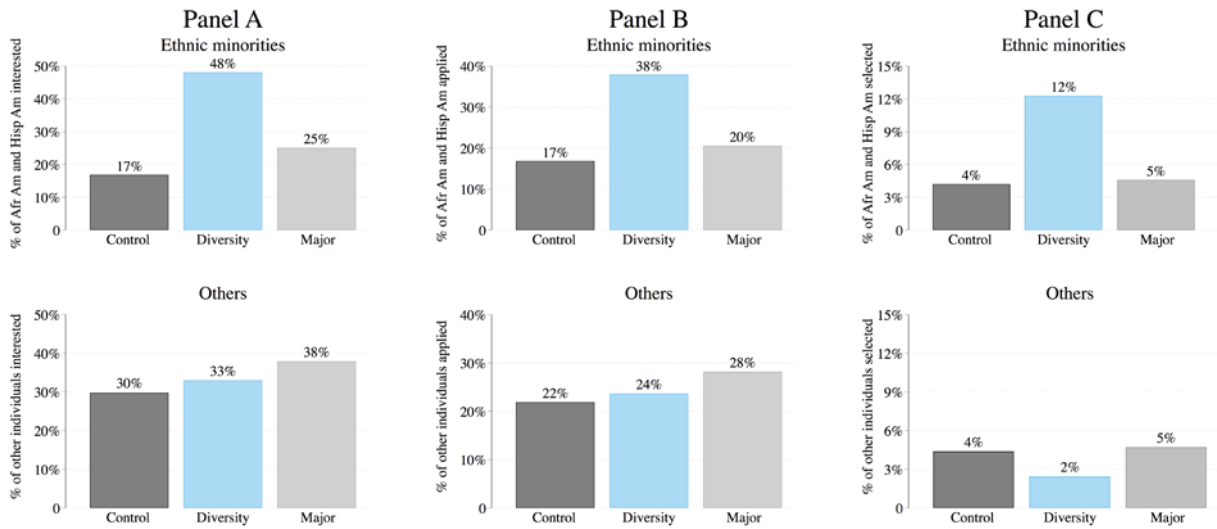

Fig. 3. Impact of messages. Percentage of individuals expressing interest (Panel A), submitting an application (Panel B), and being selected (Panel C). The top (bottom) row shows the respective percentages for African Americans and Hispanics (other individuals).

As we see in panels A and B, African Americans and Hispanics strongly respond to the *Diversity* messages. Panel A shows that their interest in the open position *almost triples* in moving from the *Control* to the *Diversity* message. While only 17% of ethnic minorities signal interest in *Control*, 48% do so in *Diversity* (χ^2, p = .005). Further, in Panel B we observe that the proportion of ethnic minorities submitting an application *more than doubles* in moving from *Control* to *Diversity* (17% vs. 38%; χ^2, p = .05).

The encouragement effect of *Diversity* on African and Hispanic Americans also translates into a *threefold increase* in likelihood of being selected, compared to their likelihood of being selected in *Control*, and induces a *six fold increase* in likelihood of being selected relative to non-minorities.[13] This provides indirect evidence that the *Diversity* treatments not only encourages applications from African and Hispanic Americans per se, but from highly qualified African and Hispanic Americans, as the

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[13] "Non-minority" in this study refers to individuals who are not black or Hispanic (the ethnic minority groups the firm is targeting). The vast majority of this group (92%) is comprised by whites and Asians, which are not underrepresented in the finance sector. See Appendix Tables A.2, A.5. and A.6 for further details on ethnic composition of candidates.

selection committee is blind to treatment and does not know which message type each applicant sees. More precisely, while only 4% of ethnic minorities in *Control* are selected for openings, 12% of ethnic minorities in *Diversity* are selected (χ^2, p = .25). Furthermore, while the same proportion of racial minorities as non-minorities are selected for the program under *Control* (4%), under the *Diversity* message type ethnic minorities are 10 percentage points (500%) more likely to be selected than non-minorities (χ^2, p = .000).

The estimates in columns 1 and 2 confirm the positive and highly significant impact of Diversity messages on ethnic minorities' interest (column 1, p = .001 for men, p = .001 for women) and application rates (column 2, p = .025 for men, p = .026 for women), compared to interest and application rates of ethnic minorities in the *Control* condition. Furthermore, column 3 shows that for ethnic minority individuals who view the page, the *Diversity* messages raise the likelihood that they will be selected for the program by an estimated 9.6 percentage points (p=.061) for males and an estimated 7.5 percentage points (p=.194) for females, compared to their likelihood of being selected under *Control*.

To summarize, nonparametric tests and regression estimates both show substantial effects from the *Diversity* messages on all three recruiting outcomes – interest, applications, and selection. This is true both when looking at the impacts on the difference between ethnic minorities and non-minorities, as well as the effects on ethnic minorities alone (ignoring the effects on non-minorities). Indeed, impacts on the gap are almost entirely driven by the effects on minority group individuals. Finally, we find no significant differences in treatment effects between African Americans and Hispanics (p > .43).[14]

Several other notable findings are illustrated in Figures 2 and 3. First, we observe in Figure 2 that the *Major* treatments appear to have no positive impact on the gap between ethnic minorities and non-minorities for any of the three outcomes, a finding confirmed in the regression results in Panel A of Table 2, where the estimates for the interaction term *African/Hispanic American × Major* are quite small and not significantly different from zero. Turning to Figure 3 helps us see why: the top row shows ethnic minorities do not respond nearly as strongly to the indirect *Major* treatments. While their expression of interest and submission of applications are both higher in *Major* than in *Control* (increases of 8 percentage points and 3 percentage points, respectively), the difference is not statistically significant (χ^2-tests, p = .428 and p = .704; regression estimate F-tests, p > .309 in columns 1 and 2). This is confirmed by the results shown in Panel B of Table 2, where the estimated impacts of *Major* are positive for all three outcomes, but never significantly so.

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[14] In attracting candidate interest, for example, the *Diversity* statements raise interest among African Americans by 40 percentage points for men (p<0.01) and 37 percentage points for women (p<0.01), and raise interest among Hispanic Americans by 29 percentage points for men (p<0.05) and 28 percentage points for women (p<0.05), the difference in effects between African Americans and Hispanics not significant (p>0.50). See online Appendix A and Table A.7 for full results on each ethnic minority group examined separately.

Another noteworthy finding relates to the response to diversity appeals among individuals from ethnic groups that are not underrepresented in this sector. In the bottom row of Figure 3, we see that there is no discouragement effect on rates of interest or applications from the *Diversity* messages on overrepresented ethnic groups (whites and Asians in this setting).[15] Ethnic non-minorities, upon seeing the *Diversity* and *Major* messages, are even slightly more likely to signal interest (33% in *Diversity* and 38% in Major, compared to 30% in *Control*) and to apply (24% in *Diversity* and 28% in *Major*, compared to 22% in *Control*), although these differences are not significant (χ^2-tests, p = .483 and p = .651 for *Diversity*, p = .105 and p = .166 for *Major*). This is also visible in the regression estimates in Panel A of Table 2, which show positive and non-significant coefficients for the impacts of *Diversity* and *Major* on interest and application rates among both men and women in the non-minority group. This provides evidence that the *Diversity* treatments benefit members of minority groups, and helps employer diversity objectives, without discouraging members of overrepresented groups. Combined with the findings discussed earlier above on the positive overall impacts on interest across all individuals, this suggests little to no downside in recruiting outcomes from using the diversity appeals.

Figure 4 shows the patterns when considering the *Diversity I* and *Diversity II* treatments separately. As figure 4.a shows, the difference in impacts is negligible for ethnic minority individuals – a rise of 33 versus 29 percentage points for interest, 21 versus 20 percentage points for completed application, and 7 versus 9 percentage points for being selected. Figure 4.b shows the differences between the two are also quite mild for individuals outside the underrepresented groups. Similarly, impacts of each treatment on the ethnicity gap are also quite close to each other – moving the gap in favor of minority ethnicity by 31 versus 25 percentage points for interest, by 21 versus 17 percentage points for completed applications, and by 9 versus 10 percentage points for being selected. Regression results reported in Appendix Table A.3 confirm there are no significant differences in the effects on ethnic minority candidates from *Diversity I* compared to *Diversity II*, and that the same results discussed above for *Diversity* hold when considering the impacts of the two statements separately. We therefore use the pooled *Diversity* treatments as the basis for our main findings, as discussed above.

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[15] Rather than underrepresented, Asians are in many cases disproportionately represented in finance. For example, while they accounted for 6% of employed people in the US in 2016, they accounted for 13% of financial analysts.
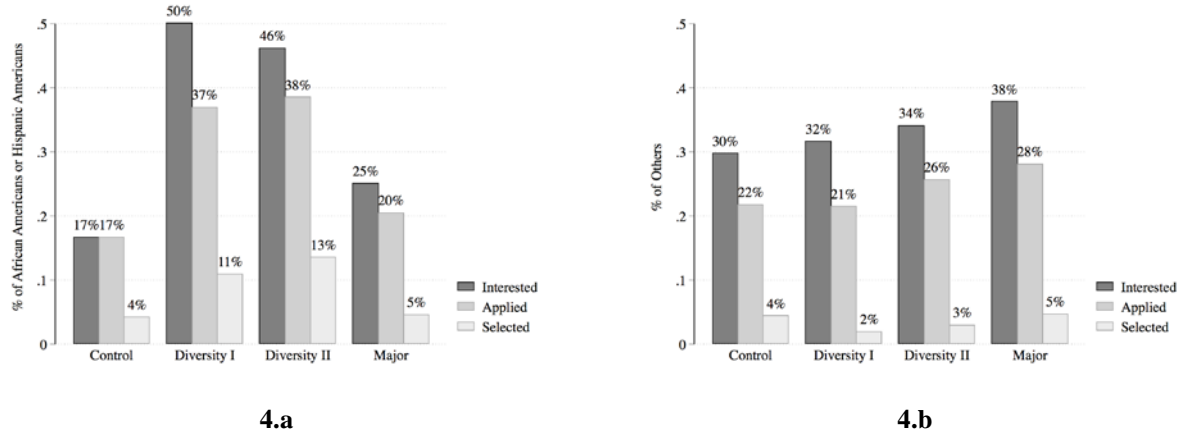
Fig. 4. Proportion of individuals expressing interest, applying, and being selected. 4.a shows percentages for African Americans and Hispanic Americans and 4.b shows them for other individuals.

3.3 Gender Diversity

Turning our analysis to women, we find they appear much less sensitive in general to the treatments as compared to ethnic minorities. While their interest and application rates are higher in *Diversity* and *Major* than in *Control*, these differences are not significant at conventional levels. For example, the proportions of women who signal interest are 33% in *Control*, 40% in *Diversity*, and 40% in *Major,* while the proportions who complete an application are 25% in *Control*, 29% in *Diversity*, and 30% in *Major* (p > .267 for pairwise χ^2-tests for all 4 treatment-control comparisons). For applicant selection, 7% of all women who see the *Control* statement are selected, compared to 5% of those who see a *Diversity* statement and 8% of those who see a *Major* statement. There is also little evidence of effects of the treatment statements on the gender gap. As shown in Table 2, the estimates for the gender-treatment interaction terms are small and not significantly different from zero.

This picture changes little when considering the impacts of *Diversity I* and *Diversity II* separately. When looking at the comparisons between *Control* and *Diversity I*, and *Control* and *Diversity II*, interest and application rates, among women, as well as selection by the firm, are once again generally higher than in the *Control*, but none of the differences are significant at conventional levels (χ^2-tests, p > .21). In addition, neither the *Diversity I* nor the *Diversity II* treatment has a statistically significant impact on the gender gap across the three outcomes, as shown by the coefficient estimates for the gender-treatment interaction terms in Table A.3.

3.4 Factual Support

The third main hypothesis this experiment was designed to test is that adding concrete facts or statistics to diversity or inclusivity statements increases their impact by raising their credibility.

16

Interestingly, we find little evidence that providing factual support for the pro-diversity orientation of the firm has an effect. Pro-diversity statements without supporting evidence did not seem less effective than those with supporting evidence, whether facts about diversity among recent recruiting outcomes as in *Diversity I* or *Major*, or revealed as a quote by the company's CEO as in *Diversity II*. Pairwise tests of the difference between the fact-supported and non-supported statements within *Diversity I*, *Diversity II*, and *Major* show no significant difference for signaling interest (ethnic minorities: $p > .73$; women: $p > .21$; all individuals: $p > .29$), for applying (ethnic minorities: $p > .29$; women: $p > .26$; all individuals: $p > .24$), and for being selected (ethnic minorities: $p > .17$; all individuals: $p > .39$). The only exception is among women for the selection outcome, where a higher proportion of women who saw the fact-supported version of *Diversity I* are selected for the program compared to those who saw the non-supported version (6.35% compared to 0%, χ^2-test, p= .02). (The difference in selection rates for women between fact-supported and non-supported under *Diversity II* and *Major* are not significant, $p > .25$.) Linear Probability Model regression results reported in Appendix Table A.4 confirm these results.

4. Discussion and Conclusion

Companies have tried different strategies to increase diversity, and there is some evidence that preferential treatment such as quotas (Balafoutas and Sutter, 2012; Niederle and Vesterlund, 2013; Davis et al., 2016), mentoring and advice institutions (Blau et al., 2010; Rodriguez-Planas, 2012; Brandts et al., 2015) or changes in remuneration structure (Niederle and Vesterlund, 2007; Flory et al., 2014) can influence job-seeker sorting in the labor market, with impacts on gender and ethnic diversity in the workplace. The findings we report highlight the value of a far less invasive approach, using simple adjustments in language to signal important dimensions of a firm's value of employee diversity. Our results suggest that signals valuing workplace diversity have important implications for net impacts on the size and demographic composition of applicant pools, and more generally for job seekers heading into high profile careers such as the finance industry.

The implications of our results are important in several regards. On the one hand, this method of using statements to signal active valorization of diversity offers employers and organizations an easy and cost effective tool to enhance diversity in situations where quotas, mentoring institutions, or altering compensation structures are not feasible, costly to implement, or undesirable for other reasons. The fact that the diversity messages increase the proportion of ethnic minorities that are actually selected suggests the messages not only pull in more ethnic minorities, but pull in those that are strong candidates. On the other hand, identifying a method not requiring resource-intensive interventions and not linked with financial incentives has tremendous value. It points toward a range of potential applications far beyond firms and labor markets: since our results stem from simple changes in language and signals of values,

they may speak to a broad range of environments where lack of diversity is a concern. Enrollment in higher education, political participation (voting, running for election), and civic engagement are just a few examples where language and signals might be leveraged to increase interest among underrepresented groups and break up monocultures (or prevent them from forming) in other spheres critical for the functioning of a healthy democratic society.

Finally, our finding that the diversity messages sharply raise interest and application rates by African Americans and Hispanic Americans, but do not dissuade ethnic majorities is important. It suggests minimal downsides to this approach, as the size of the majority pool remains stable and there are no indications of a dip in quality.

Acknowledgments:

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Online Appendices

Appendix A

Treatment Effects on African Americans and Hispanics Estimated Separately

In the study setting, ethnic minorities are defined as African Americans and Hispanics, as they are the two main ethnic groups underrepresented at this firm and in the finance sector (and other high profile careers) more generally. In the main text, we examined impacts on both ethnic minorities taken together. Here, we look at estimated impacts on each group separately.

Table A.7 shows Linear Probability Model estimates that examine the effects of the 2 treatment categories (*Diversity* and *Major*) on probability of expressing interest (models 1-2), applying (models 3-4), and being selected for the program (models 5-6), separately for each ethnic minority group. Models 1, 3, and 5 exclude Hispanics from the sample and include an indicator for African American as well as variables for its interaction with each treatment category; models 2, 4, and 6 exclude African Americans from the sample and include an indicator for Hispanic and the two related treatment interaction terms. Coefficient estimates for the African American indicator variable show that African Americans are less likely to express interest (model 1, $p < .05$), less likely to apply (model 2, not significant) and less likely to be selected (model 3, $p < .05$) under the status-quo *Control* condition, compared to ethnic majorities.

The bottom panel shows the sum of the coefficients for *Diversity* and the interaction term *African American × Diversity* (for men) and the sum of the coefficients for *Diversity*, the interaction term *African American × Diversity* and the interaction term *Female × Diversity* (for women). They indicate that the impact of *Diversity* messages is sharply positive and significant (model 1: 40 percentage points for men, $p = .002$, 37 percentage points for women, $p = .004$; model 3: 25 percentage points for men, $p = .049$, 22 percentage points for women, $p = .078$; model 5: 14 percentage points for men, $p = .018$, 12 percentage points for women, $p = .031$) – far more than enough to overcome the gaps between African Americans and ethnic majorities under the status-quo *Control* condition for all three outcomes. As columns 2, 4, and 6 of the bottom panel show, impacts of *Diversity* on Hispanic Americans show similar patterns of effects, though somewhat less pronounced (model 2: 29 percentage points for men, $p = .043$, 28 percentage points for women, $p = .037$; model 4: 21 percentage points for men, $p = .133$ for men, 22 percentage points for women, $p = .104$; model 6: 7 percentage points for men, $p = .391$, 4 percentage points for women, $p = .608$). However, the effects of the *Diversity* and *Major* messages do not significantly differ between African Americans and Hispanic Americans, as the pairwise comparisons of the treatment effects show (Table A.7, Seemingly Unrelated Estimation of models (1) + (2), $p > .500$, models (3) + (4), $p > .506$, and models (5) + (6), $p > .432$, respectively).

Appendix B

Comparison of Treatment Effects Across Diversity I and Diversity II: Additional Analysis

In the main text, we pool the *Diversity I* and *Diversity II* treatments, as they represent the same fundamental approach to attracting employee diversity (explicitly and directly communicating a high value placed by the firm on diversity per se). The main text also discussed nonparametric results showing that the effects of each *Diversity* treatment are very similar to each other. Here, we examine the robustness of these findings through a regression analysis that also accounts for gender. We also show the similar impacts each treatment has on the ethnicity gap, and confirm the two *Diversity* treatments do not differ in their impacts on individuals from overrepresented ethnic groups.

Table A.3 shows results from a Linear Probability Model that estimates the treatment effects of *Diversity I* and *Diversity II* independently, accounting for gender of potential candidates. First, we note that the effects of *Diversity I* and *Diversity II* are not significantly different from each other for any of the three outcome variables (panel C: model 1, p = .952 for men and p = .427 for women; model 2, p = .948 for men and p = .711 for women; model 3, p=.897 for men and p=.495 for women).

Next, as panel B shows, the effects of *Diversity I* and *Diversity II* on expression of interest and applications by ethnic minorities, when estimated separately, are large and significant (*Diversity I*: model 1, p = .004 for men and p = .001 for women; model 2, p = .047 for men and p = .078 for women; *Diversity II*: model 1, p = .004 for men and p = .012 for women; model 2, p = .051 for men and p = .031 for women). This positive effect translates into selection rates almost 10 percentage points higher under both *Diversity I* and *Diversity II*, as shown in model 3, though this is not significant (*Diversity I*, p = .1379 for men and p = .4415 for women; *Diversity II*, p = .1048 for men and p = .1535 for women).

Turning to effects of *Diversity I* and *Diversity II* on the ethnicity gap, we see the impacts on the difference between underrepresented and overrepresented ethnic groups are all large and positive (i.e. in favor of underrepresented ethnicity). This is shown in the Panel A coefficients for the interaction terms between minority ethnicity and each *Diversity* treatment. The estimated impacts of each treatment on the ethnicity gap are also all significant, with the sole exception of selection probability for *Diversity I*.

Finally, we also see there are no significant differences between *Diversity I* and *Diversity II* in effects on overrepresented ethnic groups. This can be seen, for example, in the estimates at the bottom of panel C in Table A.3, where none of the differences in estimated impacts of *Diversity I* compared to *Diversity II* are significant (model 1: p = .1574 for men and p = .8932 for women; model 2: p = .5740 for men and p = .1841 for women; model 3: p = .7115 for men and p = .1750 for women).

Appendix Figures

Figure A.1.

Announcement Email

From: Campus Careers <Campus.Careers@   Firm   .com>
To: {Student's Email Address, ListServ, etc.}
Cc:
Date: {Date}
Subject: Event Name | Register Today!

Get a head start – and begin building your resume – at   Firm's Event Name   .

Firm's Emblem
with
Firm Name

Learn more about   **Firm**   and careers in the financial services industry!

Register to join us at either our **City 1** **event** on **Date 1** or our   **City 2**
event on   **Date 2**

Click here to learn, apply, and share

Feel free to share this announcement with others who may be interested.

Figure A.2.

Webpage with Details on the Opportunity

Firm's Program Name

For college freshmen and sophomores, summer internships in finance can be hard to come by. Get a head start — and begin building your resume — at   **Firm's Program Name**   a one day program with   one of the   largest asset manager for current undergraduate freshmen and sophomores from diverse groups.

> **Treatment Script**

▶ DISCOVER A NEW WORLD

Come explore the ever-changing and exciting asset management industry. Learn about what   **Firm**   does within the worlds of Technology, Client Business, Corporate, Analytics & Risk, Investments and Advisory & Strategy.

▶ BUILD YOUR RESUME

Discover what it means to be a fiduciary, learn about our innovative technology and hear from professionals in the industry. Gain that competitive edge and enhance your development through financial, professional and technology workshops.

▶ INVEST IN YOUR FUTURE

So What Do You Do With Your Career? Get focused early, develop your network and acquire the tools to become a future leader in the asset management industry. Uncover strategies and communication essentials to utilize during your career search.

REGISTER TODAY:

Register to join us at either our   **City 1**   **event** on   **Date 1**   or our   **City 2**   **event** on   **Date 2** . Registration deadline is   **Date 3**   at 11:59PM EST.

▶ For more information on the event and to register, click HERE.
▶ If you are interested in this event but are unable to attend this year, click HERE to be notified of   **Firm's**   similar events in the future.
▶ If you are not interested in this event, please click HERE.
▶ To share information about this event with friends, click HERE.

Appendix Tables

Table A.1.Treatment Scripts

Treatment	Script
T0: *Control*	{Firm Name} needs you!
T1: *Diversity I* *Non-supported*	Wherever you're from, whatever your background, {Firm Name} needs you! At {Firm Name}, 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.
T2: *Diversity I* *Fact-supported*	Wherever you're from, whatever your background, {Firm Name} needs you! At {Firm Name}, 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 2015, • 45% of our Analyst class were women, and • 52% were ethnically diverse
T3: *Diversity II* *Non-supported*	Whatever you study, wherever you're from, whatever your background, {Firm Name} needs you! We need diversity in our skills and our minds, this does not change our principles but emboldens them.
T4: *Diversity II* *Fact-supported*	Whatever you study, wherever you're from, whatever your background, {Firm Name} needs you! "We need diversity in our skills and our minds, this does not change our principles but emboldens them," (*Name*, CEO of *Firm*)
T5: *Major* *Non-supported*	Whatever you study, from nursing to neuro science and ethnic studies to psychology, {Firm Name} needs you!
T6: *Major* *Fact-supported*	Whatever you study, {Firm Name} needs you! In last year's {Firm's Program Name} over 30 majors were represented, from nursing to neuro science and ethnic studies to psychology.

Table A.2. Distribution of Ethnicity and Gender Across Treatments

	Control	Diversity I Non-Supported	Diversity I Fact-Supported	Diversity II Non-Supported	Diversity II Fact-Supported	Major Non-Supported	Major Fact-Supported	Total
Panel A: Ethnicity								
Black or African	10 14.08% 6.17%	9 12.68% 5.56%	7 9.86% 4.67%	8 11.27% 4.85%	15 21.13% 9.38%	14 19.72% 8.86%	8 11.27% 4.88%	71 100% 6.33%
Hispanic or Latino	14 14.74% 8.64%	16 16.84% 9.88%	14 14.74% 9.33%	15 15.79% 9.09%	14 14.74% 8.75%	9 9.47% 5.7%	13 13.68% 7.93%	95 100% 8.47%
Asian	80 14.95% 49.38%	72 13.46% 44.44%	71 13.27% 47.33%	74 13.83% 44.85%	63 11.78% 39.38%	84 15.7% 53.16%	91 17.01% 55.49%	535 100% 47.73%
White	53 15.45% 32.72%	49 14.29% 30.25%	46 13.41% 30.67%	51 14.87% 30.91%	56 16.33% 35%	46 13.41% 29.11%	42 12.24% 25.61%	343 100% 30.6%
Two or more races	0 0% 0%	0 0% 0%	2 22.22% 1.33%	1 11.11% 0.61%	3 33.33% 1.88%	0 0% 0%	3 33.33% 1.83%	9 100% 0.8%
Native, Hawaiian or	0 0% 0%	1 100% 0.62%	0 0% 0%	0 0% 0%	0 0% 0%	0 0% 0%	0 0% 0%	1 100% 0.09%
Cannot tell	5 7.46% 3.09%	15 22.39% 9.26%	10 14.93% 6.67%	16 23.88% 9.7%	9 13.43% 5.62%	5 7.46% 3.16%	7 10.45% 4.27%	67 100% 5.98%
Panel B: Gender								
Female	76 14.02% 46.91%	81 14.94% 50%	80 14.76% 53.33%	68 12.55% 41.21%	75 13.84% 46.88%	77 14.21% 48.73%	85 15.68% 51.83%	542 100% 48.35%
Male	80 14.65% 49.38%	77 14.10% 47.53%	65 11.90% 43.33%	89 16.30% 53.94%	84 15.38% 52.5%	76 13.92% 48.1%	75 13.74% 45.73%	546 100% 48.71%
Cannot tell	6 18.18% 3.7%	4 12.12% 2.47%	5 15.15% 3.33%	8 24.24% 4.85%	1 3.03% 0.62%	5 15.15% 3.16%	4 12.12% 2.44%	33 100% 2.94%
Panel C: Total								
Total	162 14.45% 100%	162 14.45% 100%	150 13.38% 100%	165 14.72% 100%	160 14.27% 100%	158 14.09% 100%	164 14.63% 100%	1,121 100% 100%

Notes: For each demographic category (ethnicity or gender), the first row indicates the number of individuals in the given category and treatment group. The second row shows the distribution of the given demographic group across treatments. The third row shows the percentage of each treatment group comprised by the given demographic group.

Table A.3. Impacts of Diversity I and Diversity II Estimated Separately

		(1) Interested	(2) Applied	(3) Selected
Panel A: Treatment Effects on Ethnicity Gap , Gender Gap, Overall				
Diversity I		-0.00715	0.00823	-0.00717
		(0.0602)	(0.0540)	(0.0220)
Diversity II		0.0665	0.0343	-0.0134
		(0.0596)	(0.0527)	(0.0211)
Major		0.0892	0.0674	-0.0130
		(0.0614)	(0.0550)	(0.0199)
African/Hispanic American		-0.145	-0.0614	-0.00758
		(0.0885)	(0.0865)	(0.0437)
African/Hispanic American × Diversity I		0.346***	0.222*	0.0979
		(0.119)	(0.115)	(0.0641)
African/Hispanic American × Diversity II		0.265**	0.189*	0.113*
		(0.116)	(0.114)	(0.0652)
African/Hispanic American × Major		0.0271	-0.00641	0.0155
		(0.114)	(0.110)	(0.0551)
Female		0.106	0.0798	0.0430
		(0.0714)	(0.0656)	(0.0327)
Female × Diversity I		0.0316	-0.0339	-0.0396
		(0.0887)	(0.0811)	(0.0381)
Female × Diversity II		-0.0500	0.0125	-0.000749
		(0.0894)	(0.0827)	(0.0407)
Female × Major		-0.0312	-0.0191	0.0252
		(0.0891)	(0.0820)	(0.0399)
Constant		0.249***	0.182***	0.0241
		(0.0472)	(0.0421)	(0.0180)
Panel B: Treatment Effects on Ethnic Minority Individuals				
Effect of Diversity I on African/Hispanic American Men		0.338***	0.230**	0.0907
	[F-test p-value]	[.0045]	[.0466]	[.1379]
Effect of Diversity I on African/Hispanic American Women		0.370***	0.197*	0.0511
	[F-test p-value]	[.0013]	[.0780]	[.4415]
Effect of Diversity II on African/Hispanic American Men		0.332***	0.224*	0.0994
	[F-test p-value]	[.0045]	[.0510]	[.1048]
Effect of Diversity II on African/Hispanic American Women		0.282**	0.236**	0.0986
	[F-test p-value]	[.0119]	[.0314]	[.1535]
Panel C: Pairwise Comparison of Treatment Effect of Diversity I vs. Diversity II				
Effect of Diversity I vs. II on African/Hispanic Am. Men		0.00643	0.00678	-0.00863
	[F-test p-value]	[.9521]	[.9484]	[.8968]
Effect of Diversity I vs. II on African/Hispanic Am. Women		0.0880	-0.0395	-0.0475
	[F-test p-value]	[.4271]	[.7105]	[.4953]
Effect of Diversity I vs. II on Ethnic Majority Men		-0.0737	-0.0261	0.00625
	[F-test p-value]	[.1574]	[.5740]	[.7115]
Effect of Diversity I vs. II on Ethnic Majority Women		0.00783	-0.0724	-0.0326
	[F-test p-value]	[.8932]	[.1841]	[.1750]
Observations		1,121	1,121	1,121

Notes: The dependent variables are dummy variables taking the value 1 (0) if the individual does (not) express interest in the program – model (1), if the individual does (not) submit an application – model (2), if the individual is (not) selected – model (3). The explanatory variables for *Diversity I, Diversity II, Major*, *Afr Am or Hisp Am*, and *Female* are dummy variables taking the value 1 (0) if the individual does (not) belong to the respective treatment or demographic group. ***p<.01, **p<.05, *p<.1. Robust standard errors in parentheses.

Table A.4. Impacts of Supporting Diversity Statements with Factual Information (LPM)

	(1) Interested	(2) Applied	(3) Selected
Fact-supported	-0.000386	0.0204	-0.0178
	(0.0437)	(0.039)	(0.0124)
African/Hispanic American	0.0729	0.0942	0.0589*
	(0.0636)	(0.0599)	(0.0339)
African/Hispanic American × Fact-supported	-0.00438	-0.032	0.0219
	(0.0897)	(0.0849)	(0.0513)
Female	0.0886**	0.0544	0.0114
	(0.0436)	(0.0393)	(0.0167)
Female × Fact-supported	0.00234	0.0214	0.0540**
	(0.0618)	(0.0567)	(0.0255)
Constant	0.301***	0.208***	0.0211**
	(0.0300)	(0.0262)	(0.00971)
Observations	959	959	959

Notes: Coefficient estimates from an OLS regression (linear probability model). The sample is restricted to the treatment groups (control group omitted). The dependent variables are dummy variables taking the value 1 (0) if the individual does (not) express interest in the program – model (1), if the individual does (not) submit an application – model (2), if the individual is (not) selected – model (3). The explanatory variables *Fact(supported*, *Afr Am or Hisp Am*, and *Female* are dummy variables taking the value 1 (0) if the individual does (not) belong to the respective treatment or demographic group. ***p<.01, **p<.05, *p<.1. Robust standard errors in parentheses.

Table A.5. Researcher-Coded vs. Self-Identified Ethnicity/Race (Completed Applications)

	Self-Identified Ethnicity or Race						
	Asian	Black or African American	Hispanic or Latino	White	Two or more races	Does not to self-identify	Total
Panel A: Coded as Asian	128 **90.14%** **94.12%**	0 0% 0%	0 0% 0%	2 1.41% 3.64%	3 2.11% 23.08%	9 6.34% 50.00%	142 100% 49.82%
Panel B: Coded as African Amer.	0 0.00% 0.00%	14 **87.50%** **82.35%**	0 0% 0%	0 0% 0%	2 12.50% 15.38%	0 0% 0%	16 100% 5.61%
Panel C: Coded as Hispanic Amer.	0 0.00% 0.00%	0 0% 0%	33 **97.06%** **71.74%**	0 0% 0%	1 2.94% 7.69%	0 0% 0%	34 100% 11.93%
Panel D: Coded as White	1 1.35% 0.74%	2 2.70% 11.76%	12 16.22% 26.09%	47 **63.51%** **85.45%**	7 9.46% 53.85%	5 6.76% 27.78%	74 100% 25.96%
Panel E: Coded as 2+ races	2 66.67% 1.47%	0 0% 0%	0 0% 0%	1 33.33% 1.82%	0 0% 0%	0 0% 0%	3 100% 1.05%
Panel F: Coded as Native, Hawaiian or other	1 100% 0.74%	0 0% 0%	0 0% 0%	0 0% 0%	0 0% 0%	0 0% 0%	1 100% 0.35%
Panel G: Coded as Cannot tell	4 26.67% 2.94%	1 6.67% 5.88%	1 6.67% 2.17%	5 33.33% 9.09%	0 0% 0%	4 26.67% 22.22%	15 100% 5.26%
Total	136 47.72% 100%	17 5.96% 100%	46 16.14% 100%	55 19.30% 100%	13 4.56% 100%	18 6.32% 100%	285 100% 100%

Notes: Of the 285 individuals who completed and submitted an application, about 95% indicated their race or ethnicity in the application form. This table compares our measure of ethnicity to self-identified ethnicity for this subsample, which helps assess the accuracy of our method for identifying and coding ethnicity. Panels indicate researcher-coded ethnicity and columns indicate self-identified ethnicity. The first row of each panel indicates the number of individuals for the respective combination of coded and self-identified ethnicity/race. The second row of each panel shows the percentage of individuals coded by researcher as the panel ethnicity that self-identified as the column ethnicity. The third row of each panel shows the percentage of individuals self-identifying as the column-ethnicity that were coded as the panel ethnicity.

Table A.6. Researcher-Coded vs. Self-Identified Gender (Completed Applications)

	Self-Identified Gender		
	Female	Male	Total
Panel A: Coded as Female	**155** **99.36%** **97.48%**	1 0.64% 0.79%	156 100% 54.74%
Panel B: Coded as Male	2 1.65% 1.26%	**119** **98.35%** **94.44%**	121 100% 42.46%
Panel C: Coded as Cannot tell	2 25% 1.26%	6 75% 4.76%	8 100% 2.81%
Total	159 55.79% 100%	126 44.21% 100%	285 100% 100%

Notes: All of the individuals who completed and submitted an application indicated their gender in the application form. This table compares our measure of gender to self-identified gender for this subsample, which helps assess the accuracy of our method for identifying and coding gender. Panels indicate researcher-coded gender and columns indicate self-identified gender. The first row of each panel indicates the number of individuals for the respective combination of coded and self-identified gender. The second row of each panel shows the percentage of individuals coded by researcher as the panel gender that self-identified as the column gender. The third row of each panel shows the percentage of individuals self-identifying as the column- gender that were coded as the panel gender.

Table A.7. Impacts on African Americans and Hispanic Americans Estimated Separately

	(1)	(2)	(3)	(4)	(5)	(6)
	Interested	Interested	Applied	Applied	Selected	Selected
Diversity	0.0409	0.0299	0.0250	0.0123	-0.0121	-0.0103
	(0.0547)	(0.0549)	(0.0484)	(0.0488)	(0.0195)	(0.0201)
Major	0.0810	0.0911	0.0604	0.0656	-0.0205	-0.0110
	(0.0620)	(0.0626)	(0.0554)	(0.0561)	(0.0196)	(0.0199)
African American	-0.218**		-0.134		-0.0489**	
	(0.0994)		(0.0983)		(0.0207)	
*African American * Diversity*	0.363***		0.220*		0.151***	
	(0.130)		(0.126)		(0.0582)	
*African American * Major*	-0.0212		-0.0540		0.0492	
	(0.125)		(0.118)		(0.0499)	
Hispanic American		-0.0954		-0.0122		0.0223
		(0.122)		(0.120)		(0.0694)
*Hispanic American * Diversity*		0.259*		0.198		0.0766
		(0.140)		(0.138)		(0.0816)
*Hispanic American * Major*		0.0984		0.0647		-0.00693
		(0.165)		(0.160)		(0.0832)
Female	0.136*	0.103	0.107	0.0747	0.0357	0.0461
	(0.0742)	(0.0749)	(0.0676)	(0.0686)	(0.0340)	(0.0348)
*Female * Diversity*	-0.0301	-0.00488	-0.0221	0.00646	-0.0176	-0.0220
	(0.0840)	(0.0844)	(0.0765)	(0.0773)	(0.0369)	(0.0379)
*Female * Major*	-0.0196	-0.0344	-0.00959	-0.0149	0.0407	0.0210
	(0.0922)	(0.0936)	(0.0844)	(0.0860)	(0.0412)	(0.0418)
Constant	0.236***	0.251***	0.169***	0.184***	0.0274	0.0228
	(0.0478)	(0.0481)	(0.0424)	(0.0428)	(0.0179)	(0.0184)
Treatment Effects on African Americans						
Diversity Effect on Men	0.404***		0.245**		0.138**	
[F-test p-value]	[.0017]		[.0492]		[.0183]	
Diversity Effect on Women	0.373***		0.223*		0.121**	
[F-test p-value]	[.0040]		[.0779]		[.0310]	
Major Effect on Men	0.0598		0.00644		0.0287	
[F-test p-value]	[.6161]		[.9544]		[.5414]	
Major Effect on Women	0.0402		-0.00315		0.0694	
[F-test p-value]	[.7529]		[.9792]		[.1678]	
Treatment Effects on Hispanic Americans						
Diversity Effect on Men		0.289**		0.2104		0.0662
[F-test p-value]		[.0428]		[.1330]		[.3906]
Diversity Effect on Women		0.284**		0.2169		0.0442
[F-test p-value]		[.0366]		[.1038]		[.6084]
Major Effect on Men		0.1895		0.1303		-0.0179
[F-test p-value]		[.2537]		[.4202]		[.8230]
Major Effect on Women		0.1551		0.1153		0.00305
[F-test p-value]		[.3356]		[.4594]		[.9721]
Pairwise Comparison of Treatment Effects on African Americans vs. Hispanic Americans						
[F-test p-value]	> .5004		> .5068		> .4327	
Observations	1,026	1,050	1,026	1,050	1,026	1,050

Notes: Linear probability model. Samples are all individuals excluding Hispanic Americans for models (1), (3), and (5) and all individuals excluding African Americans for models (2), (4), and (6). The dependent variables are dummy variables taking the value 1 (0) if the individual does (not) express interest in the program – models (1) and (2), if the individual does (not) submit an application – models (3) and (4), if the individual is (not) selected – models (5) and (6). The explanatory variables for *Diversity, Major*, *Afr Am, Hisp Am*, and *Female* are dummy variables taking the value 1 (0) if the individual does (not) belong to the respective treatment or demographic group. Final panel reports p-values for pairwise comparison of treatment effects on African Americans vs. Hispanic Americans (Seemingly Unrelated Estimation of models (1) + (2), models (3) + (4), models (5) + (6)). Robust standard errors in parentheses. ***p<.01, **p<.05, *p<.1.