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Taryn versus Taryn (she/her) versus Taryn (they/them): A Field Experiment on Pronoun Disclosure and Hiring Discrimination

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Abstract

This paper presents the results of the first large-scale correspondence study estimating hiring discrimination against applicants who disclose pronouns. A resume audit design is leveraged, where two fictitious resumes are sent in response to each job posting: in each pair, the treatment resume contains pronouns listed below the name and the control resume does not list any pronouns. Two treatments are considered: nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with the sex implied by the applicant's name. Strong evidence is found that disclosing "they/them" pronouns reduces positive employer response: discrimination estimates are robust to the Heckman-Siegelman critique and magnitude is statistically larger compared to those disclosing "he/him" or "she/her" pronouns. Further, there is suggestive evidence that discrimination is higher in Republican than Democratic geographies. By comparison, there is limited evidence that disclosing "he/him" or "she/her" pronouns results in discrimination.

JEL Codes: C93, J15, J16, J23, J71

Sharing pronouns is becoming increasingly common in social interactions and the workplace. This practice has also spread to the job market: job seekers now have the option to include pronouns on resumes, with multiple online articles discussing whether and how to do so (Kohler 2021; Mahtani 2022; Rorris-Crow 2022). However, pronoun disclosure carries additional identity signals and thus potentially opens applicants up to discrimination. This may be especially true when pronoun disclosure reveals a minority gender identity, as for nonbinary applicants. In this study, I investigate hiring discrimination against nonbinary applicants who disclose "they/them" pronouns; in doing so, discrimination against cisgender applicants who disclose binary "he/him" or "she/her" pronouns is also investigated. By comparing discrimination faced by nonbinary and cisgender applicants who disclose pronouns, discrimination against applicants who disclose "they/them" pronouns can be decomposed into the portion driven by the act of pronoun disclosure generally, and the portion driven by the applicant's nonbinary gender identity. A resume audit study design is leveraged, with pronoun disclosure as the treatment of interest.

To motivate this research, first consider that nonbinary gender identities are becoming more common, especially among younger generations. A 2022 Pew Research Center survey finds that while only 0.1% of those 50 or older identify as nonbinary, this is true for 3.0% of those 18 to 29 (Brown 2022). The Williams Institute finds a similar trend using data collected between 2016 and 2018 from the Generations and TransPop studies. Using this data, they estimate that 1.2 million adults identify as nonbinary in the United States; 76% of nonbinary people are estimated to be 18 to 29 (Wilson and Meyer 2021). Understanding how nonbinary people are treated in the labour market is thus becoming increasingly important as this group grows in size and as nonbinary youth age into labour force.

Second, nonbinary people are observed to experience relatively poor labour market outcomes. Comparing transgender people (some of whom identify as nonbinary) to similar cisgender peers, research consistently shows that transgender people have lower employment rates, lower incomes, and higher poverty rates (Leppel 2016, 2021; Carpenter et al. 2020,

2022). Looking specifically at nonbinary people, Shannon (2022) finds that genderqueer and nonbinary identifying people have lower incomes compared to transgender men and women and notes that this is "consistent with [gender nonconforming and nonbinary people] facing additional income penalties from identifying outside of the more socially accepted male/female binary." In addition, nonbinary people report facing significant intolerance and discrimination. From the 2015 U.S. Transgender Survey (which includes nonbinary respondents), 46% of respondents reported being verbally harassed and 9% physically attacked in the last year for being transgender (James et al. 2016). In the context of the labour market, in the same survey 30% of respondents reported being fired, denied a promotion, or otherwise mistreated in the workplace in the last year. This provides suggestive evidence for discrimination as a potential driver of worse economic outcomes for nonbinary people.

Inspired by Bertrand and Mullainathan (2004), correspondence studies have become a common experimental method used to causally estimate discrimination. Beginning with race, these field experiments have been used to investigate discrimination against a host of marginalized groups in multiple contexts (Baert 2018 provides a review). In matched correspondence studies (i.e., resume audit studies), pairs of randomized, fictitious resumes are sent in response to real job postings. In each pair, one resume is randomly "treated" with an identity signal that the applicant is part of a group of interest; the other resume acts as a control. By comparing rates of positive employer response between treatment and control groups, the average independent effect of the identity signal on the likelihood of receiving a positive employer response can be estimated. Unmatched correspondence studies follow a similar methodology, but send only one resume in response to each job posting.

Most relevant to this research are correspondence studies focused on hiring discrimination against the LGBT population, and gender-diverse populations in particular. Granberg et al. (2020) use an unmatched correspondence study to investigate hiring discrimination against transgender men and women in Sweden. Using disclosure of a name change in an applicant's cover letter to signal gender identity, they found a 6 percentage point decrease in the rate

of positive employer response for transgender applicants.[1] This difference is statistically significant, but only robust to the Heckman-Siegelman critique when comparing transgender applicants to the dominant gender in male- or female-dominated occupations.[2] Finally, Business.com conduct a non-academic unmatched correspondence study evaluating hiring discrimination against nonbinary applicants (McGonagill 2023). In this study, two identical resumes are generated for the same fictitious applicant (Taylor Williams), where the only difference is that one has "they/them" pronouns listed below the gender-ambiguous name and the other does not. In total, 90 of each resume was sent in response to 180 unique job postings for remote, entry-level business positions requiring an undergraduate degree. Business.com finds that the control applicant received 9 percent more interest from employers; a t-test shows that the difference is statistically significant.

This study fills a gap in the existing literature as the first large-scale study investigating hiring discrimination against applicants who disclose pronouns (and, to my knowledge, it is the first study to ever investigate hiring discrimination faced by cisgender applicants who disclose binary pronouns). From May to October 2023, 3,985 matched pairs of resumes were sent in response to job postings in 15 occupations across six cities in the United States. As described in the pre-analysis plan registered with the American Economic Association prior to data collection, occupations were selected to vary in the percentage of workers that are female and in how much customer interaction is required; each was categorized as either female-dominated, male-dominated, or non-dominated and as requiring either high, medium, or low customer facing interaction. Cities were selected in pairs within states to vary in their political partisanship; each was categorized as Republican or Democratic. Using a resume audit study design, a pair of resumes was constructed for each job posting by randomizing

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[1]The treatment group disclosed a name change where the implied sex differed between the old and new names and the control group disclosed a name change with no difference in implied sex. As such, the treatment group is signaled to be transgender men or women; the control group is cisgender men or women.

[2]Heckman and Siegelman (1993) and Heckman (1998) present a critique of audit studies which shows that if there is a difference in the variance of unobserved productivity determinants between groups, this can result in biased estimates of discrimination derived via correspondence study, in either direction. This is discussed in more detail in Section 4.

across characteristics including education, work experience, and listed skills. Paired resumes were "matched" across several characteristics (same education level, same name-implied sex, same years of "relevant" work experience[3]) while remaining different enough to realistically represent two distinct applicants. As in McGonagill (2023), the randomized characteristic of interest in this study is pronouns listed below the name. The large-scale nature of this experiment alongside the fact that resumes are randomly generated (versus identical except for treatment assignment) and multiple occupations are explored increases external validity, power, and precision; reduces template bias; and enables the exploration of additional hypotheses. Further, unlike in McGonagill (2023), this study leverages two distinct treatments: nonbinary pronouns ("they/them," signaling the applicant is nonbinary and disclosing pronouns) and binary pronouns congruent with sex implied by name ("he/him" or "she/her," signaling the applicant is cisgender and disclosing pronouns). In each resume pair, one was randomly assigned treatment pronouns and the other had no pronouns listed.

The inclusion of two distinct treatments is a key contribution of this paper. First, it enables the decomposition of discrimination faced by applicants who disclose "they/them" pronouns into the portion driven by the act of pronoun disclosure (which cisgender applicants who disclose pronouns also face) and the portion driven by applicants' nonbinary gender identity. This is important because in recent years, pronoun disclosure has become divisive regardless of which pronouns are being disclosed, and sentiment tends to be split along political lines. A 2022 YouGov poll shows that, when asked to think about the information people put on social media profiles, email signatures, or when introducing themselves 40% of Republicans but only 10% of Democrats believe that "people should generally not say / display their pronouns unless asked" (Ballard 2022). As a result, disclosing pronouns on a resume carries political and other signals that are communicated regardless of implied gender identity. Without both treatment groups, the source of observed discrimination

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[3]If an applicant has prior work experience in the same occupation, they are considered to have "relevant" work experience. For example, when applying for a janitor role, an applicant has relevant experience if they have janitorial experience on their resume.

would thus be ambiguous (it could stem either from identity signals associated with pronoun disclosure in general or from the applicant's signalled nonbinary gender identity). This is especially pertinent since there is evidence that political signals can influence hiring. Gift and Gift (2015) conduct a resume audit study comparing positive employer response rates for politically affiliated applicants in one highly conservative and one highly liberal market. They find that while applicants with a minority political affiliation are less likely to receive a positive employer response than those with no political affiliation, applicants with a majority political affiliation are no more likely to receive a positive employer response. Second, it enables the estimation of discrimination faced by applicants who disclose binary "he/him" or "she/her" pronouns congruent with name-implied sex. Pronoun disclosure is becoming increasingly common among cisgender people and the labour market implications of this choice are thus of growing interest.

Following its pre-analysis plan, this study attempts to answer two primary research questions. Do applicants who disclose nonbinary "they/them" pronouns during the hiring process experience discrimination? If so, to what extent can this be explained by pronoun disclosure in general, versus identity-based discrimination specific to nonbinary applicants? This can be achieved by comparing positive employer response rates for applicants disclosing nonbinary pronouns compared to applicants disclosing binary pronouns congruent with implied sex. Secondary hypotheses, informed by existing research and described below, are also explored. These hypotheses consider whether discrimination magnitude varies based on applicant, geographic, occupation, and job posting characteristics.

First, I investigate whether discrimination differs between nonbinary applicants with male-sounding names and those with female-sounding names. This is motivated by evidence that, within the LGBT community, people assigned male at birth tend to experience worse labour market outcomes than those assigned female. Among homosexuals, international research consistently shows that while gay men experience a wage gap compared to similar heterosexual peers, lesbian women experience a wage premium (Black et al. 2003; Antecol

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et al. 2008; Drydakis 2012; Nauze 2015; Waite et al. 2019; Drydakis 2021; Jepsen and Jepsen 2022). In a meta-analysis of hiring discrimination against gay men and lesbian women, Flage (2019) finds that though evidence of discrimination is consistently found for both groups, gay men are typically found to face stronger discrimination. Finally, considering post-transition outcomes, longitudinal studies have found that while transgender women (who were assigned male at birth) experience a large reduction in earnings following transition, transgender men experience no change or a slight increase in earnings (Schilt and Wiswall 2008; Geijtenbeek and Plug 2018).

I also consider whether discrimination differs geographically along political lines. This is motivated by evidence that discrimination against LGBT people varies geographically, and that acceptance of transgender identities is partisan. Denier (2017) find that sexual orientation wage gaps in Canada vary by geography and are largest in non-metropolitan areas. In the United States, Tilcsik (2011) finds between-state heterogeneity in the amount of discrimination faced by openly gay men which appears to reflect local attitudes and antidiscrimination laws (although it is unclear which is driving outcomes). This study builds on the findings of Tilcsik (2011) by considering within-state heterogeneity in political partisanship. By controlling for state-level similarities, this study focuses on attitudinal differences between Democratic and Republican geographies. It is reasonable to expect attitude-based differences in discrimination by geographic politics: there is evidence that both the acceptance of nonbinary people and the act of pronoun disclosure are divided across political lines. In a 2022 Pew Research Center survey, 66% of Republicans but only 10% of Democrats say that "society has gone too far in accepting transgender people" (Parker et al. 2022). Considering the use of gender-neutral pronouns, a 2022 YouGov poll shows that 66% of Republicans but only 37% of Democrats are somewhat or very uncomfortable using gender-neutral pronouns (Ballard 2022). As highlighted earlier, this also carries over to pronoun disclosure in general: regardless of which pronouns are being disclosed, Republicans are more likely to be averse to this practice than Democrats.

To distinguish between statistical and taste-based discrimination, I consider whether discrimination decreases as relevant experience increases. If additional information about an applicant's ability to successfully work in an occupation reduces discrimination, this indicates the presence of statistical discrimination. Following Becker (1957), I also consider whether employers may be discriminating on behalf of their customers by comparing occupations with higher and lower levels of customer interaction. If discrimination is higher in occupations requiring more customer interaction, this suggests employers may be discriminating based on customer taste. Finally, I consider whether discrimination is heightened in male- or female-dominated occupations. This is motivated by Granberg et al. (2020), who find no evidence of discrimination against transgender men or women in non-dominated occupations (only in male-dominated and female-dominated occupations). Considering nonbinary people specifically, it may be that these applicants are particularly disadvantaged in male-dominated or female-dominated occupations, where adherence to the gender binary may be particularly important. On the other hand, it may be that applicants who are implied to be male benefit from disclosing "they/them" pronouns in female-dominated occupations as it may move them closer to female-ness (vice-versa for applicants who are implied to be female). Since research consistently shows evidence of hiring discrimination against male applicants in female-dominated occupations and vice-versa for female applicants (Rich 2014; Yavorsky 2019; Cortina et al. 2021), proximity to female-ness may reduce discrimination for nonbinary applicants assigned male at birth.

Regression results indicate that rates of positive employer response are lower for applicants who disclose "they/them" pronouns. For the average applicant, disclosing "they/them" pronouns reduces positive employer response by an estimated 5.4 to 5.5 percentage points compared to no pronoun disclosure. This appears to be primarily driven by applicants' nonbinary gender identity rather than the act of pronoun disclosure more generally. Compared to applicants who disclose binary "he/him" or "she/her" pronouns, disclosing "they/them" pronouns reduces positive employer response by an estimated 3.6 to 3.8 percentage points.

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Hence, an estimated 67% to 70% of discrimination against applicants disclosing "they/them" pronouns is estimated to be due to nonbinary gender identity. That being said, gender identity may be driving up to 100% of discrimination, since the difference between applicants who disclose binary "he/him" or "she/her" pronouns compared to no pronouns has limited statistical significance. Finally, there is suggestive evidence that discrimination is higher in Republican geographies.

While I find causal evidence of discrimination in the United States, the magnitude identified here may be low relative to the national average since all three states included in this study have state-level legislation which prohibits discrimination on the basis of gender identity and sexual orientation. Per the Movement Advancement Project (2023), the majority of states do not have legislation like this. While these laws may not themselves protect applicants against discrimination, the states which select into them may be less discriminatory towards people with diverse gender identities on average.

This paper is structured as follows. In Section 1, I describe the audit study design: how resumes are constructed, geography and occupation selection, and the process used to collect data. In Section 2, empirical strategy (as outlined in the pre-analysis plan) is described. In Section 3, I present empirical results: summary statistics, regression estimates, and how they relate to research hypotheses. In Section 4, I use the Neumark (2012) method to address the Heckman-Siegelman critique. In Section 5, I provide context by comparing discrimination estimates associated with pronoun disclosure against estimates found for other discriminated groups: females in male-dominated occupations, and males in female-dominated or non-dominated occupations. Finally, Section 6 concludes by discussing findings, implications, and remaining questions.

1 Audit Study Design

1.1 Resume Construction

1.1.1 Randomization Process

A process for generating occupation-specific resumes was developed using a program by Lahey and Beasley (2009). The characteristics over which resumes were randomized are equivalent across geographies, with the following exceptions: in Work Experience, company names are city-specific (position titles and descriptions are independent of geography); in Education, school names are city-specific (probabilities, degrees, and concentrations are independent of geography); in Certifications, names of licenses or other certifications may vary by geography if needed (e.g., the license required to serve alcohol differs by state). For all occupations and geographies, fictitious resumes were generated for an applicant born in 1999 (i.e., applicants are 24 in 2023); this is signaled by high school graduation year. Note that to facilitate the Neumark (2012) method to respond to the Heckman-Siegelman critique, variation in resume quality is required. This is achieved through randomization, especially randomized education and work experience.

Resumes are generated in pairs: within a characteristic, resumes can be "matched same" (i.e., if the first resume is randomly assigned characteristic A, then the matched pair will also be given characteristic A) or "matched different" (i.e., if the first resume is randomly assigned characteristic A, then the matched pair will be randomly assigned a characteristic aside from A). To limit fraud detection by email providers and job boards, there were in total two female names and two male names used in each state (i.e., all matched resume pairs in Colorado where the name-implied sex is female will use the same two names). Emails were specific to names, and each name always used the same phone number, resume format, and application order when applying in a given city.

Within an occupation and implied sex, resumes are randomized across the following characteristics and according to the following probabilities:

- Pronouns (Section 1.1.2): one of nonbinary "they/them" pronouns, binary "he/him" or "she/her" pronouns congruent with implied sex, or no pronouns

  - Probability: equal chance of disclosing pronouns or not; conditional on disclosure, resumes have a two-thirds chance of being assigned nonbinary, and one-third chance binary pronouns

  - Matched Different: exactly one resume in a pair has no pronouns

- Summary (Section 1.1.3): randomly drawn from a list of summaries (or no summary)

  - Probability: there is a two-thirds chance of no summary; conditional on receiving a summary, probability is equal across inputs

  - Matched Different: conditional on receiving a summary, no two resumes will have the same summary (however, both resumes can have no summary and one resume can have a summary while the other does not)

- Education Level (Section 1.1.4): one of GED, high school diploma, Associate's degree, or Bachelor's degree

  - Probability: occupation-specific and informed by observed prevalence

  - Matched Same: highest level of education received; conditional on having a high school diploma, applicants' high schools are nearby and have similar test scores

  - Matched Different: high school name, post-secondary concentration (if applicable)

- Work Experience, 2015-2017 (Section 1.1.5): in the last two years of high school, applicants either did not work or may have held one of two positions

  - Probability: there is a five-sevenths chance of not having worked over this period; conditional on working, probability is equal across positions

  - Matched Different: no two applicants can have the same work experience (though they can both have no work experience during this period)

- Work Experience, 2017-present (Section 1.1.5): applicants have four experiences after high school

  – Probability: four experiences are selected without replacement from 43 possible position and description pairs

  – Matched Same: whether the applicant's last job is in the job posting application, years of experience in the job posting application

  – Matched Different: job titles and company names

- Skills Listed: six skills are randomly drawn for each applicant; three are selected from a set of occupation-specific inputs, the other three are selected from a set of inputs that are independent of occupation

  – Probability: equal probability across all inputs

  – Matched Different: applicants will never have the same skill listed

Resumes are also assigned a name (Section 1.1.6) which additionally determines the phone number, resume format (Section 1.1.7), and order applications are sent in. Names are randomly assigned and independent from the above.

1.1.2 Pronoun Treatments

Pronoun disclosure is the treatment evaluated in this study and acts as an identity signal. In the first treatment group, applicants disclose nonbinary "they/them" pronouns and are thus signaled to be nonbinary and disclosing pronouns. Hence, treated applicants are open about their nonbinary gender identity and comfortable enough in that identity to list pronouns on their resume. As such, these applicants may be in some ways different from other nonbinary applicants who are not open about their gender identity (or, who are not as open). This is a common limitation in studies that estimate discrimination against members of the LGBT

community. For example, gay and lesbian identity is typically signaled through listing participation in an LGBT club or organization on applicants' resumes (Flage 2019). In Granberg et al. (2020), transgender identities are signaled through a name change disclosed in the applicant's cover letter. In all cases, treated applicants are thus open about their sexual or gender identity. It is worth considering to what extent applicants who list "they/them" pronouns on their resume are the same or different from nonbinary applicants who may reveal their identity to their workplace later on (or not at all). Conceptually, disclosure of "they/them" pronouns on a resume may reflect positive selection (e.g., these applicants are so confident in their abilities as to feel comfortable listing pronouns and revealing a minority identity) and would thus mitigate employer discrimination. However, it may also reflect selection that employers are weary of (e.g., these applicants are louder about their nonbinary gender identity) and may thus amplify employer discrimination. Although I do not address these questions in this study, they should be considered when interpreting findings.

In the second treatment group, applicants disclose binary "he/him" or "she/her" pronouns congruent with name-implied sex and are thus signaled to be cisgender and disclosing pronouns. While there is no guarantee that employers will interpret binary pronoun disclosure in this way, it is a reasonable expectation: LGBT groups have encouraged pronoun disclosure among cisgender people in the workplace among cisgender as an inclusive act. The Gay and Lesbian Alliance Against Defamation (GLAAD) recommends allies "set an inclusive tone" by encouraging pronoun sharing in meetings and starting with oneself (GLAAD 2021). Out & Equal (a global nonprofit focused on LGBT workplace equity) advocates for workplaces to demonstrate inclusion by providing opportunities for people of all genders to share pronouns during the hiring process, during meetings, and in email signatures (Gelpi et al. 2020). These ideas have also been shared in more mainstream publications: for example, the New York Times published an editorial supporting the sharing of pronouns in workplace email signatures among cisgender workers (Galanes 2021). Considering pronoun disclosure on resumes specifically, multiple online articles from resume advice websites discuss how to

decide whether to list pronouns on a resume, and if so, how best to do so (Kohler 2021; Mahtani 2022; Rorris-Crow 2022). These articles generally mention that doing so is a step towards inclusivity for cisgender applicants.

Similarly, disclosing pronouns in social media profiles has become increasingly common among both transgender and cisgender people. In 2021, LinkedIn, Instagram, Twitter and other social media platforms each added an option for all users to include preferred pronouns in their profile (Elks 2021). Like providing opportunities for pronoun disclosure in the workplace, adding pronouns to social media profiles among cisgender people has also been encouraged by LGBT advocates as an inclusive act. For example, after Instagram added this feature, transgender athlete Schuyler Bailar quickly shared a photo to the platform of him holding a sign that reads "Put your pronouns in your bio! (Especially if you're NOT trans!)" alongside information on how to make the update (Bailar 2021). In terms of how common the practice is, Tucker and Jones (2023) find that among U.S. users, in the first six months of 2022, 4.61% of Twitter bios had pronouns listed. Of bios that list pronouns, just over 80% were either "he/him" or "she/her." Further, a 2022 YouGov poll found that 49% of Americans had encountered preferred pronouns listed in someone's social media bio (Ballard 2022).

1.1.3 Summary

A "summary" is a brief, typically one-sentence objective or summary statement that may be included at the top of a resume. An example of a summary input for applicants applying as an administrative assistant is "To secure a position with a well-established organization with a stable environment that will lead to a lasting relationship." Summaries are occupation-specific, and each occupation randomizes across four summary inputs (or no summary).

Occupation-specific summaries were sourced from resumes of job seekers on the same large job board website used to apply to job postings, for workers living in Idaho who currently hold that occupation. A state outside the geographies included in the study was selected

to ensure that the fictitious resumes used in this experiment were not submitted alongside resumes from which job descriptions were taken. Idaho was chosen specifically because it is adjacent to all three states of interest (Washington, Utah, and Colorado). Ordering resumes by date of upload to the job board website, summary inputs were taken from the first four resumes which included a summary or objective statement. In some cases, summaries were deemed inappropriate and disregarded (e.g., if the applicant discussed their intention to make a career change or where the summary could not be made generalizable across resumes that would be randomized) or adjusted (to ensure generalizability).

1.1.4 Education

For each occupation, the percentage of applicants whose highest education level is GED, high school diploma, Associate's degree, and Bachelor's degree was identified by averaging resume data available on the large job board across the six geographies in this study. These percentages determine the occupation-specific probability of resume pairs being randomly assigned each education level. Applicants with a high school diploma received that degree in 2017; applicants with a GED received that degree in 2019. Applicants with an Associate's degree achieved that degree between 2019 and 2022; applicants with a Bachelor's degree achieved that degree in 2021 or 2022.

For resumes assigned a high school diploma, three pairs of high schools were identified for each city. Each pair includes two close proximity public high schools (within 4 miles of each other) that have similar academic ratings according to Niche (2023): an organization that tracks comprehensive data on schools across the United States. Conditional on being assigned a high school diploma, resumes are equally likely to be assigned a pair of schools with high, medium, or low academic performance (i.e., a Niche academic rating of "A," "B," or "C" and below respectively). Resumes are "matched same" in terms of high school quality: if the first applicant is randomly assigned to have attended a high academic performance school, the second applicant will be assigned the other high school in that pair.

For resumes assigned post-secondary education, schools and concentrations are occupation-specific. For each geography and occupation, education background information was scraped from the large job board for workers currently holding the occupation of interest: 20 who had an Associate's degree and 20 who had a Bachelor's degree.[4] In total, 2,510 observations were collected, where each observation includes the school name and concentration. From this data, the most common four degree concentrations were identified for applicants with Associate's and Bachelor's degrees held by workers in each occupation. In addition, the two most common schools these degrees come from (for each of the six geographies) were identified. Concentrations and schools are then used as occupation and geography-specific education inputs.

1.1.5   Work Experience

One challenge of randomizing work experience in the context of this study is that applicants are applying in six different cities across 15 relatively low-skill occupations. Given that low-skill workers tend to have lower geographic mobility (Schmutz et al. 2021), the experiment is designed such that fictitious applicants are all local to the region they are applying. This must be reflected in their work experience; hence, company names must be geography-specific. Because applicants are "matched different" in terms of the companies they work at, sourcing entire work experience sections from actual resumes becomes infeasible: this may require finding a very large number of a particular type of company (e.g., construction companies) in each city. Finding so many company names, ensuring alignment between company names and job descriptions, and verifying the existence of the company during the claimed period of employment make this approach prohibitively difficult.

To overcome this, I leveraged an approach similar to Neumark et al. (2019) and sourced a pool of 188 job titles and descriptions from actual resumes scraped from the large job board website. From this collective pool, each occupation draws from an occupation-specific set

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[4]In cases where there did not exist 20 resumes of people currently holding that occupation in the geography of interest with one of these degrees, all available data was scraped

of 43 work experience options, which are randomly combined to create a work experience for each fictitious applicant. For each occupation, 10 of the 43 potential entries are in the occupation of interest (i.e., for janitor applications, 10 of the 43 potential entries are in the janitor occupation). As described above, pairs of resumes are matched in terms of whether their last entry is in the occupation of interest and in terms of how many total years of experience in the occupation of interest position each resume has. Resume pairs have a 25% chance of having their last work experience entry in the occupation of interest; they have an approximately 43% chance of having one of their first three entries in the occupation of interest. Variation in the extent of relevant work experience helps distinguish between statistical and taste-based discrimination and allows for Neumark (2012)'s method to address the Heckman-Siegelman critique.

To identify the occupation-specific set of 33 work experience inputs outside of the occupation of interest, data was scraped from resumes of job seekers on the large job board website. For each geography and occupation, resume data was scraped from 150 resumes of applicants currently holding that occupation[5]. In total, 11,705 observations were collected, where each observation includes the last three positions listed on the resume. Using this data, for each occupation the most common 12 positions held by workers before getting a job in the occupation of interest were identified. These 12 positions make up the total set of 33 inputs, where their relative frequency is designed to be representative (reflecting how likely it is that someone in the occupation of interest previously held another position). Pooling the 43 work experience options across all 15 occupations, and re-using positions and job descriptions where possible, generates the total set of 188 work experience options.

For each of the 188 work experience options, job descriptions were taken from actual resumes for workers living in Idaho who currently hold that occupation.[6] Ordering resumes

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[5]In cases where there did not exist 150 resumes of people currently holding that occupation in the geography of interest, all available data was scraped

[6]A location outside the geographies included in the study was selected to ensure that the fictitious resumes used in this experiment were not submitted alongside resumes from which job descriptions were taken. Idaho was chosen specifically because it is adjacent to all three states of interest (Washington, Utah, and Colorado).

by date of upload to the job board website, job descriptions were taken from the first resumes which included job descriptions listed in point form (or that could be easily converted into point form). As much as possible, descriptions were kept as-is (e.g., typos and grammatical errors were retained), but were adjusted or skipped as needed (e.g., if descriptions were too specific to the company of employment). While job descriptions were not city-specific, company names were. They were sourced from the list of most common companies worked at by job seekers who currently hold a position in that occupation and city. For some occupations, additional companies were found via Google Maps as needed. Companies were carefully selected to align with the job descriptions. For example, for a construction worker job description mentioning excavation, a company that appeared to offer excavation services was chosen. Similarly, for a receptionist role involving dental records, a company providing dental services was selected. At times, this process required removing job descriptions or making additional adjustments to the description, to ensure compatibility between company names and descriptions across all six geographies.

1.1.6 Names

The first names used in this study, where some imply the applicant is male and others female, are provided in Table 1. These names were randomly chosen among a list of 42 names that met two criteria. First, they were in the list of top 200 popular names given to babies born in the 1990s from U.S. Social Security (2023). Second, name-associated Warmth and Competence scores from Newman et al. (2018) were both between 1.95 and 3.25 (a range representing non-extreme scores).

The last names used in this study are provided in Table 2. These names were randomly selected from a list of 59 last names which met two criteria. First, they are in the top 100 most common last names in the United States from U.S. Census Bureau (2021b). Second, the percentage of the population with the last name that are white is less than 80 and the percent of the population with the last name that are African American, Pacific Islander,

Native, or Hispanic is less than 40 (each, not combined; this data was also sourced from U.S. Census Bureau 2021b). Overall, these last names are largely white but not strongly so: rather than being a strong indicator of race, last names were chosen to be racially ambiguous. As such, they are flexible to the racial norms of the geography and occupation: if in one geography, an occupation is dominated by a particular race, applicants would not be strongly signaled as differing from that norm.

First names were randomly matched to last names, yielding the final list of 12 names used in this study. This final list of full names and emails, in addition to the states these applicants "live" in and the order in which they apply for jobs, is provided in Table 3. Note that 10 U.S. phone numbers were obtained for this study; two for each local area code (206 in Seattle, WA; 509 in Spokane, WA; 720 in Denver, CO; 719 in Colorado Springs, CO; and 801 in Salt Lake City, UT and Provo, UT).

1.1.7 Resume Formatting

Two resume formats are leveraged, which are designed to look as different from each other as possible (different font, different ordering of resume categories, different style, etc.). Once generated, resumes are slightly adjusted (by changing font size or margin width) to ensure they are always exactly one page long. An example of a matched pair of formatted resumes is provided in Figure 1.

1.2 Geography Selection

Census Bureau Statistical Areas (CBSAs) chosen as geographies of interest within which to distribute fictitious resumes are provided in Table 4. Geographies were selected to include pairs of CBSAs that met three criteria. First, to impose consistency in discrimination legislation across states, CBSAs are in states which have legislation prohibiting labour market discrimination on the basis of both gender identity and sexual orientation. Second, to ensure there would be a sufficient number of job postings in all geographies, all CBSAs have a

population of at least 500 thousand. Finally, CBSA pairs must be in the same state and one must be categorized as Democratic and the other Republican. In all, this design prioritizes consistency in macroeconomic environments as well as state policy and legislation, to more purely focus on ideological and attitudinal differences between Democratic and Republican regions.

An implication of focusing on states which have legislation prohibiting labour market discrimination on the basis of gender identity and sexual orientation is that hiring discrimination against nonbinary applicants in these states may be lower on average than in states which do not have this legislation. While these laws have generally been shown not to improve outcomes for transgender and nonbinary people (Leppel 2021; Carpenter et al. 2020), the kinds of states which self-select into them may be less discriminatory against these groups on average.

1.3   Occupation Selection

Fictitious resumes were sent in response to job postings in the occupations detailed in Table 5. Occupations were chosen to balance across worker composition and customer interaction categories, prioritizing those with high worker counts and job postings that did not require post-secondary education. Worker composition categories include female-dominated, non-dominated, and male-dominated occupations; categorization is based on the percentage of workers who are male versus female. If two-thirds or more of the workers in an occupation are male, the occupation is deemed male-dominated (vice-versa for female-dominated occupations). Customer interaction categories include high, medium, and low customer facing; categorization is based on Occupational Information Network (O*NET) scores representing the importance of "performing for people or working directly with the public. This includes serving customers in restaurants and stores, and receiving clients or guests" (National Center for O*NET Development 2023). Occupations with scores above 75 are deemed high customer facing, between 50 and 75 medium, and below 50 low. There are very few male-dominated

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occupations with high customer interaction, hence there are no occupations included that fit this description.

The 15 occupations included in this study are in general lower skill, requiring no more than a high school education. This influences external validity and was done for a few reasons. First, this study seeks to compare discrimination across occupations which vary in worker composition and degree of customer interaction. This requires applying across a multitude of occupations which is less feasible in higher-skill occupations where there are more barriers to application (e.g., specialized job boards and more communication among employers). Second, this study seeks to compare discrimination across geographies which vary in political partisanship; for each occupation, there must be sufficient job postings in all geographies. Again, this is less feasible with higher-skill occupations which tend to be more geographically concentrated (e.g., there are limited computer programming job postings in Spokane). Third, the majority of U.S. workers do not have post-secondary education: 62.1% have below a Bachelor's degree and 51.6% have below an Associate's degree (U.S. Census Bureau 2022a). Understanding discrimination in the context of these occupations is thus important.

Within lower-skill occupations, the occupations included in this study make up a significant portion of the workforce: 15.1% of U.S. workers work in one of these 15 occupations (U.S. Census Bureau 2022b). Hence, results are representative of discrimination experienced in a wide set of lower-skill occupations and can likely be generalized across other similar occupations. However, results are likely not generalizable to higher-skill occupations. These companies may have different diversity and equity goals, and hiring managers in these occupations may be markedly different (e.g., they may be on average more educated).

1.4   Data Collection Process

With a team of Research Assistants (RAs), between May and October 2023, 7,970 resumes were sent as matched pairs in response to 3,985 job postings on a large job board website

across the 15 occupations and six geographies outlined above. Every week, each RA would be assigned one fictitious applicant and would apply to jobs on that applicant's behalf. They were given a weekly list of targets (per CBSA-occupation pair), where targets were generated to balance application counts per occupation and occupation category across sex and CBSA. Between 12 and 36 hours of the first application, the matched resume was sent to the same job posting by the second fictitious applicant (of the same sex in the same geography).

When finding eligible job postings, RAs searched for jobs in Salt Lake City, UT; Provo, UT; Denver, CO; Colorado Springs, CO; Seattle, WA; and Spokane, WA. Jobs had to be posted within three days of the application date, had to be located within 25 miles of the city being searched, and had to be located in the correct state (this only applied to Spokane, which is near the Washington-Idaho border). RAs read each job posting to ensure the job being applied for was being categorized as the correct occupation, that it did not require more than one year of occupation-specific work experience, that it did not require other specific qualifications that were generally not incorporated into our resumes, and that it was not a supervisor or managerial role. A process was set up which enabled RAs to check whether we had already applied to a job posting under the same company name in the same state; if so, the job posting was rendered ineligible. An exception to this rule was made in cases where the first paired application occurred at least 3 weeks before the potential second paired application, the job posting is for a distinctly different occupation (e.g., applicants originally applied as a janitor and there is a new job posting for a receptionist), and the first and second paired applications are of different implied sexes. A second exception to this rule was made in cases where applications are sent to unique franchisees operating under one company name. These exceptions make up well under 1% of observations. In addition, a process was set up which enabled RAs to check the company name against a list of hundreds of job agencies; if the job was posted by a job agency, the job posting was rendered ineligible. Job agencies typically respond positively to all applicants since they seek to match a wide range of applicants with employers (regardless of skill or background experience)–hence,

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these "employers" make poor experimental targets.

Finally, some jobs required applicants to answer questions during the application process. As long as answers could be found directly in the resume (e.g., "what is your highest education level?" or "how many years of janitorial experience do you have?") RAs answered the question. If questions were asked where answers could not be found in the resume (e.g., "how would you describe your teamwork style?" or "why are you interested in this job?" or "why did you leave your last job?") answers would be left blank; if answers were required, this rendered the job posting ineligible and no application was sent. If jobs required the applicant to include a detailed work history as part of their application (i.e., effectively having the applicant duplicate their resume in an alternative form), this also rendered the job posting ineligible. In this case, employers would be unlikely to open the applicant's resume at all, and instead rely on the duplicate resume provided in the application; the experiment is not happening since no pronoun signal is being communicated. Finally, if job postings did not require that applicants attach a resume as part of the application process, this rendered the job posting ineligible. If no resume is required, it is unlikely that employers will open and review applicant's resumes; again, the experiment would not happen.

The count of paired resumes sent to job postings in each occupation by treatment type and city is provided in Table 6 and Table 7. These tables show that application counts are generally balanced within CBSA, occupation, and treatment; there is also balance when aggregating across occupation categories. In total 1,304 pairs of resumes were sent to female-dominated, 1,376 to male-dominated, and 1,376 to non-dominated occupations; 1,176 resumes were sent to high, 1,623 to low, and 1,186 to medium customer facing occupations.

Employer responses (via voicemail, text message, email, and direct message through the job board) were carefully tracked and categorized, where positive employer response is the outcome of interest. As stated in the pre-analysis plan, "employer response [is] viewed as 'positive' if they contact the applicant and either offer an interview or request the applicant contact them." This excludes employer responses that acknowledge receipt of the applica-

tion, invite applicants to fill out an additional application on another application portal, and questions like "are you still interested in the position?" which appear to often be automatically sent to all applicants. It also excludes overtly negative employer responses, for example when employers notify the applicant that they are not moving forward with their application. An alternative definition is also investigated: employer response is viewed as "positive" if there is any possibility that the response could be interpreted positively. Compared to the former definition, this alternative considers responses like "are you still interested in the position?" to be positive. It also considers cases where the employer asks the applicant to answer additional questions or take an online assessment to be positive.

Finally, significant data cleaning was undertaken to ensure high-quality data was retained. If applications were later discovered to have been sent to job agencies or a company that had already been applied to, or if the job posting text was later discovered to include experience requirements that made it ineligible, these data were excluded from analysis. Company names were heavily scrutinized to identify cases where companies are the same, but spelling or wording differed (e.g., "American Building Maintenance," "ABM Industries," "ABM," "ABM, Inc" are all the same company).

2   Empirical Strategy

The empirical strategy employed here closely follows a pre-analysis plan registered with the American Economic Association prior to data collection.[7] A set of pre-defined regressions are run to investigate the primary and secondary hypotheses. A pre-defined robustness check is also conducted, using a method by Neumark (2012) to determine if results are robust to the Heckman-Siegelman critique. Through this section, the following notation is used when discussing logistic regression:

$$P(y_{ij} = 1) = \frac{1}{1 + e^{-z}}$$

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[7]Any differences between the pre-analysis plan and analysis reported here, or cases when analysis is reported that was not included in the pre-analysis plan, are noted.

where y_{ij} is an indicator variable which equals 1 if applicant i received a positive response from firm j and z is the model specification to be described below. For all regressions, standard errors are clustered at the job posting level. In the pre-analysis plan, standard errors were said to be clustered at the "firm" level; since the experimental design allows for multiple applications to the same firm (if they are located in different states) this has been modified for clarity.

To estimate discrimination against applicants who disclose nonbinary or binary pronouns, the following logistic regression is run:

$$(1) \qquad z = \alpha_j + \gamma NB_i + \lambda B_i + X_i'\beta_1 + Z_j'\beta_2 + \varepsilon_{ij}$$

where α_j are job posting fixed effects, NB_i is an indicator variable which equals 1 if the resume has nonbinary "they/them" pronouns listed, B_i is an indicator variable which equals 1 if the resume has binary "he/him" or "she/her" pronouns listed, X_i is a vector of resume characteristics that may influence baseline employer response rates, Z_j is a vector of firm and employer characteristics which many influence baseline employer response rates, and ε_{ij} is an error term. Multiple specifications are run, where some include and some exclude (α_j, X_i, Z_j); when "excluding" α_j it is replaced with intercept α. Coefficient estimates $\hat{\gamma}, \hat{\lambda}$ can be interpreted as discrimination against applicants who disclose pronouns. Note that similar to clustered standard errors, in the pre-analysis plan α_j was said to be "firm" fixed effects; this has been similarly modified for clarity.

To determine the extent to which discrimination against applicants who disclose "they/them" pronouns is rooted in gender identity rather than the act of pronoun disclosure more generally, the following logistic regression is run on a subset of the data which excludes control resumes (i.e., all resumes included in the regression list pronouns):

$$(2) \qquad z = \alpha + \delta NB_i + X_i'\beta_1 + Z_j'\beta_2$$

Similar to equation (1), multiple specifications are run. Defining ξ as the proportion of discrimination faced by applicants who disclose "they/them" pronouns attributable to their nonbinary gender identity, this can be estimated:

(3) $\quad \xi = \dfrac{\delta}{\gamma}$

Remaining discrimination can be attributed to the act of pronoun disclosure (independent of which pronouns are being disclosed).

For each secondary hypothesis, (1) is run separately for each group being compared. In addition, the following logistic regressions are run where each tests a different hypothesis:

$$(4.1) \quad z = \alpha_j + \gamma_1 NB_i + \gamma_2[NB_i \cdot R_j] + \lambda_1 B_i + \lambda_2[B_i \cdot R_j] + X_i'\beta_1 + Z_j'\beta_2 + \varepsilon_{ij}$$

$$(4.2) \quad z = \alpha_j + \gamma_1 NB_i + \gamma_2[NB_i \cdot EO_j] + \gamma_3[NB_i \cdot GS_j] + \gamma_4[NB_i \cdot SB_j] + \lambda_1 B_i + \lambda_2[B_i \cdot EO_j] +$$
$$+ \lambda_3[B_i \cdot GS_j] + \lambda_4[B_i \cdot SB_j] + X_i'\beta_1 + Z_j'\beta_2 + \varepsilon_{ij}$$

$$(4.3) \quad z = \alpha_j + \gamma_1 NB_i + \gamma_2[NB_i \cdot HC_j] + \gamma_3[NB_i \cdot LC_j] + \lambda_1 B_i + \lambda_2[B_i \cdot HC_j] +$$
$$+ \lambda_3[B_i \cdot LC_j] + X_i'\beta_1 + Z_j'\beta_2 + \varepsilon_{ij}$$

$$(4.4) \quad z = \alpha_j + \gamma_1 NB_i + \gamma_2[NB_i \cdot M_i] + \lambda_1 B_i + \lambda_2[B_i \cdot M_i] + X_i'\beta_1 + Z_j'\beta_2 + \varepsilon_{ij}$$

$$(4.5) \quad z = \alpha_j + \gamma_1 NB_i + \gamma_2[NB_i \cdot RLE_i] + \lambda_1 B_i + \lambda_2[B_i \cdot RLE_i] + X_i'\beta_1 + Z_j'\beta_2 + \varepsilon_{ij}$$

$$(4.6) \quad z = \alpha_j + \gamma_1 NB_i + \gamma_2[NB_i \cdot MD_j] + \gamma_3[NB_i \cdot FD_j] + \lambda_1 B_i + \lambda_2[B_i \cdot MD_j] + \lambda_3[B_i \cdot FD_j] +$$
$$+ X_i'\beta_1 + Z_j'\beta_2 + \varepsilon_{ij}$$

Interaction variables $(R_j, HC_j, LC_j,$ etc.) are described in Table 8. Versions of equations $(4.1), (4.3), (4.6)$ are investigated which replace indicator variables with Republican vote share, O*NET customer interaction score, and percent of the workforce that is male respectively. Similar to equation (1), multiple specifications are run. The second version of equation (4.6) contains a small change from the pre-analysis plan, which states that the continuous variable used in place of MD_i, FD_i is the difference in the share of female and male workers. This is changed to the share of male workers alone, which is mathematically equivalent (the variables are perfectly collinear) but has a more straightforward interpretation.

A final regression is run including all interaction simultaneously:

$$(5) \quad z = \alpha_j + \gamma_1 NB_i + \gamma_2[NB_i \cdot R_j] + \gamma_3[NB_i \cdot EO_j] + \gamma_4[NB_i \cdot GS_j] + \gamma_5[NB_i \cdot SB_j] +$$
$$+ \gamma_6[NB_i \cdot HC_j] + \gamma_7[NB_i \cdot LC_j] + \gamma_8[NB_i \cdot M_i] + \gamma_9[NB_i \cdot RLE_i] + \gamma_{10}[NB_i \cdot MD_j] +$$
$$+ \gamma_{11}[NB_i \cdot FD_j] + \lambda_1 B_i + \lambda_2[B_i \cdot R_j] + \lambda_3[B_i \cdot EO_j] + \lambda_4[B_i \cdot GS_j] + \lambda_5[B_i \cdot SB_j] +$$
$$+ \lambda_6[B_i \cdot HC_j] + \lambda_7[B_i \cdot LC_j] + \lambda_8[B_i \cdot M_i] + \lambda_9[B_i \cdot RLE_i] + \lambda_{10}[B_i \cdot MD_j] + \lambda_{11}[B_i \cdot FD_j] + \varepsilon_{ij}$$

As above, multiple specifications are run. As with equations $(4.1), (4.2), (4.6)$ a second version is run which replaces indicator variables with Republican vote share, O*NET customer interaction score, and percent of the workforce that is male respectively.

In terms of control variables, Table 9 contains variables included in X_i. Note that work experience is defined as "relevant" if it is in the position being applied for (e.g., if an applicant is applying to a janitor position, they have relevant work experience if they have previously worked as a janitor). Work experience is defined as "most common" if it is in the position observed to be most common among non-"relevant" past experiences. This position is occupation-specific, and identified from the resume-scraping process described in Section 1.1.5: of the 12 positions identified for each occupation, this is the position that is most commonly observed before the worker obtained a job in the occupation of interest. Work experience is defined as "common" if it is the second or third most common position. Identifying these relevant and common positions is done to control for past work experience in a way that is consistent across occupations. I include these variables in lieu of position fixed effects because experience in a given position is likely to influence the probability of positive employer response heterogeneously across occupations. For example, cashier experience may be seen as generally relevant when applying as a sales associate but generally irrelevant when applying as a janitor. Instead, the extent to which past experience is more or less commonly observed among workers currently holding the occupation being applied to is controlled for.

Table 10 contains variables included in Z_j. Note that I was unable to obtain data on firm size, so this is not included as a firm characteristic (a departure from the pre-analysis plan). Income is estimated based on posted wage (which was typically a range, with a lower and upper bound), assuming 40 hours of work per week and 48 working weeks per year. At times, wage was stated as a daily, weekly, or annual rate rather than an hourly wage; this was similarly converted to an estimated annual income (daily rates were multiplied by 240, weekly by 48, and annual rates were taken as given). For truck drivers, wage was at times listed as a per-mile rate. This was converted to an estimated annual income by multiplying

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by 125,000–the average annual miles driven for Over the Road truck drivers (CDS Tractor Trailer Training 2019).

3   Results

Results presented in this section use the definition of positive employer response defined in this study's pre-analysis plan.[8] Results associated with the alternative definition[9] is presented in the Appendix. Results are overall consistent across both definitions, but there is stronger evidence of discrimination against applicants disclosing "he/him" or "she/her" pronouns with the latter definition.

Summary statistics including positive employer response rates and Chi-squared test results are presented in Section 3.1. Regression results associated with equations (1) and (2) (i.e., primary hypotheses) are presented in Section 3.2. Regression results associated with equations (4.1) to (4.6) and (5) (i.e., secondary hypotheses) are presented in Section 3.3.

3.1   Summary Statistics

Figure 2 shows positive employer response rates by pronoun disclosure group. Table 11 shows the raw differences in positive response rates by pronoun disclosure, both in total and by group of interest (implied sex, geographic politics, occupation categorization, job posting text). For each difference in response between treatment and control groups, Chi-squared test results are also reported. Table 12 shows the same information by geography (by state and by city); Table 13 by individual occupation.

From these tables come a few highlights. First, the raw reduction in response rate associated with pronoun disclosure is larger when "they/them" pronouns are disclosed than when "he/him" or "she/her" pronouns (congruent with name-implied sex) are disclosed for

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[8]From the pre-analysis plan: "employer response [is] viewed as 'positive' if they contact the applicant and either offer an interview or request the applicant contact them." See Section 1.4 for more information.

[9]In this alternative definition, any response that could be interpreted positively is categorized as positive. See Section 1.4 for more information.

almost every group. In addition, the statistical significance of the reduction is consistently stronger for these applicants. While differences in reduction magnitude across states appear negligible, differences between cities are larger and appear to be in line with political affiliation. Comparing outcomes across individual occupations, baseline positive employer response rates vary significantly (ranging from 16.1% to 47.5% for applicants who do not disclose pronouns). Unsurprisingly, when looking at occupations individually, the statistical significance of response reduction is limited due to relatively small sample sizes.

3.2   Regression Analysis: Primary Hypotheses

Table 14 reports regression results for equation (1). Note that the interpretation of regression coefficients in specification (E) is unique: when including job posting fixed effects, observations with concordant employer responses (i.e., both resumes in a matched pair sent to Firm A receive positive employer response or both receive no response) are excluded from analysis, and only observations with discordant employer responses are retained. Hence, marginal effects reported in (E) are conditional on discordant employer responses, explaining the large discrepancy in estimates between (A) to (D) and (E). As a result, I focus on coefficient estimates from (A) to (D), and include (E) as an additional check that results are consistent in terms of sign and statistical significance. These results show that, for the average applicant, disclosing nonbinary "they/them" pronouns reduces the rate of positive employer response by 5.4 to 5.5 percentage points relative to no pronoun disclosure; this estimate is statistically significant at the 1% level and robust to all specifications. Disclosing binary "he/him" or "she/her" pronouns congruent with name-implied sex reduces the rate of positive employer response by 1.7 to 1.8 percentage points relative to no pronoun disclosure. While these estimates are statistically insignificant except for specification (E), using the alternative definition of positive employer response[10] yields slightly higher estimates (2.0 to 2.2 percentage points) that are statistically significant at the 10% level in all specifications

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[10]In this alternative definition, any response that could be considered positive is categorized as positive. See Section 1.4 for more information.

except (E). This can be seen in Table 34 in the Appendix. There is thus strong evidence of discrimination against applicants who disclose nonbinary "they/them" pronouns and limited evidence of discrimination against applicants who disclose binary "he/him" or "she/her" pronouns congruent with the sex implied by the applicant's name.

From the regressions reported in Table 14, it remains unclear whether there is a statistically significant difference in discrimination between applicants disclosing nonbinary "they/them" pronouns and applicants disclosing binary "he/him" or "she/her" pronouns congruent with name-implied sex. Following equation (3), this investigation enables the decomposition of discrimination faced by applicants who disclose "they/them" pronouns into the portion driven by their nonbinary gender identity versus the act of pronoun disclosure (regardless of which pronouns are being disclosed). Table 15 reports regression results for equation (2), which identifies the former. Note that because this regression includes treated resumes only, it is not possible to include job posting fixed effects. These results show that disclosing nonbinary "they/them" pronouns reduces the rate of positive employer response by 3.6 to 3.8 percentage points compared to applicants who disclose binary "he/him" or "she/her" pronouns congruent with name-implied sex; this estimate is statistically significant at the 5% level and robust to all specifications. There is thus evidence that discrimination against applicants who disclose "they/them" pronouns is primarily identity-driven. Combining these results with the above, from equation (3) it can be estimated that 66% to 70% of discrimination faced by applicants who disclose "they/them" pronouns is identity-based; the remaining may be driven by the act of pronoun disclosure in general. However, given the limited statistical significance of discrimination against those who disclose binary pronouns, identity-based discrimination may make up as much as 100% of the observed discrimination.

3.3 Regression Analysis: Secondary Hypotheses

3.3.1 Discrimination by Geographic Politics

Table 16 reports the results of equation (4.1) and of equation (1) when isolating applications in Democratic and Republican geographies; it carries two implications. First, there is suggestive evidence that discrimination against applicants disclosing nonbinary "they/them" pronouns is larger in Republican geographies than in Democratic geographies. For the average applicant, disclosing these pronouns is estimated to reduce positive employer response rates by between 3.5 to 3.6 percentage points at baseline. In Republican areas, positive employer response is estimated to be reduced by an additional 3.7 to 4.0 percentage points (i.e., discrimination more than doubles, increasing by 102% to 113%). In four of five specifications, this increase is statistically significant at the 5% level; hence, there is evidence that there is a difference in discrimination magnitude based on geographic politics. The increase in discrimination observed in Republican geographies may be driven by attitudinal differences between Republican and Democratic areas: pairs of cities in the same state are included in this analysis, where one is categorized as Democratic and the other Republican. This was done to control for state-level macroeconomic environments, policy, and legislation to focus on differences in attitudes between regions.

Second, the point estimate of discrimination against applicants disclosing binary "he/him" or "she/her" pronouns is larger in Republican than Democratic areas: 2.2 to 2.8 percentage points compared to 0.9 to 1.2 percentage points. In addition, despite lower sample sizes, statistical significance is stronger in Republican areas with specifications (A) and (E) now significant at the 10% level. Hence, while the difference between discrimination levels is statistically insignificant between Democratic and Republican geographies for this group, there is some evidence that discrimination exists in Republican geographies (it may also exist in Democratic geographies, but this is less clear). This is consistent with Gift and Gift (2015), who find that applicants with a minority political affiliation (e.g., signaled liberal through

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pronoun disclosure in a conservative or Republican area) are less likely to receive a positive employer response while applicants with a majority political affiliation are no more or less likely to receive a positive employer response.

Table 17 shows results associated with Panel C of Table 16, where the Republican geography indicator variable is replaced with a Republican vote share variable. Two specifications are presented, where one includes no squared term and the second includes a squared term. While statistical significance is stronger in the latter case, the specific relationship between Republican vote share and discrimination remains in question. However, these results do suggest that there is some relationship between vote share and discrimination magnitude faced by applicants disclosing "they/them" pronouns. Table 18 shows the implied discrimination faced by the average applicant in geographies with varying Republican vote shares when the squared term is included. In geographies with Republican vote share between 30% to 70%, discrimination is estimated to range from 1.3 to 7.6 percentage points for applicants disclosing "they/them" pronouns.

This evidence is suggestive and not causal: it could be that political partisanship is correlated with other factors that are leading to differences in discrimination. For example, perhaps the kinds of people who openly identify as nonbinary differ between Democratic and Republican areas; if so, statistical discrimination may be geography-specific. Further, this analysis is based on six cities in three states; results found here may be specific to these locations in some ways, especially when it comes to estimate precision and the relationship between vote share and discrimination. In addition, all three states have state-level legislation prohibiting discrimination on the basis of gender identity and sexual orientation. Differences in discrimination levels in states that do not select into these laws may be larger (or smaller) than those that do. In sum, evidence is found that discrimination against applicants disclosing "they/them" pronouns is larger in Republican than Democratic geographies which may be driven by attitudinal differences. However, drawing broad conclusions from this finding is cautioned against.

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3.3.2 Discrimination by Job Posting Characteristics

Table 19 reports the results of equation (4.2) and of equation (1) when isolating applications to job posting with different key words or phrases. This table shows that for applicants disclosing nonbinary "they/them" pronouns, there is no evidence that discrimination meaningfully differs between job postings containing the investigated key words and phrases. However, for applicants disclosing binary "he/him" or "she/her" pronouns congruent with name-implied sex, there is some evidence that discrimination is higher when applying to job postings that mention the employer is "equal opportunity" and lower (or even positive) when applying to job postings that mention the employer is a small business. Given limited statistical significance (results are generally significant at the 10% level), this may be noise in the data. In addition, this outcome is not wholly unsurprising when it comes to job postings which mention "equal opportunity:" it is consistent with Bertrand and Mullainathan (2004) who find that discrimination is no lower when employers explicitly state that they are "Equal Opportunity Employers."

3.3.3 Discrimination by Customer Interaction, Implied Sex, Experience, and Worker Composition

Table 20 reports the results of equation (4.3) and of equation (1) when isolating applications based on occupation customer interaction category. This table shows that for applicants who disclose nonbinary "they/them" pronouns, there is limited evidence that there are differences in discrimination based on the extent to which the occupation involves customer interaction. Overall, results do not suggest that employers are discriminating on behalf of their customers: discrimination is highest among low customer facing occupations. This is echoed by the general lack of statistical significance found when replacing customer facing indicators with raw O*NET customer interaction scores. Table 21 reports the results of these regressions.

Tables 22, 23, 44, and 25 report the results of equations (4.4), (4.5), (4.6) and of equation (1) for different application groups. These tables show that there is no evidence that dis-

crimination meaningfully differs between applicants who are implied male and female; with more or less relevant experience; or between occupations with different male-female worker compositions. These null results are themselves interesting: for example, unlike other LGBT groups (e.g., gay men and lesbians, transgender men and women) there is no evidence that nonbinary applicants who are assigned male at birth experience higher rates of discrimination. This may imply that discrimination against nonbinary applicants differs importantly from discrimination faced by other LGBT groups. No differences in discrimination by relevant experience implies there is no evidence of statistical discrimination. Finally, finding no differences in discrimination in male-dominated, non-dominated, and female-dominated occupations differs from the findings of Granberg et al. (2020). In this study, researchers find no evidence of discrimination against transgender men and women in mixed occupations but do find evidence of discrimination in male-dominated and female-dominated occupations. This discrepancy in findings may indicate that nonbinary applicants are seen as distinctly different from transgender men and women or that there are differences in perception between employers in Sweden and the United States.

Tables 26, 28, and 27 present regression results associated with equation (5) which includes all interaction variables simultaneously. The results presented in these tables are consistent with those presented in all sections thus far.

4 Robustness Check: Heckman-Siegelman Critique

Heckman and Siegelman (1993) and Heckman (1998) show that if the variance of unobservable determinants of productivity differs between treatment and control groups, correspondence studies can find spurious estimates of discrimination. That is, if employers engage in second-moment statistical discrimination (i.e., differential treatment of groups based on differences in the variance of unobservables), correspondence study estimates can be biased in either direction. This is true even if correspondence studies keep observable productivity

indicators experimentally constant.

Neumark (2012) developed a method to address this critique which relies on an additional identifying assumption: that some applicant characteristics affect perceived productivity and that the impact of these characteristics on perceived productivity does not vary between groups. Under this assumption (which has testable implications), discrimination estimates can be disaggregated into a level part that includes taste-based and first-moment statistical discrimination, and a variance part that includes second-moment statistical discrimination. This adjustment can meaningfully change results: when re-assessing evidence from six resume studies that find evidence of labour market discrimination with sufficient information to correct for this bias, Neumark and Rich (2019) find that unbiased (level) estimates for half of them decrease to near zero, become statistically insignificant, or change sign.

To apply the method using a heteroskedastic logistic model rather than the heteroskedastic probit model Neumark uses, marginal effects can be similarly disaggregated as follows. As in Neumark (2012), consider a model with generic notation, where the latent variable $Y^* = P(Y = 1)$ depends on a vector of variables S (indexed by k) with coefficients ψ, and the variance depends on a vector of variables T with coefficients θ. That is:

(6) $\quad Var(\varepsilon) = [\exp(T\theta)]^2$

With the elements of T arranged such that the kth element is S_k, then the overall partial derivative of $P(Y = 1)$ with respect to S_k is:

(7) $\quad \dfrac{\partial P(Y = 1)}{\partial S_k} = \dfrac{\left(\dfrac{\psi_k - X'\psi \cdot \theta_k}{\exp(T'\theta)}\right) \cdot \exp\left(\dfrac{-X'\psi}{\exp(T'\theta)}\right)}{\left[1 + \exp\left(\dfrac{-X'\psi}{\exp(T'\theta)}\right)\right]^2}$

The level part is then:

(7′) $\quad \dfrac{\left(\dfrac{\psi_k}{\exp(T'\theta)}\right) \cdot \exp\left(\dfrac{-X'\psi}{\exp(T'\theta)}\right)}{\left[1 + \exp\left(\dfrac{-X'\psi}{\exp(T'\theta)}\right)\right]^2}$

While the variance part is:

$$(7'') \quad \frac{\left(\frac{-X'\psi \cdot \theta_k}{\exp(T'\theta)}\right) \cdot \exp\left(\frac{-X'\psi}{\exp(T'\theta)}\right)}{\left[1 + \exp\left(\frac{-X'\psi}{\exp(T'\theta)}\right)\right]^2}$$

The results of Neumark's method are in Table 49; I referenced code provided by Neumark et al. (2016) when generating results. For applicants who disclose nonbinary "they/them" pronouns, controlling for differences in the variance of unobservables yields an unbiased discrimination estimate of 5.3 percentage points for the average applicant, statistically significant at the 5% level. For applicants who disclose binary "he/him" or "she/her" pronouns congruent with name-implied sex, controlling for these differences increases the point estimate to 3.0 percentage points, but it is statistically insignificant (this method yields higher standard errors).

5 Magnitude Comparison: Sex Discrimination

Note: analysis discussed in this section is not included in the study's pre-analysis plan.

After finding evidence of discrimination against applicants who disclose pronouns, it is of interest to compare discrimination magnitude to other forms of discrimination. Do applicants who disclose "they/them" pronouns experience more, less, or similar rates of discrimination compared to other marginalized groups? This can be done using the data collected for this study, by comparing positive employer response rates for applicants implied male versus female in occupations with different worker compositions (male-dominated, non-dominated, and female-dominated). Research consistently shows evidence of hiring discrimination against male applicants in female-dominated occupations and vice-versa for female applicants (Rich 2014; Yavorsky 2019; Cortina et al. 2021), making this comparison insightful.

Figure 3 shows a positive employer response rate between males and females, both in total and by occupation type. Using the same logistic regression and variable notation detailed in

Section 2, Table 30 shows the results of the following two logistic regressions:

(8) $\quad z = \alpha + \eta M_i + X_i'\beta_1 + Z_j'\beta_2$

(9) $\quad z = \alpha + \eta_1 M_i + \eta_2[M_i \cdot FD_j] + \eta_2[F_i \cdot MD_j] + X_i'\beta_1 + Z_j'\beta_2$

where F_i is an indicator variable that equals 1 if the applicant is implied female. Multiple specifications are run, where some include and some exclude (X_i, Z_j). Vectors of controls X_i, Z_j include the same variables as what is described in Section 2; in addition, pronoun disclosure indicator variables NB_i, B_i are included as controls in all regressions.

These results show that applicants who are implied to be male (signaled through name) experience discrimination in female-dominated and non-dominated occupations: positive employer response rates are 3.5 of 4.8 percentage points lower for males compared to females in these occupations. Applicants who are implied to be female experience discrimination in male-dominated occupations: positive employer response rates are 5.6 to 6.4 percentage points lower for females compared to males in these occupations. Hence, discrimination against applicants disclosing nonbinary "they/them" pronouns is of a similar magnitude to discrimination faced by males applying in female-dominated and non-dominated occupations and females applying in male-dominated occupations.

That being said, there is an important difference in how identity is signaled to employers when looking at pronoun disclosure versus implied sex. For pronouns to be observed by employers, they must open an applicant's resume; if they do not, the identity signal is never communicated and employers are not given the opportunity to discriminate. In comparison, sex is signaled through name and is thus always communicated to the employer even if the applicant's resume is left unopened. This distinction may be salient since it was not uncommon for employers to ask experience and education-related questions during the application process. It is thus possible that employers use answers as an application filtering tool and thus never open applicant resumes. On the one hand, this may reflect a real reduction in hiring discrimination faced by applicants who disclose pronouns: it may be easier for these applicants to evade discrimination in the interview phase of the hiring process. On the other

hand, this may imply that estimates of discrimination are understated relative to detection of other forms of discrimination: at the interview, once the applicant's identity signals are communicated, previously undetected discrimination may take place.

6   Discussion

In this paper, I presented the results of the first large-scale resume audit study evaluating hiring discrimination based on pronoun disclosure. Two resume treatments were evaluated: nonbinary "they/them" pronouns listed below the applicant's name and binary "he/him" or "she/her" pronouns congruent with name-implied sex listed below the name. To estimate discrimination, positive employer response rates for these treatment resumes were compared to matched control resumes which did not list pronouns. To estimate the portion of discrimination faced by applicants who disclose "they/them" rooted in their nonbinary gender identity, positive employer response rates were compared to applicants who disclose binary pronouns.

Overall, there is strong evidence of discrimination against applicants who disclose nonbinary "they/them" pronouns: doing so was found to reduce positive employer response by 5.4 to 5.5 percentage points. These estimates are statistically significant at the 1% level and robust to the Heckman-Siegelman critique. Further, comparing applicants who disclose "they/them" pronouns to those who disclose "he/him" or "she/her" pronouns congruent with name-implied sex, the former experience a 3.6 to 3.8 percentage point reduction in positive employer response. Hence, for applicants disclosing "they/them" pronouns, an estimated 66% to 70% of discrimination is found to be rooted in their nonbinary gender identity rather than the act of pronoun disclosure more generally. Discrimination estimates may be low relative to the U.S. average since all three states included in this study have explicit state-level legislation which prohibits labour market discrimination on the basis of gender identity and sexual orientation. Further, while external validity is strong across similar

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lower-skill occupations, results likely are not generalizable across higher-skill occupations which may have different diversity and equity goals, hiring practices, and hiring managers. Finally, the discrimination estimated here is against applicants who are open about their nonbinary gender identity; these applicants must select into listing "they/them" pronouns on their resume. These applicants may be different from applicants who are not open about their gender identity (or, who are not as open).

There is limited evidence of discrimination against applicants who disclose binary "he/him" or "she/her" pronouns. Point estimates from the main analysis show that applicants who disclose these pronouns received reduced positive employer response by 1.7 to 1.8 percentage points–however, estimates are statistically significant except for specification (E). Results associated with the alternative definition of positive employer response[11] indicate that binary pronoun disclosure reduces positive employer response by 2.0 to 2.2 percentage points and all specifications except (E) are statistically significant at the 10% level. Whether discrimination exists against this group (and to what magnitude) thus remains in question: limited evidence was found in this study. As such, for applicants disclosing "they/them" pronouns, up to 100% of discrimination may be rooted in their nonbinary gender identity.

Considering how discrimination rates vary across applicant, occupation, and geographic characteristics, I find suggestive evidence that discrimination against applicants who disclose "they/them" pronouns is larger in Republican than Democratic geographies. This is consistent with research by Tilcsik (2011) who finds that estimates of discrimination against openly gay men in the U.S. vary across states based on differences in political sentiment, policy and legislation, or both. The results found in this study build on Tilcsik's findings by including pairs of Republican and Democratic geographies located in the same state to control for state-level macroeconomic environments, policy, and legislation. As a result, differences in geographic politics are focused on ideology and attitudes. For applicants who disclose binary "he/him" or "she/her" pronouns congruent with name-implied sex, while differences

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[11]In this alternative definition, any response that could be considered positive is categorized as positive. See Section 1.4 for more information.

in discrimination are not statistically different in Republican and Democratic geographies, point estimates are higher in Republican geographies: 2.2 to 2.8 percentage points versus 0.9 to 1.2 percentage points in Democratic geographies. Further, despite smaller sample sizes, some estimates are statistically significant at the 10% level. Given that disclosing pronouns can be interpreted as a political signal (that the applicant is more liberal), this is consistent with research from Gift and Gift (2015) who show that when applicants signal a minority political opinion, applicants face discrimination. It is important to underscore that these findings are suggestive and not causal: it may also be that geographic political leanings are correlated with other factors that are leading to differences in discrimination.

Consistent with Bertrand and Mullainathan (2004), there is no evidence that job postings that mention "equal opportunity" are less discriminatory towards applicants disclosing "they/them" pronouns. In fact, there is some limited evidence that they may discriminate more against applicants who disclose "he/him" or "she/her" pronouns (though limited statistical significance and smaller sample sizes imply this may be noise).

Interestingly, comparing discrimination across occupations with different levels of customer interaction shows no evidence that employers are discriminating on behalf of their customer's taste for discrimination: discrimination is highest among low customer facing occupations. In addition, there is no evidence that discrimination against either pronoun disclosure group meaningfully differs based on implied sex. This outcome is in contrast to general outcomes observed in the LGBT population, where those assigned male at birth typically experience worse labour market outcomes and higher rates of discrimination than those assigned female at birth. There is similarly no evidence that discrimination differs based on the applicant's years of relevant experience, and thus no evidence that employers are (on average) engaging in statistical discrimination (in the same direction). Finally, there is no evidence that discrimination differs based on occupation worker composition (i.e., across male-dominated, non-dominated, and female-dominated occupations). This differs from the findings of Granberg et al. (2020) who document evidence of discrimination against trans-

gender men and women only in male- and female-dominated occupations and not in mixed occupations. Results may differ in this study if nonbinary applicants are perceived and thus discriminated against differently than transgender men and women. It also may be that Sweden and the U.S. have strong cultural or other differences. Finally, differences may be driven by noisy data.

To put estimates of discrimination against applicants who disclose pronouns in context, discrimination was additionally estimated against females in male-dominated occupations and against males in non-dominated and female-dominated occupations. Findings indicate similar discrimination levels to applicants disclosing nonbinary "they/them" pronouns: in non-dominated and female-dominated occupations, positive employer response rates are 3.5 to 4.8 percentage points lower for the average male applicant compared to females. In male-dominated occupations, female applicants on average receive a positive employer response rate that is 5.6 to 6.4 percentage points lower than male applicants.

Additional questions remain, especially when it comes to heterogeneity in discrimination across occupations, the specific relationship between Republican vote share and discrimination magnitude, and how nonbinary applicants who disclose pronouns compare to those who do not. When it comes to applicants disclosing binary "he/him" or "she/her" pronouns congruent with name-implied sex, discrimination estimates are lower and evidence is weaker in general (limited statistical significance, estimates are not robust to the Heckman-Siegelman critique). Additional work focused on more precise estimates of discrimination against this group is warranted, especially if the practice of pronoun disclosure in the workplace continues to grow in popularity among cisgender workers.

Tables and Figures

Table 1: First Names Used in Study

| Implied Sex | First Name | 1990s Baby Name Popularity | | Name Association Scores | |
		Rank	Count (1,000s)	Warmth	Competence
Male	Patrick	42	93	3.23	3.15
Male	Jeremy	47	78	3.12	3.05
Male	Marcus	83	46	3.14	3.01
Male	Adrian	92	42	3.10	3.02
Male	Joel	112	34	3.24	3.12
Male	Parker	195	16	3.25	3.17
Female	Hannah	11	159	3.14	3.05
Female	Jasmine	25	105	2.87	3.09
Female	Leah	97	34	3.13	3.11
Female	Lindsay	104	31	3.13	3.00
Female	Marisa	188	16	3.07	3.18
Female	Gina	199	15	2.96	3.10

Note: rank is the rank of name popularity among babies born in the 1990s (where 1 is the most popular name); count is the count of babies born in the 1990s with that name; data is sourced from U.S. Social Security (2023). Data on name association scores (warmth and competency) is sourced from Newman et al. (2018). Note that the name Jasmine has been used to signal an applicant is Black in previous correspondence studies; however, Gaddis (2017) shows that it is a poor Black signal.

Table 2: Last Names Used in Study

| Last Name | Name Popularity | | Racial Composition | | |
	Rank	Count (1,000s)	% White	% African American	% Hispanic
Anderson	15	784	75.2	18.9	2.1
Thomas	16	756	52.6	38.8	2.6
Lewis	29	532	582	34.8	2.6
Allen	33	483	67.6	26.2	2.4
Nelson	43	425	77.7	16.0	2.0
Campbell	47	386	73.7	20.5	2.1
Phillips	52	361	76.7	17.1	2.2
Collins	59	330	71.6	22.4	2.2
Morris	62	319	73.6	20.1	2.2
Reed	73	277	71.3	22.6	2.3
Watson	81	253	66.0	27.9	2.3
James	85	249	51.6	38.9	2.6

Note: rank is the rank of name popularity among the United States population (where 1 is the most popular name); count is the count of people with that last name; data is sourced from U.S. Census Bureau (2021b).

Table 3: Full Names Used in Study

Full Name	State	Implied Sex	Email	Order
Marcus Thomas	Washington (WA)	Male	marcus.h.thomas@outlook.com	First
Patrick Lewis	Washington (WA)	Male	patrick.d.lewis@outlook.com	Second
Lindsay Campbell	Washington (WA)	Female	lindsay.a.campbell@outlook.com	First
Jasmine Phillips	Washington (WA)	Female	jasmine.m.phillips@outlook.com	Second
Joel Morris	Utah (UT)	Male	morris.d.joel@outlook.com	First
Jeremy Anderson	Utah (UT)	Male	jeremy.a.anderson@outlook.com	Second
Hannah Allen	Utah (UT)	Female	allen.l.hannah@outlook.com	First
Leah James	Utah (UT)	Female	leah.m.james@outlook.com	Second
Parker Reed	Colorado (CO)	Male	reed.parker@outlook.com	First
Adrian Nelson	Colorado (CO)	Male	adrian.m.nelson@outlook.com	Second
Marisa Watson	Colorado (CO)	Female	watson.e.marisa@outlook.com	First
Gina Collins	Colorado (CO)	Female	collins.gina@outlook.com	Second

Note: order denotes the order applications were sent in; for example, when applying as a female in Washington state, whichever resume is randomly assigned the name Lindsay Campbell will apply for the job first. This is described in more detail in Section 1.4.

Parker Reed
he/him

Location: Denver, CO
reed.parker@outlook.com | 1-720-316-7376

SUMMARY

- Detail oriented
- Leadership abilities
- Caring and compassionate
- Thrives in fast-paced settings
- Strong interpersonal skills
- Accurate patient documentation

Certifications: Certified Nursing Assistant, CPR / First Aid

EXPERIENCE

Certified Nursing Assistant, The University of Colorado Hospital — 07/2021 to present

- Complete administrative within the department
- Monitor patient heart rhythms and oxygen levels and escalate as appropriate
- Maintain solid communication with patients, visitors, nursing staff, and interdisciplinary team members
- Assist patients with activities of daily living and provide basic nursing care
- Assist in maintenance of a safe and clean environment

Customer Service Representative, Alorica — 04/2020 to 06/2021

- Answer incoming calls and assist customers with questions
- Retain product and process knowledge

Customer Service Representative, Allstate Insurance — 08/2018 to 03/2020

- Took in-coming calls and helped customers with all their insurance needs or questions
- Used courteous and professional phone etiquette
- Reached out to customers to schedule annual policy reviews
- Advised customers on insurance policy coverages and descriptions

Cashier, Walmart — 06/2017 to 07/2018

- Operated cash register and accurately processed payments, returns, and exchanges
- Provided efficient and courteous service to customers
- Used POS system to complete purchases for customers
- Processed customer orders and ensured the accuracy of their purchases
- Greeted customers entering store and responded promptly to customer needs

EDUCATION

Bachelor's Degree (Biology): University of Colorado — 2021
High School: Jefferson Academy High School — 2017

References Available Upon Request

Adrian Nelson
Denver, CO | adrian.m.nelson@outlook.com | (720)-738-0456

Work Experience

September 2021 - Present   Denver Skilled Nursing and Rehabilitation Center, Certified Nursing Assistant
- Answered call lights and supported patient comfort and safety by adjusting bed rails and equipment
- Promoted good oral and personal hygiene by aiding patients with shaving, bathing, and teeth brushing
- Checked patient vitals such as temperature, blood pressure and blood sugar levels
- Cared for residents in assisted living facility and delivered high-quality support to meet needs
- Practiced proper perineal care to provide comfort and skin integrity

July 2020 - August 2021   Outback Steakhouse, Host
- Responsible for greeting and seating customers, including managing wait lists
- Coordinate with serving staff to ensure a smooth and satisfactory service
- Answered phones, recorded reservations, and resolved customer issues

April 2019 - June 2020   Domino's, Delivery Driver
- Deliver and follow directions to customers house
- Provide customer service at counter
- Clean up for closing

August 2017 - March 2019   Denver Arthritis Clinic, Administrative Assistant
- Serve as direct assistant to Office Manager, supporting all aspects of clerical and administrative needs
- Alleviate executive overload by handling all patient interactions including walk-ins, email, phone, and fax coordination
- Screen phone calls, taking messages, assisting callers, and rerouting as needed
- Act as the first step in Billing by collecting accurate demographic and insurance information from patients

Education
2022   University of Colorado: Bachelor's Degree in Psychology
2017   Standley Lake High School: High School Diploma

Skills
Organized and efficient, Strong work ethic, Medical terminology knowledge, Fast learner, Clear communicator, Prioritize patient care and comfort
Certifications: CNA, CPR

Figure 1: Resume Format Example

Note: the resume on the left is format one and the resume on the right is format two

Table 4: Geographies Used in this Study

Geography			Population		2020 Presidential Votes		
CBSA	City	State	Count (1,000s)	Density	% Democratic	% Republican	Category
Seattle-Tacoma-Bellevue	Seattle	WA	3,980	678	67	30	Democratic
Spokane-Spokane Valley	Spokane	WA	582	103	44	52	Republican
Salt Lake City	Salt Lake City	UT	1,233	160	52	43	Democratic
Provo-Orem	Provo	UT	648	120	26	68	Republican
Denver-Aurora-Lakewood	Denver	CO	2,967	356	61	46	Democratic
Colorado Springs	Colorado Springs	CO	746	278	42	54	Republican

Note: CBSA population data is sourced from the U.S. Census Bureau (2021a), land square footage from TIGERweb U.S. Census Bureau (2020), and 2020 Presidential voting records from MIT Election Data and Science Lab (2018). "City" is the location used when searching for jobs (jobs within 25 miles were applied to)

Table 5: Occupations Used in this Study

Occupation	Count (1,000s)	Worker Composition			Customer Interaction	
		% Male	% Female	Category	Score	Category
Construction Worker	1,161	97	3	Male-Dominated	59	Medium
Truck Driver	2,601	95	5	Male-Dominated	53	Medium
Warehouse Worker	1,237	80	20	Male-Dominated	46	Low
Janitor	1,378	70	30	Male-Dominated	44	Low
Landscaper	639	94	6	Male-Dominated	32	Low
Retail Salesperson	1,322	62	38	Non-Dominated	93	High
Server	527	36	64	Non-Dominated	75	High
Cook	1,041	59	41	Non-Dominated	52	Medium
Baker	122	44	56	Non-Dominated	37	Low
Assembler / Fabricator	701	62	38	Non-Dominated	17	Low
Receptionist	638	9	91	Female-Dominated	87	High
Cashier	738	28	72	Female-Dominated	86	High
Housekeeper	722	15	85	Female-Dominated	58	Medium
Certified Nursing Assistant	804	11	89	Female-Dominated	47	Low
Administrative Assistant	1,499	6	94	Female-Dominated	47	Low

Note: worker count and composition data is from the 2019 American Community Survey (U.S. Census Bureau 2022b). Customer Interaction scores are from Occupational Information Network (O*NET), representing the importance of "performing for people or working directly with the public. This includes serving customers in restaurants and stores, and receiving clients or guests" (National Center for O*NET Development 2023). A crosswalk matching occupation codes between ACS and O*NET was sourced from Ruggles et al. (2023). For the Cook, Truck Driver, and Warehouse Worker occupations, ACS codes were mapped to multiple O*NET occupation codes. In these cases, the O*NET score was averaged across mapped codes.

Table 6: Count of Paired Resumes, Nonbinary "they/them" Pronoun Treatment

Occupation	Count per Occupation and City						
	Seattle	Spokane	Salt Lake City	Provo	Denver	Colorado Springs	All
Receptionist	36	33	30	35	32	35	201
Cashier	25	24	23	23	23	21	139
Housekeeper	25	23	25	32	24	22	151
Certified Nursing Assistant	48	45	34	50	45	39	261
Administrative Assistant	26	25	23	21	27	25	147
Retail Sales	56	53	57	57	53	58	334
Server	23	25	20	22	19	23	132
Cook	31	42	41	41	33	39	227
Baker	9	12	14	12	10	9	66
Assembler / Fabricator	19	17	17	17	20	15	105
Construction Worker	23	24	22	24	23	25	141
Truck Driver	45	47	50	43	42	40	267
Warehouse Worker	37	38	37	33	35	37	217
Janitor	24	23	24	31	30	30	162
Landscaper	26	26	25	20	26	22	145
Total	453	457	442	461	442	440	2695

Table 7: Count of Paired Resumes, Binary "he/him" or "she/her" Pronoun Treatment

Occupation	Count per Occupation and City						
	Seattle	Spokane	Salt Lake City	Provo	Denver	Colorado Springs	All
Receptionist	14	16	21	15	18	14	98
Cashier	5	5	8	5	7	8	38
Housekeeper	13	15	13	7	14	16	78
Certified Nursing Assistant	16	19	28	13	19	25	120
Administrative Assistant	10	11	14	15	9	12	71
Retail Sales	28	29	27	27	30	25	166
Server	10	9	12	11	15	11	68
Cook	27	16	17	17	25	17	119
Baker	6	3	3	4	6	5	27
Assembler	9	10	11	11	7	13	61
Construction Worker	12	12	14	13	13	10	74
Truck Driver	21	18	15	25	24	26	129
Warehouse Worker	19	17	20	23	21	18	118
Janitor	12	12	14	6	6	5	55
Landscaper	9	10	10	15	10	14	68
Total	211	202	227	207	224	219	1290

Table 8: Interaction Variables

Notation	Variable	Description
R_j	Republican Geography	Equals 1 if the job is located in a Republican geography (Spokane, WA; Provo, UT; Colorado Springs, CO)
HC_j	High Customer Facing	Equals 1 if the applicant is applying in a high customer interaction occupation (receptionist, cashier, retail salesperson, server)
LC_j	Low Customer Facing	Equals 1 if the applicant is applying in a low customer interaction occupation (certified nursing assistant, administrative assistant, baker, assembler / fabricator, warehouse worker, janitor, landscaper)
EO_j	Equal Opportunity	Equals 1 if the job posting includes the text "EOE," "EEO," "Equal Opportunit," "Equal-Opportunit," "Equal Employment," or "Equal-Employment"
GS_j	Gender or Sexuality	Equals 1 if the job posting includes the text "gender" or "sexual"
GS_j	Small Business	Equals 1 if the job posting includes the text "small bus," "small-bus," "small com, "small-com," "small firm," "smal-firm," "small empl," "small-empl", "local bus," "local-bus," "locally own," "locally-own," "locally op," "locally-op," "family bus," "family-bus," "family own," "family-own," "small, independent bus," "small independent bus," "small team," "small but growing," or "small and busy"
M_i	Implied Male	Equals 1 if the applicant is implied to be male (through name assignment)
RLE_i	Relevant Experience	Equals the years of "relevant" experience the applicant has. Note that work experience is defined as "relevant" if it is in the position being applied for (e.g., if an applicant is applying to a janitor position, years of janitorial experience)
MD_j	Male-Dominated	Equals 1 if the applicant is applying in a male-dominated occupation (construction worker, truck driver, warehouse worker, janitor, landscaper)
FD_j	Female-Dominated	Equals 1 if the applicant is applying in a female-dominated occupation (receptionist, cashier, housekeeper, certified nursing assistant, administrative assistant)

Table 9: Resume Characteristics (X_i Control Variables)

Variable	Type	Description
Occupation	Fixed Effect	Fixed effects for each of the 15 occupations being applied for
Location	Fixed Effect	Fixed effects for each of the six cities being applied within
Sent first	Indicator	Equals 1 if the resume was sent first
Resume lag	Discrete	Equals 0 if the resume was sent first, and the hours between the first and second application if the resume was sent second
Resume lag^2	Discrete	Above squared
GED	Indicator	Equals 1 if the applicant achieved a GED
Associate's	Indicator	Equals 1 if the applicant achieved an Associate's degree
Bachelor's	Indicator	Equals 1 if the applicant achieved an Bachelor's degree
High Score High School	Indicator	Equals 1 if the applicant went to a high school with test scores rated 'A' by Niche
Low Score High School	Indicator	Equals 1 if the applicant went to a high school with test scores rated 'C' or below by Niche
Worked in HS	Indicator	Equals 1 if the applicant worked during high school
Years relevant	Discrete	Equals the number of years of "relevant" work experience.
Years relevant^2	Discrete	Above squared
Current relevant	Indicator	Equals 1 if the applicant's most recent work experience is "relevant"
Current most common	Indicator	Equals 1 if the applicant's most recent work experience is "most common"
Current common	Indicator	Equals 1 if the applicant's most recent work experience is "common"
Prior most common	Discrete	Equals the years of "most common" experience, omitting most recent work experience
Prior most common^2	Discrete	Above squared
Prior common	Discrete	Equals the years of "common" experience, omitting most recent work experience
Prior common^2	Discrete	Above squared
Summary	Indicator	Equals 1 if the resume includes a summary or objective section
Skill: communication	Indicator	Equals 1 if the applicant's resume lists "clear communicator" in their list of skills
Skill: computer	Indicator	Equals 1 if the applicant's resume lists "computer skills (tech savvy)" in their list of skills
Skill: detail oriented	Indicator	Equals 1 if the applicant's resume lists "detail oriented" in their list of skills
Skill: fast learner	Indicator	Equals 1 if the applicant's resume lists "fast learner" in their list of skills
Skill: fast-paced	Indicator	Equals 1 if the applicant's resume lists "thrives in fast-paced settings" in their list of skills
Skill: leader	Indicator	Equals 1 if the applicant's resume lists "leadership abilities" in their list of skills
Skill: organized	Indicator	Equals 1 if the applicant's resume lists "organized and efficient" in their list of skills
Skill: team player	Indicator	Equals 1 if the applicant's resume lists "team player" in their list of skills

Table 10: Firm and Job Characteristics (Z_j Control Variables)

Variable	Type	Description
Occupation	Fixed Effect	Fixed effects for each of the 15 occupations being applied for
Location	Fixed Effect	Fixed effects for each of the six cities being applied within
Estimated applications	Discrete	Equals the lower bound of the range of applicants estimated to have applied to the job posting (this was scraped from the job board website, values range from 1 to 1,496). Equals 0 if the job board website did provide an estimated application range
Estimated applications^2	Discrete	Above squared
Missing estimated applications	Indicator	Equals 1 if the job board did not provide an estimated application range
Relative income	Continuous	The lower bound of estimated income expressed as a percent of the occupation-specific average
Relative income^2	Continuous	Above squared
Relative income difference	Continuous	The difference between the upper and lower estimated income bounds expressed as a percent of the occupation-specific average
Relative income difference^2	Continuous	Above squared
Missing estimated income	Indicator	Equals 1 if the job posting did not include an associated income range
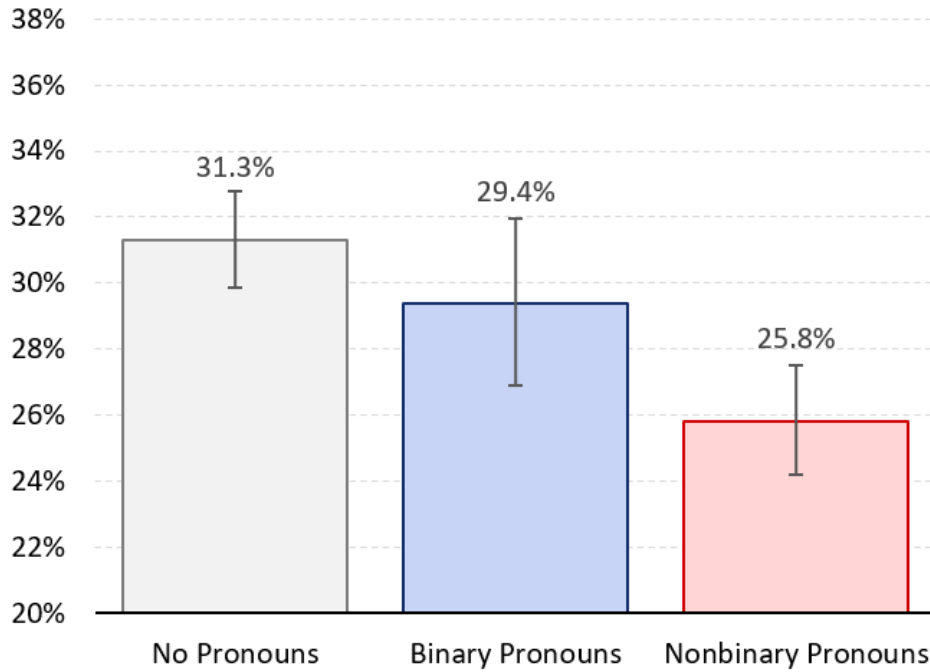
Figure 2: Positive Employer Response: Pronoun Disclosure

Table 11: Differences in Positive Employer Response by Group of Interest

Observations	Positive Employer Response					Sample Size		
	NP	NB	NB - NP	B	B - NP	NP	NB	B
All Observations	0.313	0.258	-0.055 *** (0.011)	0.294	-0.019 (0.033)	3985	2695	1290
Implied Males	0.307	0.253	-0.053 *** (0.016)	0.291	-0.016 (0.040)	1994	1365	629
Implied Females	0.319	0.263	-0.056 *** (0.016)	0.297	-0.022 (0.038)	1991	1330	661
Democratic City	0.321	0.283	-0.038 ** (0.016)	0.311	-0.010 (0.035)	1999	1337	662
Republican City	0.305	0.233	-0.071 *** (0.016)	0.275	-0.029 (0.043)	1986	1358	628
Male-Dominated	0.289	0.235	-0.054 *** (0.019)	0.277	-0.011 (0.047)	1376	932	444
Non-Dominated	0.330	0.265	-0.065 *** (0.020)	0.299	-0.031 (0.044)	1305	864	441
Female-Dominated	0.321	0.276	-0.045 ** (0.020)	0.306	-0.015 (0.043)	1304	899	405
High Customer Facing	0.304	0.244	-0.059 *** (0.021)	0.284	-0.020 (0.048)	1176	806	370
Medium Customer Facing	0.293	0.260	-0.034 (0.021)	0.265	-0.028 (0.029)	1186	786	400
Low Customer Facing	0.334	0.267	-0.066 *** (0.018)	0.323	-0.011 (0.053)	1623	1103	520
Equal Opportunity	0.327	0.290	-0.038 (0.026)	0.278	-0.049 (0.028)	822	563	259
Gender or Sexuality	0.299	0.261	-0.039 (0.033)	0.284	-0.016 (0.056)	481	326	155
Small Business	0.323	0.246	-0.077 ** (0.037)	0.382	0.059 (0.122)	399	276	123

Note: This table positive employer response rates by group. Column "NB - NP" reports the difference in response rates between applicants who disclose nonbinary "they/them" pronouns (NB) and those who disclose no pronouns (NP). Column "B - NP" reports the difference in response rates between applicants who disclose binary "he/him" or "she/her" pronouns (B) congruent with name-implied sex and those who disclose no pronouns. Standard errors associated with Chi-squared tests of these difference in proportions are reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 12: Differences in Positive Employer Response by Geography

Observations	Positive Employer Response					Sample Size		
	NP	NB	NB - NP	B	B - NP	NP	NB	B
Washington	0.307	0.251	-0.056 *** (0.020)	0.286	-0.021 (0.044)	1323	910	413
Colorado	0.316	0.259	-0.058 *** (0.020)	0.296	-0.021 (0.045)	1325	882	443
Utah	0.316	0.266	-0.050 ** (0.020)	0.30	-0.016 (0.043)	1337	903	434
Seattle, WA	0.340	0.302	-0.038 (0.029)	0.332	-0.009 (0.054)	664	453	211
Spokane, WA	0.273	0.199	-0.074 *** (0.026)	0.238	-0.036 (0.056)	659	457	202
Denver, CO	0.318	0.294	-0.024 (0.029)	0.304	-0.015 (0.042)	666	442	224
Colorado Springs, CO	0.314	0.223	-0.091 *** (0.028)	0.288	-0.026 (0.070)	659	440	219
Salt Lake City, UT	0.305	0.253	-0.052 * (0.028)	0.30	-0.005 (0.060)	669	442	227
Provo, UT	0.326	0.278	-0.049 * (0.029)	0.30	-0.027 (0.049)	668	461	207

Note: This table positive employer response rates by group. Column "NB - NP" reports the difference in response rates between applicants who disclose nonbinary "they/them" pronouns (NB) and those who disclose no pronouns (NP). Column "B - NP" reports the difference in response rates between applicants who disclose binary "he/him" or "she/her" pronouns (B) congruent with name-implied sex and those who disclose no pronouns. Standard errors associated with Chi-squared tests of these difference in proportions are reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 13: Differences in Positive Employer Response by Occupation

Observations	Positive Employer Response					Sample Size		
	NP	NB	NB - NP	B	B - NP	NP	NB	B
Administrative Assistant	0.161	0.116	-0.045 (0.039)	0.197	0.037 (0.100)	218	147	71
Construction Worker	0.181	0.163	-0.018 (0.044)	0.189	0.008 (0.070)	215	141	74
Receptionist	0.221	0.199	-0.022 (0.039)	0.204	-0.017 (0.053)	299	201	98
Server	0.265	0.197	-0.068 (0.050)	0.250	-0.015 (0.093)	200	132	68
Janitor	0.286	0.228	-0.057 (0.048)	0.345	0.060 (0.137)	217	162	55
Assembler	0.295	0.248	-0.048 (0.059)	0.246	-0.049 (0.070)	166	105	61
Landscaper	0.310	0.234	-0.075 (0.050)	0.294	-0.016 (0.099)	213	145	68
Truck Driver	0.313	0.262	-0.051 (0.037)	0.279	-0.034 (0.057)	396	267	129
Warehouse Worker	0.316	0.253	-0.063 (0.041)	0.288	-0.028 (0.069)	335	217	118
Housekeeper	0.319	0.298	-0.021 (0.051)	0.295	-0.024 (0.063)	229	151	78
Cook	0.324	0.291	-0.033 (0.041)	0.277	-0.046 (0.044)	346	227	119
Retail Sales	0.348	0.263	-0.085 ** (0.033)	0.319	-0.029 (0.073)	500	334	166
Cashier	0.362	0.309	-0.052 (0.057)	0.395	0.033 (0.139)	177	139	38
Baker	0.462	0.348	-0.114 (0.085)	0.519	0.056 (0.208)	93	66	27
Certified Nursing Assistant	0.475	0.395	-0.080 * (0.041)	0.433	-0.042 (0.075)	381	261	120

Note: This table positive employer response rates by group. Column "NB - NP" reports the difference in response rates between applicants who disclose nonbinary "they/them" pronouns (NB) and those who disclose no pronouns (NP). Column "B - NP" reports the difference in response rates between applicants who disclose binary "he/him" or "she/her" pronouns (B) congruent with name-implied sex and those who disclose no pronouns. Standard errors associated with Chi-squared tests of these difference in proportions are reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 14: Estimates of Discrimination Against Applicants who Disclose Pronouns

	(A)	(B)	(C)	(D)	(E)
Nonbinary Pronouns	-0.054 ***	-0.054 ***	-0.055 ***	-0.054 ***	-0.323 ***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.044)
Binary Pronouns	-0.018	-0.017	-0.017	-0.017	-0.125 *
	(0.012)	(0.011)	(0.011)	(0.011)	(0.066)
Observations	7970	7970	7970	7970	1244
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects are derived from the logistic regression described in equation (1). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 15: Estimates of Identity-Based Discrimination Against Applicants who Disclose "they/them" Pronouns

	(A)	(B)	(C)	(D)
Nonbinary Pronouns	-0.036 **	-0.036 **	-0.038 ***	-0.037 **
	(0.015)	(0.015)	(0.014)	(0.015)
Observations	3985	3985	3985	3985
Resume Controls		X		X
Firm Controls			X	X
Job Posting FE				

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns compared to applicants who disclose binary "he/him" or "she/her" pronouns congruent with name-implied sex. Marginal effects are derived from the logistic regression described in equation (2). Only treated observations are included. The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 16: Estimates of Discrimination Against Applicants who Disclose Pronouns: Differences by Geographic Politics (Republican Indicator)

	(A)	(B)	(C)	(D)	(E)
Panel A: Regressions Include Applications in Democratic Geographies Only					
Nonbinary Pronouns	-0.037 ***	-0.038 ***	-0.037 ***	-0.037 ***	-0.241 ***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.067)
Binary Pronouns	-0.010	-0.009	-0.010	-0.012	-0.046
	(0.016)	(0.016)	(0.016)	(0.016)	(0.101)
Observations	3998	3998	3998	3998	590
Panel B: Regressions Include Applications in Republican Geographies Only					
Nonbinary Pronouns	-0.070 ***	-0.071 ***	-0.073 ***	-0.072 ***	-0.386 ***
	(0.011)	(0.013)	(0.011)	(0.013)	(0.059)
Binary Pronouns	-0.028 *	-0.025	-0.022	-0.022	-0.151 *
	(0.016)	(0.016)	(0.016)	(0.016)	(0.086)
Observations	3972	3972	3972	3972	654
Panel C: Regressions Include All Applications					
Nonbinary Pronouns	-0.036 ***	-0.036 ***	-0.036 ***	-0.035 ***	-0.251 ***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.066)
Nonbinary-Republican	-0.037 **	-0.038 **	-0.039 **	-0.040 **	-0.148
	(0.016)	(0.016)	(0.015)	(0.016)	(0.092)
Binary Pronouns	-0.009	-0.009	-0.009	-0.010	-0.061
	(0.016)	(0.016)	(0.016)	(0.016)	(0.099)
Binary-Republican	-0.019	-0.017	-0.015	-0.014	-0.122
	(0.023)	(0.023)	(0.023)	(0.023)	(0.130)
Observations	7970	7970	7970	7970	1244
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects for Panels A and B are derived from the logistic regression described in equation (1) with different data subsets; for Panel C from (4.1). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 17: Estimates of Discrimination Against Applicants who Disclose Pronouns: Differences by Geographic Politics (Republican Vote Share)

	(A)	(B)	(C)	(D)	(E)
Panel A: Regression Does Not Include A Squared Term For Republican Vote Share					
Nonbinary Pronouns	-0.010	-0.007	-0.007	-0.005	-0.005
	(0.031)	(0.030)	(0.029)	(0.029)	(0.029)
Nonbinary-Republican Vote Share	-0.092	-0.098 *	-0.100 *	-0.103 *	-0.103 *
	(0.062)	(0.059)	(0.058)	(0.059)	(0.059)
Binary Pronouns	0.009	-0.001	-0.002	-0.005	-0.005
	(0.047)	(0.044)	(0.044)	(0.044)	(0.044)
Binary-Republican Vote Share	-0.057	-0.032	-0.031	-0.024	-0.024
	(0.092)	(0.088)	(0.088)	(0.088)	(0.088)
Observations	7970	7970	7970	7970	1244
Panel B: Regression Does Include A Squared Term For Republican Vote Share					
Nonbinary Pronouns	0.208 *	0.208 *	0.186 *	0.198 *	0.307
	(0.108)	(0.107)	(0.109)	(0.108)	(0.210)
Nonbinary-Republican Vote Share	-1.009 **	-1.001 **	-0.907 **	-0.954 **	-2.837
	(0.464)	(0.465)	(0.462)	(0.463)	(2.615)
Nonbinary-Republican Vote Share^2	0.900 **	0.882 *	0.789 *	0.831 *	2.372
	(0.451)	(0.451)	(0.449)	(0.449)	(2.545)
Binary Pronouns	0.038	0.063	0.094	0.078	0.379
	(0.177)	(0.181)	(0.184)	(0.182)	(0.340)
Binary-Republican Vote Share	-0.179	-0.295	-0.414	-0.359	-2.244
	(0.692)	(0.694)	(0.690)	(0.691)	(3.617)
Binary-Republican Vote Share^2	0.122	0.256	0.374	0.327	1.767
	(0.670)	(0.672)	(0.667)	(0.668)	(3.545)
Observations	7970	7970	7970	7970	1244
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects are derived from the logistic regression described in equation (4.1). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 18: Implied Average Discrimination Associated With Nonbinary Pronoun Disclosure by Geographic Republican Vote Share

Republican Vote Share	Implied Discrimination by Regression Specification			
	(A)	(B)	(C)	(D)
30%	-1.4%	-1.3%	-1.6%	-1.3%
35%	-3.5%	-3.4%	-3.5%	-3.4%
40%	-5.2%	-5.1%	-5.1%	-5.1%
45%	-6.4%	-6.4%	-6.3%	-6.3%
50%	-7.2%	-7.2%	-7.1%	-7.1%
55%	-7.5%	-7.6%	-7.5%	-7.5%
60%	-7.4%	-7.5%	-7.5%	-7.5%
65%	-6.8%	-7.0%	-7.1%	-7.1%
70%	-5.8%	-6.1%	-6.3%	-6.3%
Observations	7970	7970	7970	7970
Resume Controls		X		X
Firm Controls			X	X
Job Posting FE				

Note: This table reports implied discrimination associated with disclosing nonbinary "they/them" pronouns compared to not disclosing pronouns, based on geographic (CBSA level) Republican vote share. Implied discrimination is calculated from coefficient estimates reported in Panel B of Table 17.

Table 19: Estimates of Discrimination Against Applicants who Disclose Pronouns: Differences by Job Posting Text

	(A)	(B)	(C)	(D)	(E)
Panel A: Regressions Include Applications to Job Postings Mentioning "Equal Opportunity"					
Nonbinary Pronouns	-0.037 **	-0.041 **	-0.036 **	-0.039 **	-0.349 ***
	(0.017)	(0.018)	(0.017)	(0.018)	(0.093)
Binary Pronouns	-0.048 *	-0.050 *	-0.051 **	-0.054 **	-0.101
	(0.026)	(0.027)	(0.025)	(0.026)	(0.163)
Observations	1644	1644	1644	1644	240
Panel B: Regressions Include Applications to Job Postings Mentioning Gender or Sexuality					
Nonbinary Pronouns	-0.038 *	-0.043 *	-0.041 *	-0.043 *	-0.280 **
	(0.022)	(0.023)	(0.022)	(0.023)	(0.130)
Binary Pronouns	-0.015	-0.009	-0.009	-0.015	0.152
	(0.032)	(0.033)	(0.032)	(0.032)	(0.158)
Observations	962	962	962	962	130
Panel C: Regressions Include Applications to Job Postings Mentioning The Employer is a Small Business					
Nonbinary Pronouns	-0.080 ***	-0.079 ***	-0.070 ***	-0.069 **	-0.267 *
	(0.027)	(0.028)	(0.025)	(0.028)	(0.155)
Binary Pronouns	0.056	0.059	0.035	0.039	0.026
	(0.039)	(0.041)	(0.038)	(0.039)	(0.202)
Observations	798	798	798	798	132
Panel D: Regressions Include Applications to Job Postings Mentioning None of the Above					
Nonbinary Pronouns	-0.056 ***	-0.056 ***	-0.057 ***	-0.057 ***	-0.343 ***
	(0.009)	(0.010)	(0.009)	(0.010)	(0.055)
Binary Pronouns	-0.016	-0.015	-0.013	-0.014	-0.102
	(0.014)	(0.014)	(0.014)	(0.014)	(0.079)
Observations	5596	5596	5596	5596	874
Panel E: Regressions Include All Applications					
Nonbinary Pronouns	-0.057 ***	-0.057 ***	-0.059 ***	-0.058 ***	-0.336 ***
	(0.010)	(0.010)	(0.009)	(0.010)	(0.051)
Nonbinary-Equal Opportunity	0.025	0.029	0.029	0.030	-0.060
	(0.026)	(0.026)	(0.026)	(0.026)	(0.148)
Nonbinary-Gender or Sexuality	-0.002	-0.003	-0.004	-0.003	0.097
	(0.032)	(0.031)	(0.031)	(0.031)	(0.175)
Nonbinary-Small Business	-0.025	-0.029	-0.021	-0.024	0.140
	(0.028)	(0.026)	(0.027)	(0.027)	(0.133)
Binary Pronouns	-0.020	-0.019	-0.016	-0.017	-0.102
	(0.014)	(0.013)	(0.014)	(0.013)	(0.078)
Binary-Equal Opportunity	-0.060 *	-0.058 *	-0.066 **	-0.061 *	-0.088
	(0.036)	(0.035)	(0.033)	(0.034)	(0.235)
Binary-Gender or Sexuality	0.055	0.049	0.059	0.049	0.111
	(0.050)	(0.050)	(0.050)	(0.050)	(0.312)
Binary-Small Business	0.082 *	0.094 **	0.074 *	0.080 *	-0.157
	(0.043)	(0.044)	(0.042)	(0.043)	(0.199)
Observations	7970	7970	7970	7970	1244
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects for Panels A to D are derived from the logistic regression described in equation (1) with different data subsets; for Panel E from (4.2). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 20: Estimates of Discrimination Against Applicants who Disclose Pronouns: Differences by Customer Interaction (Customer Facing Indicators)

	(A)	(B)	(C)	(D)	(E)
Panel A: Regressions Include Applications to High Customer Facing Occupations Only					
Nonbinary Pronouns	-0.058 ***	-0.059 ***	-0.063 ***	-0.061 ***	-0.384 ***
	(0.015)	(0.016)	(0.014)	(0.016)	(0.084)
Binary Pronouns	-0.019	-0.017	-0.010	-0.012	0.088
	(0.022)	(0.021)	(0.022)	(0.021)	(0.119)
Observations	2352	2352	2352	2352	402
Panel B: Regressions Include Applications to Medium Customer Facing Occupations Only					
Nonbinary Pronouns	-0.033 **	-0.031 **	-0.032 **	-0.030 **	-0.167 *
	(0.014)	(0.014)	(0.014)	(0.014)	(0.090)
Binary Pronouns	-0.028	-0.028	-0.031	-0.031	-0.256 **
	(0.021)	(0.021)	(0.020)	(0.021)	(0.123)
Observations	2372	2372	2372	2372	348
Panel C: Regressions Include Applications to Low Customer Facing Occupations Only					
Nonbinary Pronouns	-0.066 ***	-0.065 ***	-0.068 ***	-0.065 ***	-0.359 ***
	(0.012)	(0.013)	(0.012)	(0.013)	(0.069)
Binary Pronouns	-0.010	-0.011	-0.007	-0.010	-0.157
	(0.018)	(0.018)	(0.018)	(0.018)	(0.100)
Observations	3246	3246	3246	3246	494
Panel D: Regressions Include All Applications					
Nonbinary Pronouns	-0.034 **	-0.034 **	-0.032 **	-0.033 **	-0.168 *
	(0.015)	(0.014)	(0.014)	(0.014)	(0.089)
Nonbinary-High Customer Facing	-0.026	-0.024	-0.031	-0.027	-0.220 **
	(0.021)	(0.021)	(0.020)	(0.021)	(0.111)
Nonbinary-Low Customer Facing	-0.029	-0.031 *	-0.034 *	-0.032 *	-0.200 *
	(0.018)	(0.019)	(0.018)	(0.019)	(0.107)
Binary Pronouns	-0.028	-0.028	-0.032	-0.031	-0.254 **
	(0.021)	(0.021)	(0.021)	(0.021)	(0.102)
Binary-High Customer Facing	0.009	0.015	0.021	0.021	0.335 ***
	(0.032)	(0.032)	(0.032)	(0.032)	(0.116)
Binary-Low Customer Facing	0.019	0.019	0.026	0.023	0.084
	(0.029)	(0.029)	(0.029)	(0.029)	(0.155)
Observations	7970	7970	7970	7970	1244
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects for Panels A to C are derived from the logistic regression described in equation (1) with different data subsets; for Panel D from (4.3). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 21: Estimates of Discrimination Against Applicants who Disclose Pronouns: Differences by Customer Interaction (O*NET Customer Interaction Score)

	(A)	(B)	(C)	(D)	(E)
Panel A: Regression Does Not Include A Squared Term For O*NET Customer Interaction Score					
Nonbinary Pronouns	-0.053 **	-0.055 **	-0.053 **	-0.054 **	-0.273 **
	(0.024)	(0.024)	(0.024)	(0.024)	(0.126)
Nonbinary-O*NET Score	0.0000	0.0000	0.0000	0.0000	-0.0009
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0021)
Binary Pronouns	-0.017	-0.018	-0.019	-0.019	-0.410 ***
	(0.034)	(0.034)	(0.033)	(0.033)	(0.120)
Binary-O*NET Score	0.0000	0.0000	0.0000	0.0000	0.0066 *
	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0035)
Observations	7970	7970	7970	7970	1244
Panel B: Regression Does Include A Squared Term For O*NET Customer Interaction Score					
Nonbinary Pronouns	-0.104	-0.098	-0.109 *	-0.101	-0.546 ***
	(0.064)	(0.068)	(0.066)	(0.067)	(0.120)
Nonbinary-O*NET Score	0.002	0.002	0.002	0.002	0.016
	(0.002)	(0.002)	(0.002)	(0.002)	(0.013)
Nonbinary-O*NET Score^2	-0.0000	-0.0000	-0.0000	-0.0000	-0.0001
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0001)
Binary Pronouns	-0.048	-0.028	-0.037	-0.024	0.261
	(0.077)	(0.084)	(0.081)	(0.084)	(0.414)
Binary-O*NET Score	0.0012	0.0004	0.0007	0.0002	-0.0216
	(0.0029)	(0.0030)	(0.0030)	(0.0030)	(0.0195)
Binary-O*NET Score^2	-0.0000	-0.0000	-0.0000	-0.0000	0.0002
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0002)
Observations	7970	7970	7970	7970	1244
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects are derived from the logistic regression described in equation (4.3). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 22: Estimates of Discrimination Against Applicants who Disclose Pronouns: Differences by Implied Sex

	(A)	(B)	(C)	(D)	(E)
Panel A: Regressions Include Applicants Implied Male Only					
Nonbinary Pronouns	-0.053 ***	-0.053 ***	-0.053 ***	-0.053 ***	-0.301 ***
	(0.011)	(0.012)	(0.011)	(0.012)	(0.062)
Binary Pronouns	-0.015	-0.017	-0.017	-0.018	-0.176 *
	(0.016)	(0.016)	(0.016)	(0.016)	(0.096)
Observations	3984	3984	3984	3984	604
Panel B: Regressions Include Applicants Implied Female Only					
Nonbinary Pronouns	-0.055 ***	-0.056 ***	-0.058 ***	-0.057 ***	-0.342 ***
	(0.011)	(0.012)	(0.011)	(0.012)	(0.063)
Binary Pronouns	-0.022	-0.019	-0.016	-0.018	-0.099
	(0.016)	(0.016)	(0.016)	(0.016)	(0.087)
Observations	3986	3986	3986	3986	630
Panel C: Regressions Include All Observations and Implied Sex Interactions					
Nonbinary Pronouns	-0.054 ***	-0.056 ***	-0.057 ***	-0.056 ***	-0.345 ***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.060)
Nonbinary-Implied Male	0.001	0.003	0.003	0.004	0.050
	(0.016)	(0.016)	(0.016)	(0.016)	(0.089)
Binary Pronouns	-0.021	-0.018	-0.017	-0.017	-0.084
	(0.016)	(0.016)	(0.016)	(0.016)	(0.088)
Binary-Implied Male	0.006	0.002	0.001	0.001	-0.091
	(0.024)	(0.024)	(0.024)	(0.023)	(0.133)
Observations	7970	7970	7970	7970	1234
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects for Panels A and B are derived from the logistic regression described in equation (1) with different data subsets; for Panel C from (4.4) The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 23: Estimates of Discrimination Against Applicants who Disclose Pronouns: Differences by Experience

	(A)	(B)	(C)	(D)	(E)
Panel A: Regressions Include Applications With Relevant Experience Only					
Nonbinary Pronouns	-0.058 ***	-0.060 ***	-0.061 ***	-0.061 ***	-0.301 ***
	(0.011)	(0.012)	(0.010)	(0.012)	(0.055)
Binary Pronouns	-0.023	-0.022	-0.020	-0.020	-0.127
	(0.016)	(0.016)	(0.016)	(0.016)	(0.081)
Observations	4610	4610	4610	4610	796
Panel B: Regressions Include Applications With No Relevant Experience Only					
Nonbinary Pronouns	-0.047 ***	-0.048 ***	-0.047 ***	-0.047 ***	-0.353 ***
	(0.011)	(0.012)	(0.011)	(0.012)	(0.074)
Binary Pronouns	-0.013	-0.012	-0.014	-0.014	-0.077
	(0.017)	(0.017)	(0.016)	(0.016)	(0.121)
Observations	3360	3360	3360	3360	448
Panel C: Regressions Include All Observations and Experiences (No Squared Term)					
Nonbinary Pronouns	-0.047 ***	-0.048 ***	-0.047 ***	-0.047 ***	-0.291 ***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.064)
Nonbinary-Years Relevant	-0.006	-0.006	-0.007	-0.007	-0.029
	(0.007)	(0.007)	(0.007)	(0.007)	(0.039)
Binary Pronouns	-0.026	-0.022	-0.025	-0.025	-0.199 **
	(0.016)	(0.017)	(0.016)	(0.016)	(0.095)
Binary-Years Relevant	0.007	0.005	0.008	0.007	0.066
	(0.011)	(0.011)	(0.010)	(0.011)	(0.062)
Observations	7970	7970	7970	7970	1244
Panel D: Regressions Include All Observations and Experiences (Including Squared Term)					
Nonbinary Pronouns	-0.037 ***	-0.052 ***	-0.052 ***	-0.051 ***	-0.341 ***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.067)
Nonbinary-Years Relevant	0.010	0.009	0.008	0.008	0.170
	(0.020)	(0.019)	(0.019)	(0.019)	(0.108)
Nonbinary-Years Relevant^2	-0.005	-0.005	-0.005	-0.005	-0.067 **
	(0.006)	(0.006)	(0.006)	(0.006)	(0.034)
Binary Pronouns	-0.018	-0.015	-0.017	-0.018	-0.116
	(0.018)	(0.018)	(0.018)	(0.018)	(0.109)
Binary-Years Relevant	-0.023	-0.020	-0.021	-0.018	-0.224
	(0.028)	(0.028)	(0.028)	(0.028)	(0.178)
Binary-Years Relevant^2	0.010	0.009	0.010	0.008	0.102 *
	(0.009)	(0.009)	(0.009)	(0.009)	(0.061)
Observations	7970	7970	7970	7970	1244
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects for Panels A and B are derived from the logistic regression described in equation (1) with different data subsets; for Panels C and D from (4.5). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 24: Estimates of Discrimination Against Applicants who Disclose Pronouns: Differences by Worker Composition (Worker Composition Indicators)

	(A)	(B)	(C)	(D)	(E)
Panel A: Regressions Include Applications to Male-Dominated Occupations Only					
Nonbinary Pronouns	-0.053 ***	-0.057 ***	-0.052 ***	-0.056 ***	-0.324 ***
	(0.013)	(0.014)	(0.013)	(0.014)	(0.080)
Binary Pronouns	-0.011	-0.010	-0.013	-0.013	-0.175
	(0.019)	(0.019)	(0.019)	(0.018)	(0.116)
Observations	2752	2752	2752	2752	394
Panel B: Regressions Include Applications to Non-Dominated Occupations Only					
Nonbinary Pronouns	-0.064 ***	-0.064 ***	-0.067 ***	-0.065 ***	-0.407 ***
	(0.014)	(0.014)	(0.014)	(0.015)	(0.082)
Binary Pronouns	-0.030	-0.030	-0.024	-0.022	-0.008
	(0.020)	(0.020)	(0.020)	(0.020)	(0.115)
Observations	2610	2610	2610	2610	442
Panel C: Regressions Include Applications to Female-Dominated Occupations Only					
Nonbinary Pronouns	-0.045 ***	-0.047 ***	-0.047 ***	-0.047 ***	-0.292 ***
	(0.014)	(0.014)	(0.013)	(0.014)	(0.077)
Binary Pronouns	-0.015	-0.018	-0.011	-0.019	-0.128
	(0.022)	(0.021)	(0.021)	(0.021)	(0.110)
Observations	2608	2608	2608	2608	398
Panel D: Regressions Include All Observations and Worker Compositions					
Nonbinary Pronouns	-0.063 ***	-0.059 ***	-0.064 ***	-0.061 ***	-0.392 ***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.065)
Nonbinary-Male Dominated	0.007	0.003	0.010	0.005	0.110
	(0.021)	(0.020)	(0.020)	(0.020)	(0.103)
Nonbinary-Female Dominated	0.020	0.014	0.018	0.017	0.140
	(0.021)	(0.020)	(0.020)	(0.020)	(0.100)
Binary Pronouns	-0.029	-0.027	-0.025	-0.023	-0.041
	(0.020)	(0.019)	(0.019)	(0.019)	(0.122)
Binary-Male Dominated	0.0180	0.0177	0.0115	0.0118	-0.1624
	(0.0292)	(0.0289)	(0.0285)	(0.0285)	(0.162)
Binary-Female Dominated	0.015	0.014	0.014	0.009	-0.089
	(0.030)	(0.030)	(0.030)	(0.030)	(0.158)
Observations	7970	7970	7970	7970	1234
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects for Panels A to C are derived from the logistic regression described in equation (1) with different data subsets; for Panel D from (4.6). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 25: Estimates of Discrimination Against Applicants who Disclose Pronouns: Differences by Worker Composition (Percent Male Workers)

	(A)	(B)	(C)	(D)	(E)
Panel A: Regression Does Not Include A Squared Term For Percent Male Workers					
Nonbinary Pronouns	-0.048 ***	-0.049 ***	-0.052 ***	-0.050 ***	-0.301 ***
	(0.015)	(0.015)	(0.015)	(0.015)	(0.085)
Nonbinary-Percent Male	-0.0122	-0.0098	-0.0054	-0.0095	-0.0461
	(0.0250)	(0.0258)	(0.0260)	(0.0258)	(0.1505)
Binary Pronouns	-0.014	-0.015	-0.008	-0.013	-0.093
	(0.022)	(0.023)	(0.023)	(0.023)	(0.118)
Binary-Percent Male	-0.007	-0.004	-0.016	-0.007	-0.064
	(0.037)	(0.038)	(0.038)	(0.037)	(0.204)
Observations	7970	7970	7970	7970	1234
Panel B: Regression Does Include A Squared Term For Percent Male Workers					
Nonbinary Pronouns	-0.037 *	-0.041 *	-0.040 *	-0.038 *	-0.251 **
	(0.021)	(0.022)	(0.022)	(0.022)	(0.124)
Nonbinary-Percent Male	-0.087	-0.068	-0.085	-0.083	-0.381
	(0.107)	(0.111)	(0.111)	(0.111)	(0.605)
Nonbinary-Percent Male^2	0.074	0.058	0.080	0.073	0.335
	(0.105)	(0.107)	(0.107)	(0.107)	(0.591)
Binary Pronouns	-0.010	-0.012	-0.009	-0.017	-0.167
	(0.032)	(0.033)	(0.033)	(0.033)	(0.162)
Binary-Percent Male	-0.037	-0.019	-0.012	0.016	0.465
	(0.154)	(0.158)	(0.159)	(0.157)	(0.916)
Binary-Percent Male^2	0.0290	0.0145	-0.0037	-0.0227	-0.5378
	(0.1495)	(0.1513)	(0.1522)	(0.1511)	(0.908)
Observations	7970	7970	7970	7970	1234
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects derived from the logistic regression described in equation (4.6). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 26: Estimates of Discrimination Against Applicants who Disclose Pronouns: All Interactions (Indicator Variables)

	Nonbinary Pronoun Estimates					Binary Pronoun Estimates				
	(A)	(B)	(C)	(D)	(E)	(A)	(B)	(C)	(D)	(E)
Pronouns	-0.019	-0.017	-0.017	-0.016	-0.150	-0.044	-0.043	-0.044	-0.043	-0.274
	(0.025)	(0.025)	(0.025)	(0.025)	(0.149)	(0.034)	(0.034)	(0.034)	(0.034)	(0.176)
Pronouns-Implied Male	0.003	0.003	0.004	0.003	0.042	0.003	0.002	0.001	0.001	-0.046
	(0.016)	(0.016)	(0.016)	(0.016)	(0.090)	(0.024)	(0.024)	(0.024)	(0.024)	(0.141)
Pronouns-Republican	-0.036 **	-0.037 **	-0.038 **	-0.038 **	-0.157 *	-0.024	-0.023	-0.019	-0.019	-0.109
	(0.016)	(0.016)	(0.015)	(0.016)	(0.091)	(0.023)	(0.023)	(0.023)	(0.023)	(0.131)
Pronouns-High Customer Facing	-0.028	-0.028	-0.032	-0.030	-0.207 *	0.020	0.027	0.028	0.030	0.347 ***
	(0.023)	(0.022)	(0.022)	(0.022)	(0.120)	(0.036)	(0.036)	(0.036)	(0.036)	(0.124)
Pronouns-Low Customer Facing	-0.036 *	-0.036 *	-0.040 **	-0.038 **	-0.225 **	0.022	0.022	0.027	0.026	0.085
	(0.019)	(0.019)	(0.019)	(0.019)	(0.106)	(0.030)	(0.030)	(0.030)	(0.030)	(0.162)
Pronouns-Male Dominated	0.002	0.000	0.006	0.003	0.100	0.026	0.024	0.021	0.019	0.061
	(0.023)	(0.023)	(0.023)	(0.023)	(0.119)	(0.034)	(0.034)	(0.033)	(0.033)	(0.192)
Pronouns-Female Dominated	0.027	0.018	0.024	0.022	0.161	0.007	0.011	0.008	0.006	0.007
	(0.022)	(0.021)	(0.021)	(0.021)	(0.098)	(0.031)	(0.031)	(0.031)	(0.031)	(0.172)
Pronouns-Years Relevant	-0.005	-0.005	-0.007	-0.007	-0.038	0.007	0.006	0.009	0.008	0.080
	(0.007)	(0.007)	(0.007)	(0.007)	(0.039)	(0.011)	(0.011)	(0.010)	(0.011)	(0.061)
Pronouns-Equal Opportunity	0.021	0.028	0.026	0.029	-0.074	-0.053	-0.059 *	-0.062 *	-0.061 *	-0.046
	(0.025)	(0.026)	(0.025)	(0.026)	(0.149)	(0.035)	(0.035)	(0.034)	(0.035)	(0.236)
Pronouns-Gender or Sexuality	0.004	-0.003	0.001	-0.002	0.082	0.043	0.048	0.049	0.047	0.056
	(0.032)	(0.031)	(0.032)	(0.031)	(0.176)	(0.050)	(0.050)	(0.050)	(0.050)	(0.323)
Pronouns-Small Business	-0.029	-0.031	-0.025	-0.026	0.118	0.096 **	0.098 **	0.082 *	0.084 *	-0.138
	(0.026)	(0.026)	(0.026)	(0.026)	(0.132)	(0.044)	(0.045)	(0.043)	(0.043)	(0.201)
Observations	7970	7970	7970	7970	1244	7970	7970	7970	7970	1244
Resume Controls		X		X	X		X		X	X
Firm Controls			X	X	X			X	X	X
Job Posting FE					X					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects derived from the logistic regression described in equation (5). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 27: Estimates of Discrimination Against Applicants who Disclose Pronouns: All Interactions (Continuous Variables, No Squares)

	Nonbinary Pronoun Estimates					Binary Pronoun Estimates				
	(A)	(B)	(C)	(D)	(E)	(A)	(B)	(C)	(D)	(E)
Pronouns	0.004 (0.045)	-0.002 (0.044)	0.001 (0.044)	0.001 (0.044)	-0.028 (0.246)	0.003 (0.067)	-0.004 (0.063)	-0.004 (0.063)	-0.007 (0.064)	-0.343 (0.278)
Pronouns-Implied Male	0.002 (0.016)	0.003 (0.016)	0.004 (0.016)	0.003 (0.016)	0.038 (0.091)	0.004 (0.02390)	0.003 (0.02375)	0.001 (0.02351)	0.001 (0.02358)	-0.046 (0.14540)
Pronouns-Republican Vote Share	-0.090 (0.062)	-0.093 (0.059)	-0.097 * (0.058)	-0.098 * (0.059)	-0.393 (0.350)	-0.062 (0.092)	-0.042 (0.089)	-0.034 (0.088)	-0.036 (0.089)	-0.338 (0.499)
Pronouns-O*NET Score	-0.0000 (0.0004)	0.0000 (0.0004)	-0.0000 (0.0004)	0.0000 (0.0004)	-0.0010 (0.0021)	-0.0001 (0.0006)	-0.0000 (0.0006)	-0.0001 (0.0006)	-0.0000 (0.0006)	0.0065 * (0.0037)
Pronouns-Percent Male	-0.018 (0.026)	-0.010 (0.026)	-0.010 (0.027)	-0.010 (0.026)	-0.055 (0.154)	0.0036 (0.0383)	-0.0022 (0.0393)	-0.0049 (0.0393)	-0.0037 (0.0391)	0.0178 (0.2124)
Pronouns-Years Relevant	-0.006 (0.007)	-0.006 (0.007)	-0.007 (0.007)	-0.007 (0.007)	-0.030 (0.039)	0.007 (0.011)	0.006 (0.011)	0.009 (0.010)	0.008 (0.011)	0.070 (0.061)
Pronouns-Equal Opportunity	0.022 (0.026)	0.028 (0.026)	0.026 (0.025)	0.029 (0.026)	-0.066 (0.148)	-0.054 (0.035)	-0.059 * (0.035)	-0.062 * (0.034)	-0.061 * (0.035)	-0.096 (0.229)
Pronouns-Gender or Sexuality	0.000 (0.032)	-0.005 (0.031)	-0.002 (0.031)	-0.005 (0.031)	0.081 (0.174)	0.045 (0.050)	0.047 (0.050)	0.049 (0.050)	0.047 (0.050)	0.111 (0.314)
Pronouns-Small Business	-0.027 (0.027)	-0.030 (0.026)	-0.024 (0.027)	-0.025 (0.026)	0.137 (0.133)	0.089 ** (0.044)	0.095 ** (0.044)	0.078 * (0.043)	0.081 * (0.043)	-0.192 (0.187)
Observations	7970	7970	7970	7970	1244	7970	7970	7970	7970	1244
Resume Controls		X		X	X		X		X	X
Firm Controls			X	X	X			X	X	X
Job Posting FE					X					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects derived from the logistic regression described in equation (5). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 28: Estimates of Discrimination Against Applicants who Disclose Pronouns: All Interactions (Continuous Variables, Including Squares)

	Nonbinary Pronoun Estimates					Binary Pronoun Estimates				
	(A)	(B)	(C)	(D)	(E)	(A)	(B)	(C)	(D)	(E)
Pronouns	0.178	0.172	0.146	0.160	-0.002	0.010	0.072	0.066	0.078	0.470 ***
	(0.134)	(0.138)	(0.139)	(0.137)	(0.771)	(0.208)	(0.226)	(0.220)	(0.224)	(0.112)
Pronouns-Implied Male	0.002	0.003	0.003	0.003	0.040	0.005	0.003	0.001	0.002	-0.0429
	(0.016)	(0.016)	(0.016)	(0.016)	(0.089)	(0.024)	(0.024)	(0.024)	(0.024)	(0.144)
Pronouns-Republican Vote Share	-1.039 **	-0.995 **	-0.936 **	-0.941 **	-2.533	-0.191	-0.382	-0.417	-0.443	-2.734
	(0.461)	(0.464)	(0.460)	(0.463)	(2.601)	(0.694)	(0.702)	(0.694)	(0.700)	(3.631)
Pronouns-Republican Vote Share^2	0.925 **	0.880 *	0.819 *	0.824 *	2.078	0.140	0.331	0.374	0.398	2.311
	(0.448)	(0.450)	(0.447)	(0.449)	(2.524)	(0.672)	(0.680)	(0.671)	(0.677)	(3.574)
Pronouns-O*NET Score	0.002	0.001	0.002	0.002	0.015	0.0010	0.0005	0.0009	0.0006	-0.0211
	(0.002)	(0.003)	(0.003)	(0.003)	(0.013)	(0.0031)	(0.0033)	(0.0032)	(0.0032)	(0.0224)
Pronouns-O*NET Score^2	-0.0000	-0.0000	-0.0000	-0.0000	-0.0001	-0.0000	-0.0000	-0.0000	-0.0000	0.0002
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0001)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0002)
Pronouns-Percent Male	-0.052	-0.043	-0.055	-0.058	-0.142	0.003	0.010	0.040	0.049	-0.530
	(0.116)	(0.123)	(0.122)	(0.122)	(0.660)	(0.167)	(0.175)	(0.174)	(0.174)	(1.038)
Pronouns-Percent Male^2	0.039	0.035	0.049	0.051	0.119	-0.003	-0.010	-0.043	-0.052	0.548
	(0.114)	(0.119)	(0.119)	(0.119)	(0.653)	(0.164)	(0.169)	(0.169)	(0.169)	(1.031)
Pronouns-Years Relevant	0.012	0.010	0.009	0.008	0.159	-0.029	-0.023	-0.024	-0.021	-0.162
	(0.020)	(0.019)	(0.019)	(0.019)	(0.108)	(0.028)	(0.028)	(0.028)	(0.028)	(0.186)
Pronouns-Years Relevant^2	-0.006	-0.005	-0.005	-0.005	-0.063 *	0.012	0.010	0.011	0.010	0.081
	(0.006)	(0.006)	(0.006)	(0.006)	(0.034)	(0.009)	(0.009)	(0.009)	(0.009)	(0.063)
Pronouns-Equal Opportunity	0.022	0.028	0.025	0.029	-0.060	-0.054	-0.059 *	-0.061 *	-0.061 *	-0.093
	(0.026)	(0.026)	(0.025)	(0.026)	(0.146)	(0.035)	(0.035)	(0.034)	(0.035)	(0.232)
Pronouns-Gender or Sexuality	0.001	-0.004	0.000	-0.003	0.078	0.045	0.047	0.048	0.046	0.024
	(0.032)	(0.031)	(0.032)	(0.031)	(0.175)	(0.050)	(0.050)	(0.050)	(0.050)	(0.355)
Pronouns-Small Business	-0.030	-0.032	-0.025	-0.027	0.103	0.094 **	0.097 **	0.080 *	0.084 *	-0.156
	(0.026)	(0.026)	(0.027)	(0.026)	(0.137)	(0.044)	(0.044)	(0.043)	(0.043)	(0.196)
Observations	7970	7970	7970	7970	1244	7970	7970	7970	7970	1244
Resume Controls		X		X	X		X		X	X
Firm Controls			X	X	X			X	X	X
Job Posting FE					X					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects derived from the logistic regression described in equation (5). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 29: Heteroskedastic Logistic Estimates of Discrimination (Corrects for Potential Bias from Differences in the Variance of Unobservables)

	Nonbinary Pronouns	Binary Pronouns
Panel A: Logistic Estimates		
Coefficient Estimate	-0.054 ***	-0.017
	(0.008)	(0.013)
Panel B: Heteroskedastic Logistic Coefficient Estimates		
Total Estimate	-0.056 ***	-0.016
	(0.008)	(0.013)
Levels Estimate	-0.053 **	-0.030
	(0.021)	(0.032)
Variance Estimate	-0.003	0.014
	(0.020)	(0.032)
Panel C: Tests		
Overidentification test p-value (X_i coefficient ratios are equal for treatment and control)	0.927	0.357
Standard deviation of unobservables (treatment / control)	0.982	1.074
Test p-value (ratio of standard deviations = 1)	0.888	0.692
Observations	7970	7970
Resume Controls	X	X
Firm Controls		
Job Posting FE		

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects are derived from the logistic and heteroskedastic logistic regressions described in equation (1) with resume controls. The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Figure 3: Positive Employer Response: Implied Male Versus Female, by Occupation Type

Table 30: Estimates of Discrimination Against Male and Female Applicants: Differences by Worker Composition

	(A)	(B)	(C)	(D)
Panel A: Regressions Include Applications in Male-Dominated Occupations Only				
Implied Female	-0.071 ***	-0.071 ***	-0.071 ***	-0.070 ***
	(0.021)	(0.021)	(0.020)	(0.020)
Observations	2752	2752	2752	2752
Panel B: Regressions Include Applications in Non-Dominated Occupations Only				
Implied Male	-0.047 **	-0.048 **	-0.051 **	-0.053 **
	(0.023)	(0.022)	(0.021)	(0.022)
Observations	2610	2610	2610	2610
Panel C: Regressions Include Applications in Female-Dominated Occupations Only				
Implied Male	-0.059 ***	-0.052 **	-0.054 ***	-0.047 **
	(0.023)	(0.021)	(0.021)	(0.021)
Observations	2608	2608	2608	2608
Panel D: Regressions Include All Applications				
Implied Male	-0.035 **	-0.044 **	-0.048 **	-0.047 **
	(0.015)	(0.021)	(0.020)	(0.021)
Implied Male * Female Dominated	-0.018	-0.009	-0.008	-0.004
	(0.019)	(0.031)	(0.031)	(0.031)
Implied Female * Male Dominated	-0.092 ***	-0.108 ***	-0.111 ***	-0.109 ***
	(0.017)	(0.024)	(0.023)	(0.024)
Observations	7970	7970	7970	7970
Resume Controls		X		X
Firm Controls			X	X
Job Posting FE				

Note: This table reports marginal effects for the average applicant associated with having a name that is implied male versus female. Marginal effects for Panels A to C are derived from the logistic regression described in equation (8) with different data subsets; for Panel D from (9). Controls are the same as what has been used in all other regressions, and pronoun disclosure (nonbinary or binary) is additionally controlled for in all regressions. The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.
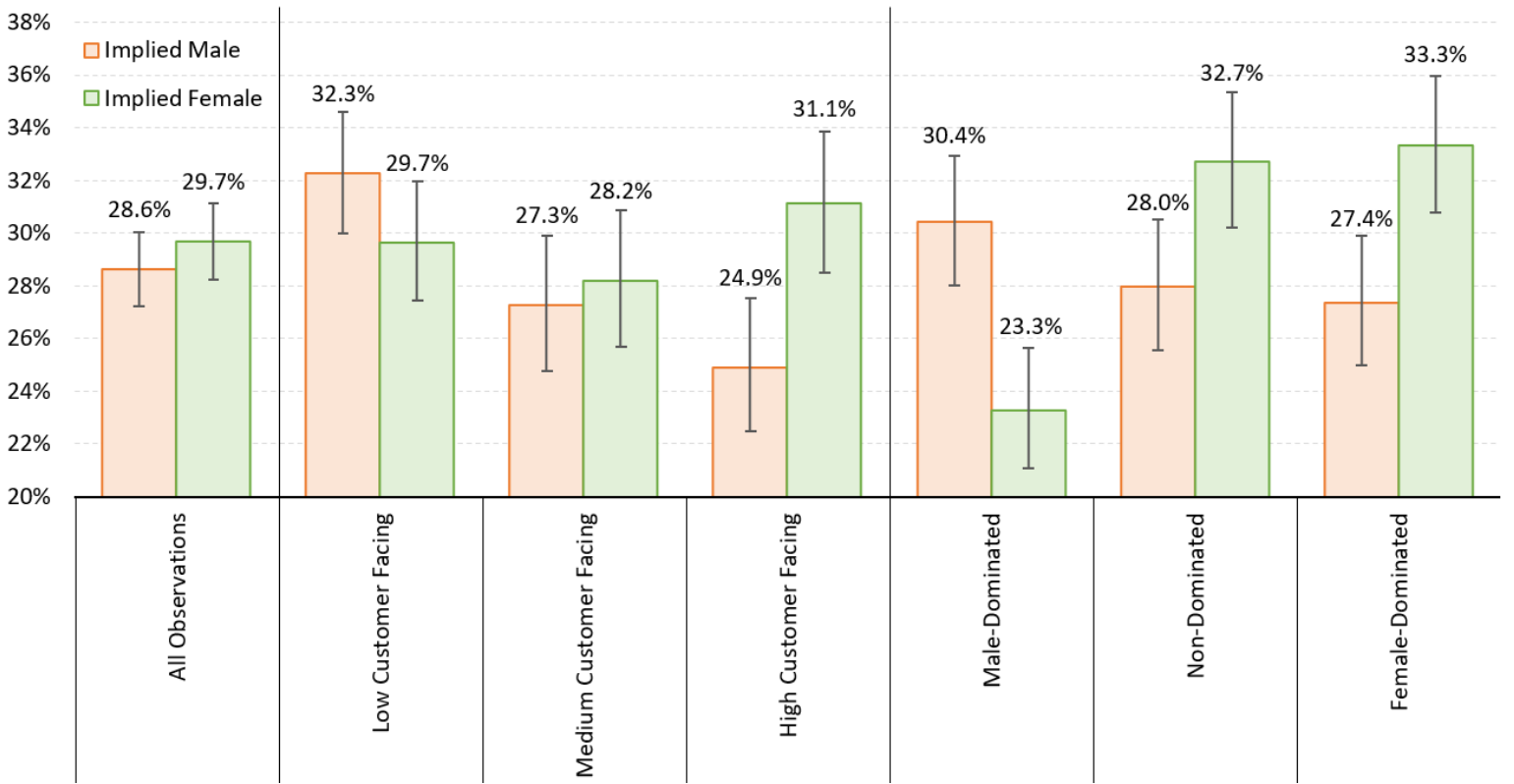
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Appendix
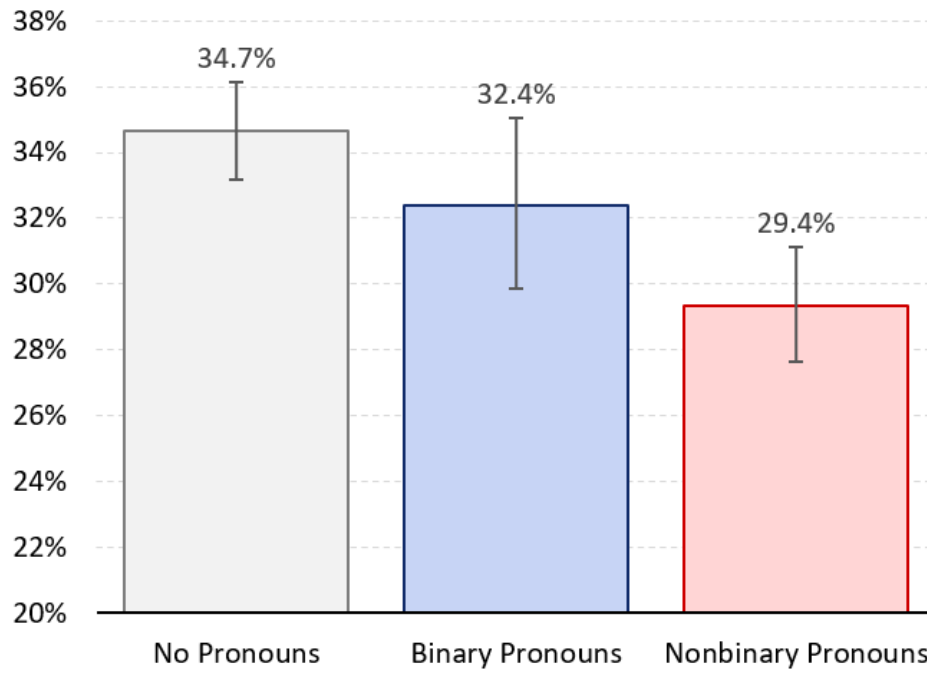
Figure 4: Positive Employer Response: Pronoun Disclosure

Table 31: Differences in Positive Employer Response by Group of Interest

Observations	Positive Employer Response					Sample Size		
	NP	NB	NB - NP	B	B - NP	NP	NB	B
All Observations	0.347	0.294	-0.053 *** (0.012)	0.324	-0.023 (0.031)	3985	2695	1290
Implied Males	0.341	0.290	-0.051 *** (0.017)	0.323	-0.018 (0.039)	1994	1365	629
Implied Females	0.352	0.297	-0.055 *** (0.017)	0.325	-0.027 (0.036)	1991	1330	661
Democratic City	0.357	0.319	-0.038 ** (0.017)	0.344	-0.012 (0.035)	1999	1337	662
Republican City	0.336	0.269	-0.068 *** (0.016)	0.303	-0.034 (0.039)	1986	1358	628
Male-Dominated	0.320	0.262	-0.059 *** (0.020)	0.311	-0.010 (0.051)	1376	932	444
Non-Dominated	0.359	0.30	-0.059 *** (0.021)	0.315	-0.043 (0.034)	1305	864	441
Female-Dominated	0.362	0.320	-0.042 ** (0.021)	0.348	-0.014 (0.042)	1304	899	405
High Customer Facing	0.338	0.285	-0.053 ** (0.022)	0.311	-0.028 (0.042)	1176	806	370
Medium Customer Facing	0.327	0.293	-0.035 (0.022)	0.308	-0.020 (0.035)	1186	786	400
Low Customer Facing	0.367	0.30	-0.067 *** (0.019)	0.346	-0.020 (0.048)	1623	1103	520
Equal Opportunity	0.345	0.309	-0.036 (0.026)	0.293	-0.052 (0.026)	822	563	259
Gender or Sexuality	0.316	0.285	-0.031 (0.034)	0.303	-0.013 (0.054)	481	326	155
Small Business	0.368	0.279	-0.089 ** (0.038)	0.423	0.054 (0.127)	399	276	123

Note: This table positive employer response rates by group. Column "NB - NP" reports the difference in response rates between applicants who disclose nonbinary "they/them" pronouns (NB) and those who disclose no pronouns (NP). Column "B - NP" reports the difference in response rates between applicants who disclose binary "he/him" or "she/her" pronouns (B) congruent with name-implied sex and those who disclose no pronouns. Standard errors associated with Chi-squared tests of these difference in proportions are reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 32: Differences in Positive Employer Response by Geography

Observations	Positive Employer Response					Sample Size		
	NP	NB	NB - NP	B	B - NP	NP	NB	B
Washington	0.333	0.282	-0.051 ** (0.020)	0.310	-0.023 (0.041)	1323	910	413
Colorado	0.352	0.294	-0.058 *** (0.021)	0.330	-0.022 (0.045)	1325	882	443
Utah	0.355	0.305	-0.050 ** (0.021)	0.332	-0.023 (0.041)	1337	903	434
Seattle, WA	0.372	0.342	-0.030 (0.030)	0.365	-0.007 (0.051)	664	453	211
Spokane, WA	0.294	0.223	-0.071 *** (0.027)	0.252	-0.042 (0.052)	659	457	202
Denver, CO	0.359	0.326	-0.033 (0.030)	0.339	-0.020 (0.045)	666	442	224
Colorado Springs, CO	0.344	0.261	-0.083 *** (0.029)	0.320	-0.025 (0.068)	659	440	219
Salt Lake City, UT	0.339	0.287	-0.052 * (0.029)	0.330	-0.009 (0.060)	669	442	227
Provo, UT	0.370	0.321	-0.049 (0.030)	0.333	-0.036 (0.046)	668	461	207

Note: This table positive employer response rates by group. Column "NB - NP" reports the difference in response rates between applicants who disclose nonbinary "they/them" pronouns (NB) and those who disclose no pronouns (NP). Column "B - NP" reports the difference in response rates between applicants who disclose binary "he/him" or "she/her" pronouns (B) congruent with name-implied sex and those who disclose no pronouns. Standard errors associated with Chi-squared tests of these difference in proportions are reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 33: Differences in Positive Employer Response by Occupation

Observations	Positive Employer Response					Sample Size		
	NP	NB	NB - NP	B	B - NP	NP	NB	B
Administrative Assistant	0.188	0.136	-0.052 (0.042)	0.225	0.037 (0.107)	218	147	71
Construction Worker	0.223	0.206	-0.018 (0.047)	0.243	0.020 (0.081)	215	141	74
Receptionist	0.261	0.234	-0.027 (0.041)	0.255	-0.006 (0.065)	299	201	98
Server	0.285	0.212	-0.073 (0.051)	0.265	-0.020 (0.094)	200	132	68
Janitor	0.327	0.265	-0.062 (0.050)	0.364	0.036 (0.128)	217	162	55
Assembler	0.319	0.276	-0.043 (0.061)	0.246	-0.073 (0.056)	166	105	61
Landscaper	0.352	0.262	-0.090 * (0.052)	0.324	-0.029 (0.102)	213	145	68
Truck Driver	0.346	0.288	-0.058 (0.038)	0.326	-0.020 (0.069)	396	267	129
Warehouse Worker	0.328	0.263	-0.066 (0.041)	0.305	-0.023 (0.074)	335	217	118
Housekeeper	0.371	0.351	-0.020 (0.053)	0.359	-0.012 (0.071)	229	151	78
Cook	0.341	0.313	-0.028 (0.042)	0.294	-0.047 (0.042)	346	227	119
Retail Sales	0.386	0.314	-0.072 ** (0.035)	0.343	-0.043 (0.060)	500	334	166
Cashier	0.395	0.360	-0.036 (0.058)	0.395	-0.001 (0.106)	177	139	38
Baker	0.505	0.394	-0.111 (0.086)	0.519	0.013 (0.180)	93	66	27
Certified Nursing Assistant	0.520	0.452	-0.068 (0.042)	0.475	-0.045 (0.067)	381	261	120

Note: This table positive employer response rates by group. Column "NB - NP" reports the difference in response rates between applicants who disclose nonbinary "they/them" pronouns (NB) and those who disclose no pronouns (NP). Column "B - NP" reports the difference in response rates between applicants who disclose binary "he/him" or "she/her" pronouns (B) congruent with name-implied sex and those who disclose no pronouns. Standard errors associated with Chi-squared tests of these difference in proportions are reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 34: Estimates of Discrimination Against Applicants who Disclose Pronouns

	(A)	(B)	(C)	(D)	(E)
Nonbinary Pronouns	-0.052 ***	-0.053 ***	-0.054 ***	-0.053 ***	-0.317 ***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.044)
Binary Pronouns	-0.022 *	-0.020 *	-0.020 *	-0.020 *	-0.100
	(0.012)	(0.012)	(0.012)	(0.012)	(0.066)
Observations	7970	7970	7970	7970	1284
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects are derived from the logistic regression described in equation (1). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 35: Estimates of Identity-Based Discrimination Against Applicants who Disclose "they/them" Pronouns

	(A)	(B)	(C)	(D)
Nonbinary Pronouns	-0.031 *	-0.032 **	-0.034 **	-0.032 **
	(0.016)	(0.015)	(0.015)	(0.015)
Observations	3985	3985	3985	3985
Resume Controls		X		X
Firm Controls			X	X
Job Posting FE				

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns compared to applicants who disclose binary "he/him" or "she/her" pronouns congruent with name-implied sex. Marginal effects are derived from the logistic regression described in equation (2). Only treated observations are included. The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 36: Estimates of Discrimination Against Applicants who Disclose Pronouns: Differences by Geographic Politics (Republican Indicator)

	(A)	(B)	(C)	(D)	(E)
Panel A: Regressions Include Applications in Democratic Geographies Only					
Nonbinary Pronouns	-0.038 ***	-0.039 ***	-0.038 ***	-0.038 ***	-0.254 ***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.066)
Binary Pronouns	-0.012	-0.012	-0.011	-0.014	0.001
	(0.017)	(0.017)	(0.017)	(0.017)	(0.096)
Observations	3998	3998	3998	3998	614
Panel B: Regressions Include Applications in Republican Geographies Only					
Nonbinary Pronouns	-0.066 ***	-0.067 ***	-0.069 ***	-0.067 ***	-0.365 ***
	(0.011)	(0.012)	(0.011)	(0.012)	(0.058)
Binary Pronouns	-0.032 *	-0.028	-0.027 *	-0.026	-0.151 *
	(0.017)	(0.017)	(0.017)	(0.017)	(0.088)
Observations	3972	3972	3972	3972	670
Panel C: Regressions Include All Applications					
Nonbinary Pronouns	-0.037 ***	-0.037 ***	-0.037 ***	-0.036 ***	-0.265 ***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.065)
Nonbinary-Republican	-0.032 **	-0.034 **	-0.034 **	-0.035 **	-0.106
	(0.016)	(0.016)	(0.016)	(0.016)	(0.092)
Binary Pronouns	-0.012	-0.011	-0.011	-0.012	-0.019
	(0.017)	(0.016)	(0.016)	(0.016)	(0.095)
Binary-Republican	-0.022	-0.018	-0.019	-0.015	-0.159
	(0.024)	(0.024)	(0.024)	(0.024)	(0.124)
Observations	7970	7970	7970	7970	1284
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects for Panels A and B are derived from the logistic regression described in equations (1); for Panel C from (4.1). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 37: Estimates of Discrimination Against Applicants who Disclose Pronouns: Differences by Geographic Politics (Republican Vote Share)

	(A)	(B)	(C)	(D)	(E)
Panel A: Regression Does Not Include A Squared Term For Republican Vote Share					
Nonbinary Pronouns	-0.011	-0.007	-0.008	-0.006	-0.006
	(0.032)	(0.030)	(0.030)	(0.030)	(0.030)
Nonbinary-Republican Vote Share	-0.086	-0.093	-0.094	-0.097	-0.097
	(0.063)	(0.060)	(0.059)	(0.059)	(0.059)
Binary Pronouns	0.015	0.000	0.004	-0.003	-0.003
	(0.049)	(0.046)	(0.046)	(0.046)	(0.046)
Binary-Republican Vote Share	-0.075	-0.041	-0.049	-0.035	-0.035
	(0.094)	(0.091)	(0.091)	(0.090)	(0.090)
Observations	7970	7970	7970	7970	1284
Panel B: Regression Does Include A Squared Term For Republican Vote Share					
Nonbinary Pronouns	0.200 *	0.198 *	0.177	0.191 *	0.325 *
	(0.106)	(0.106)	(0.108)	(0.106)	(0.170)
Nonbinary-Republican Vote Share	-0.988 **	-0.969 **	-0.878 *	-0.933 **	-3.120
	(0.470)	(0.469)	(0.468)	(0.468)	(2.586)
Nonbinary-Republican Vote Share^2	0.884 *	0.854 *	0.766 *	0.816 *	2.707
	(0.456)	(0.454)	(0.454)	(0.453)	(2.514)
Binary Pronouns	0.034	0.065	0.097	0.074	0.364
	(0.180)	(0.184)	(0.186)	(0.184)	(0.387)
Binary-Republican Vote Share	-0.158	-0.305	-0.424	-0.349	-1.741
	(0.714)	(0.714)	(0.711)	(0.711)	(3.631)
Binary-Republican Vote Share^2	0.085	0.257	0.366	0.306	1.053
	(0.690)	(0.691)	(0.686)	(0.687)	(3.576)
Observations	7970	7970	7970	7970	1284
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects are derived from the logistic regression described in equation (4.1). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 38: Implied Average Discrimination Associated With Nonbinary Pronoun Disclosure by Geographic Republican Vote Share

Republican Vote Share	Implied Discrimination by Regression Specification			
	(A)	(B)	(C)	(D)
30%	-1.7%	-1.6%	-1.8%	-1.6%
35%	-3.8%	-3.6%	-3.7%	-3.6%
40%	-5.4%	-5.3%	-5.2%	-5.2%
45%	-6.6%	-6.5%	-6.3%	-6.4%
50%	-7.3%	-7.3%	-7.1%	-7.2%
55%	-7.6%	-7.6%	-7.4%	-7.6%
60%	-7.5%	-7.6%	-7.4%	-7.5%
65%	-6.9%	-7.1%	-7.0%	-7.1%
70%	-5.8%	-6.2%	-6.3%	-6.3%
Observations	7970	7970	7970	7970
Resume Controls		X		X
Firm Controls			X	X
Job Posting FE				

Note: This table reports implied discrimination associated with disclosing nonbinary "they/them" pronouns compared to not disclosing pronouns, based on geographic (CBSA level) Republican vote share. Implied discrimination is calculated via coefficient estimates reported in Panel B of Table 37.

Table 39: Estimates of Discrimination Against Applicants who Disclose Pronouns: Differences by Job Posting Text

	(A)	(B)	(C)	(D)	(E)
Panel A: Regressions Include Applications to Job Postings Mentioning "Equal Opportunity"					
Nonbinary Pronouns	-0.035 **	-0.039 **	-0.035 **	-0.036 **	-0.362 ***
	(0.017)	(0.018)	(0.017)	(0.018)	(0.096)
Binary Pronouns	-0.051 *	-0.050 *	-0.053 **	-0.054 **	-0.066
	(0.026)	(0.027)	(0.026)	(0.027)	(0.172)
Observations	1644	1644	1644	1644	244
Panel B: Regressions Include Applications to Job Postings Mentioning Gender or Sexuality					
Nonbinary Pronouns	-0.030	-0.034	-0.034	-0.033	-0.314 ***
	(0.023)	(0.024)	(0.022)	(0.024)	(0.117)
Binary Pronouns	-0.013	-0.008	-0.006	-0.013	0.203
	(0.033)	(0.034)	(0.032)	(0.033)	(0.174)
Observations	962	962	962	962	132
Panel C: Regressions Include Applications to Job Postings Mentioning The Employer is a Small Business					
Nonbinary Pronouns	-0.092 ***	-0.096 ***	-0.085 ***	-0.088 ***	-0.285 **
	(0.028)	(0.029)	(0.027)	(0.029)	(0.140)
Binary Pronouns	0.052	0.054	0.037	0.039	0.132
	(0.041)	(0.041)	(0.039)	(0.039)	(0.166)
Observations	798	798	798	798	152
Panel D: Regressions Include Applications to Job Postings Mentioning None of the Above					
Nonbinary Pronouns	-0.053 ***	-0.054 ***	-0.055 ***	-0.054 ***	-0.332 ***
	(0.010)	(0.010)	(0.009)	(0.010)	(0.055)
Binary Pronouns	-0.019	-0.017	-0.015	-0.016	-0.084
	(0.014)	(0.014)	(0.014)	(0.014)	(0.078)
Observations	5596	5596	5596	5596	872
Panel E: Regressions All Applications					
Nonbinary Pronouns	-0.053 ***	-0.054 ***	-0.055 ***	-0.054 ***	-0.324 ***
	(0.010)	(0.010)	(0.009)	(0.010)	(0.052)
Nonbinary-Equal Opportunity	0.015	0.020	0.019	0.020	-0.074
	(0.026)	(0.026)	(0.026)	(0.026)	(0.147)
Nonbinary-Gender or Sexuality	0.012	0.012	0.011	0.012	0.130
	(0.033)	(0.033)	(0.033)	(0.033)	(0.169)
Nonbinary-Small Business	-0.040	-0.044	-0.037	-0.040	0.060
	(0.028)	(0.027)	(0.027)	(0.027)	(0.134)
Binary Pronouns	-0.024 *	-0.022	-0.020	-0.020	-0.087
	(0.014)	(0.014)	(0.014)	(0.014)	(0.077)
Binary-Equal Opportunity	-0.066 *	-0.064 *	-0.072 **	-0.065 *	-0.197
	(0.037)	(0.036)	(0.035)	(0.036)	(0.221)
Binary-Gender or Sexuality	0.067	0.059	0.069	0.058	0.304
	(0.051)	(0.051)	(0.051)	(0.051)	(0.223)
Binary-Small Business	0.080 *	0.090 **	0.074 *	0.078 *	-0.062
	(0.044)	(0.045)	(0.043)	(0.044)	(0.199)
Observations	7970	7970	7970	7970	1284
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects for Panels A to D are derived from the logistic regression described in equation (1) with different data subsets; for Panel E from (4.2). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 40: Estimates of Discrimination Against Applicants who Disclose Pronouns: Differences by Customer Interaction (Customer Interaction Indicators)

	(A)	(B)	(C)	(D)	(E)
Panel A: Regressions Include Applications to High Customer Interaction Occupations Only					
Nonbinary Pronouns	-0.052 ***	-0.053 ***	-0.056 ***	-0.055 ***	-0.359 ***
	(0.015)	(0.016)	(0.015)	(0.016)	(0.083)
Binary Pronouns	-0.027	-0.026	-0.019	-0.022	0.068
	(0.022)	(0.022)	(0.022)	(0.022)	(0.122)
Observations	2352	2352	2352	2352	410
Panel B: Regressions Include Applications to Medium Customer Interaction Occupations Only					
Nonbinary Pronouns	-0.034 **	-0.032 **	-0.033 **	-0.031 **	-0.169 *
	(0.015)	(0.015)	(0.014)	(0.015)	(0.089)
Binary Pronouns	-0.019	-0.020	-0.023	-0.023	-0.204 *
	(0.021)	(0.022)	(0.021)	(0.021)	(0.117)
Observations	2372	2372	2372	2372	362
Panel C: Regressions Include Applications to Low Customer Interaction Occupations Only					
Nonbinary Pronouns	-0.066 ***	-0.065 ***	-0.068 ***	-0.065 ***	-0.358 ***
	(0.013)	(0.013)	(0.012)	(0.013)	(0.069)
Binary Pronouns	-0.020	-0.019	-0.016	-0.017	-0.130
	(0.019)	(0.019)	(0.019)	(0.018)	(0.098)
Observations	3246	3246	3246	3246	512
Panel D: Regressions Include All Applications					
Nonbinary Pronouns	-0.035 **	-0.035 **	-0.033 **	-0.034 **	-0.168 *
	(0.015)	(0.015)	(0.015)	(0.015)	(0.088)
Nonbinary-High Customer Facing	-0.018	-0.017	-0.023	-0.019	-0.192 *
	(0.021)	(0.021)	(0.021)	(0.021)	(0.111)
Nonbinary-Low Customer Facing	-0.029	-0.031 *	-0.035 *	-0.032 *	-0.211 **
	(0.019)	(0.019)	(0.019)	(0.019)	(0.105)
Binary Pronouns	-0.020	-0.019	-0.023	-0.022	-0.195 *
	(0.022)	(0.021)	(0.021)	(0.021)	(0.107)
Binary-High Customer Facing	-0.008	-0.003	0.002	0.002	0.294 **
	(0.032)	(0.032)	(0.032)	(0.032)	(0.125)
Binary-Low Customer Facing	0.000	0.001	0.007	0.004	0.029
	(0.029)	(0.029)	(0.029)	(0.029)	(0.156)
Observations	7970	7970	7970	7970	1284
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects for Panels A to C are derived from the logistic regression described in equation (1) with different data subsets; for Panel D from (4.3). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 41: Estimates of Discrimination Against Applicants who Disclose Pronouns: Differences by Customer Interaction (O*NET Customer Interaction Score)

	(A)	(B)	(C)	(D)	(E)
*Panel A: Regression Does Not Include A Squared Term For O*NET Customer Interaction Score*					
Nonbinary Pronouns	-0.062 **	-0.065 ***	-0.063 ***	-0.064 ***	-0.322 ***
	(0.025)	(0.024)	(0.024)	(0.024)	(0.115)
Nonbinary-O*NET Score	0.0002	0.0002	0.0002	0.0002	0.0001
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0021)
Binary Pronouns	-0.024	-0.024	-0.025	-0.024	-0.388 ***
	(0.035)	(0.035)	(0.034)	(0.034)	(0.125)
Binary-O*NET Score	0.0000	0.0001	0.0001	0.0001	0.0064 *
	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0034)
Observations	7970	7970	7970	7970	1284
*Panel B: Regression Does Include A Squared Term For O*NET Customer Interaction Score*					
Nonbinary Pronouns	-0.101	-0.100	-0.106	-0.102	-0.566 ***
	(0.066)	(0.069)	(0.068)	(0.068)	(0.093)
Nonbinary-O*NET Score	0.002	0.002	0.002	0.002	0.018
	(0.002)	(0.002)	(0.002)	(0.002)	(0.013)
Nonbinary-O*NET Score^2	-0.0000	-0.0000	-0.0000	-0.0000	-0.0001
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0001)
Binary Pronouns	-0.109	-0.091	-0.100	-0.087	0.137
	(0.074)	(0.081)	(0.078)	(0.081)	(0.536)
Binary-O*NET Score	0.0035	0.0027	0.0031	0.0025	-0.0150
	(0.0031)	(0.0032)	(0.0031)	(0.0032)	(0.0196)
Binary-O*NET Score^2	-0.0000	-0.0000	-0.0000	-0.0000	0.0002
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0002)
Observations	7970	7970	7970	7970	1284
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects are derived from the logistic regression described in equation (4.3). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 42: Estimates of Discrimination Against Applicants who Disclose Pronouns: Differences by Implied Sex

	(A)	(B)	(C)	(D)	(E)
Panel A: Regressions Include Applicants Implied Male Only					
Nonbinary Pronouns	-0.050 ***	-0.050 ***	-0.049 ***	-0.050 ***	-0.301 ***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.061)
Binary Pronouns	-0.018	-0.020	-0.020	-0.021	-0.145
	(0.017)	(0.017)	(0.017)	(0.017)	(0.096)
Observations	3984	3984	3984	3984	626
Panel B: Regressions Include Applicants Implied Female Only					
Nonbinary Pronouns	-0.054 ***	-0.055 ***	-0.058 ***	-0.056 ***	-0.325 ***
	(0.012)	(0.012)	(0.011)	(0.012)	(0.063)
Binary Pronouns	-0.026	-0.022	-0.019	-0.021	-0.092
	(0.017)	(0.017)	(0.017)	(0.017)	(0.086)
Observations	3986	3986	3986	3986	658
Panel C: Regressions Include All Observations and Implied Sex Interactions					
Nonbinary Pronouns	-0.054 ***	-0.055 ***	-0.057 ***	-0.056 ***	-0.339 ***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.059)
Nonbinary-Implied Male	0.003	0.005	0.007	0.006	0.049
	(0.017)	(0.017)	(0.017)	(0.016)	(0.088)
Binary Pronouns	-0.026	-0.021	-0.021	-0.020	-0.078
	(0.017)	(0.017)	(0.017)	(0.017)	(0.089)
Binary-Implied Male	0.008	0.003	0.002	0.001	-0.049
	(0.025)	(0.024)	(0.024)	(0.024)	(0.132)
Observations	7970	7970	7970	7970	1284
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects for Panels A and B are derived from the logistic regression described in equation (1) with different data subsets; for Panel C from (4.4). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 43: Estimates of Discrimination Against Applicants who Disclose Pronouns: Differences by Experience

	(A)	(B)	(C)	(D)	(E)
Panel A: Regressions Include Applications With Relevant Experience Only					
Nonbinary Pronouns	-0.053 ***	-0.054 ***	-0.055 ***	-0.055 ***	-0.291 ***
	(0.011)	(0.012)	(0.011)	(0.012)	(0.055)
Binary Pronouns	-0.030 *	-0.028 *	-0.027	-0.026	-0.081
	(0.016)	(0.016)	(0.016)	(0.016)	(0.081)
Observations	4610	4610	4610	4610	820
Panel B: Regressions Include Applications With No Relevant Experience Only					
Nonbinary Pronouns	-0.051 ***	-0.053 ***	-0.052 ***	-0.052 ***	-0.358 ***
	(0.012)	(0.012)	(0.011)	(0.012)	(0.072)
Binary Pronouns	-0.012	-0.009	-0.012	-0.012	-0.093
	(0.017)	(0.017)	(0.017)	(0.017)	(0.120)
Observations	3360	3360	3360	3360	464
Panel C: Regressions Include All Observations and Experiences (No Squared Term)					
Nonbinary Pronouns	-0.049 ***	-0.051 ***	-0.050 ***	-0.049 ***	-0.298 ***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.062)
Nonbinary-Years Relevant	-0.003	-0.002	-0.004	-0.003	-0.017
	(0.007)	(0.007)	(0.007)	(0.007)	(0.039)
Binary Pronouns	-0.032 *	-0.028	-0.031 *	-0.030 *	-0.214 **
	(0.017)	(0.017)	(0.017)	(0.017)	(0.092)
Binary-Years Relevant	0.009	0.007	0.010	0.009	0.098
	(0.011)	(0.011)	(0.011)	(0.011)	(0.060)
Observations	7970	7970	7970	7970	1284
Panel D: Regressions Include All Observations and Experiences (Including Squared Term)					
Nonbinary Pronouns	-0.039 ***	-0.057 ***	-0.056 ***	-0.056 ***	-0.346 ***
	(0.013)	(0.012)	(0.012)	(0.012)	(0.065)
Nonbinary-Years Relevant	0.022	0.022	0.020	0.020	0.181 *
	(0.020)	(0.020)	(0.020)	(0.020)	(0.105)
Nonbinary-Years Relevant^2	-0.008	-0.008	-0.008	-0.008	-0.067 **
	(0.006)	(0.006)	(0.006)	(0.006)	(0.033)
Binary Pronouns	-0.018	-0.015	-0.018	-0.017	-0.120
	(0.019)	(0.018)	(0.018)	(0.018)	(0.107)
Binary-Years Relevant	-0.041	-0.040	-0.037	-0.037	-0.224
	(0.030)	(0.029)	(0.029)	(0.029)	(0.179)
Binary-Years Relevant^2	0.017 *	0.016 *	0.016 *	0.016 *	0.113 *
	(0.009)	(0.009)	(0.009)	(0.009)	(0.062)
Observations	7970	7970	7970	7970	1284
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects for Panels A to C are derived from the logistic regression described in equation (1) with different data subsets; for Panel D from (4.5). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 44: Estimates of Discrimination Against Applicants who Disclose Pronouns: Differences by Worker Composition (Worker Composition Indicators)

	(A)	(B)	(C)	(D)	(E)
Panel A: Regressions Include Applications to Male-Dominated Occupations Only					
Nonbinary Pronouns	-0.058 ***	-0.062 ***	-0.058 ***	-0.061 ***	-0.357 ***
	(0.014)	(0.014)	(0.013)	(0.014)	(0.078)
Binary Pronouns	-0.009	-0.007	-0.011	-0.010	-0.091
	(0.020)	(0.020)	(0.019)	(0.019)	(0.119)
Observations	2752	2752	2752	2752	410
Panel B: Regressions Include Applications to Non-Dominated Occupations Only					
Nonbinary Pronouns	-0.057 ***	-0.057 ***	-0.060 ***	-0.060 ***	-0.386 ***
	(0.015)	(0.015)	(0.014)	(0.015)	(0.080)
Binary Pronouns	-0.042 **	-0.040 *	-0.038 *	-0.036 *	-0.027
	(0.020)	(0.021)	(0.020)	(0.021)	(0.114)
Observations	2610	2610	2610	2610	452
Panel C: Regressions Include Applications to Female-Dominated Occupations Only					
Nonbinary Pronouns	-0.041 ***	-0.043 ***	-0.043 ***	-0.043 ***	-0.260 ***
	(0.014)	(0.014)	(0.013)	(0.014)	(0.076)
Binary Pronouns	-0.014	-0.018	-0.010	-0.018	-0.116
	(0.022)	(0.022)	(0.022)	(0.022)	(0.104)
Observations	2608	2608	2608	2608	422
Panel D: Regressions Include All Occupations					
Nonbinary Pronouns	-0.057 ***	-0.054 ***	-0.058 ***	-0.056 ***	-0.378 ***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.066)
Nonbinary-Male Dominated	-0.004	-0.008	-0.001	-0.005	0.062
	(0.021)	(0.020)	(0.020)	(0.020)	(0.107)
Nonbinary-Female Dominated	0.018	0.013	0.016	0.015	0.156
	(0.021)	(0.020)	(0.021)	(0.020)	(0.098)
Binary Pronouns	-0.042 **	-0.039 **	-0.038 *	-0.036 *	-0.045
	(0.020)	(0.020)	(0.020)	(0.020)	(0.119)
Binary-Male Dominated	0.0332	0.0339	0.0277	0.0288	-0.0931
	(0.0306)	(0.0303)	(0.0299)	(0.0299)	(0.167)
Binary-Female Dominated	0.030	0.028	0.030	0.024	-0.069
	(0.031)	(0.032)	(0.032)	(0.031)	(0.156)
Observations	7970	7970	7970	7970	1286
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects for Panels A to C are derived from the logistic regression described in equation (1) with different data subsets; for Panel D from (4.6). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 45: Estimates of Discrimination Against Applicants who Disclose Pronouns: Differences by Worker Composition (Percent Male Workers)

	(A)	(B)	(C)	(D)	(E)
Panel A: Regression Does Not Include A Squared Term For Percent Male Workers					
Nonbinary Pronouns	-0.042 ***	-0.043 ***	-0.047 ***	-0.043 ***	-0.257 ***
	(0.015)	(0.015)	(0.015)	(0.015)	(0.087)
Nonbinary-Percent Male	-0.0207	-0.0190	-0.0134	-0.0185	-0.1224
	(0.0254)	(0.0257)	(0.0260)	(0.0258)	(0.1463)
Binary Pronouns	-0.018	-0.019	-0.012	-0.017	-0.099
	(0.023)	(0.024)	(0.024)	(0.024)	(0.116)
Binary-Percent Male	-0.007	-0.002	-0.015	-0.004	-0.002
	(0.038)	(0.039)	(0.039)	(0.038)	(0.202)
Observations	7970	7970	7970	7970	1284
Panel B: Regression Does Include A Squared Term For Percent Male Workers					
Nonbinary Pronouns	-0.039 *	-0.042 *	-0.043 *	-0.040 *	-0.225 *
	(0.021)	(0.022)	(0.022)	(0.022)	(0.124)
Nonbinary-Percent Male	-0.045	-0.029	-0.042	-0.041	-0.331
	(0.110)	(0.112)	(0.112)	(0.112)	(0.595)
Nonbinary-Percent Male^2	0.024	0.010	0.028	0.022	0.209
	(0.107)	(0.108)	(0.108)	(0.108)	(0.582)
Binary Pronouns	0.004	0.001	0.007	-0.002	-0.127
	(0.033)	(0.034)	(0.035)	(0.034)	(0.163)
Binary-Percent Male	-0.156	-0.132	-0.138	-0.105	0.200
	(0.160)	(0.163)	(0.163)	(0.162)	(0.894)
Binary-Percent Male^2	0.1483	0.1286	0.1215	0.0999	-0.2045
	(0.1549)	(0.1557)	(0.1561)	(0.1552)	(0.885)
Observations	7970	7970	7970	7970	1284
Resume Controls		X		X	X
Firm Controls			X	X	X
Job Posting FE					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects derived from the logistic regression described in equation (4.6). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 46: Estimates of Discrimination Against Applicants who Disclose Pronouns: All Interactions (Indicator Variables)

	Nonbinary Pronoun Estimates					Binary Pronoun Estimates				
	(A)	(B)	(C)	(D)	(E)	(A)	(B)	(C)	(D)	(E)
Pronouns	-0.020	-0.019	-0.020	-0.019	-0.167	-0.048	-0.047	-0.047	-0.047	-0.275
	(0.026)	(0.026)	(0.026)	(0.026)	(0.143)	(0.036)	(0.036)	(0.035)	(0.036)	(0.171)
Pronouns-Implied Male	0.005	0.005	0.007	0.006	0.043	0.0043	0.0019	0.0006	0.0001	-0.0146
	(0.017)	(0.017)	(0.016)	(0.016)	(0.088)	(0.0247)	(0.0245)	(0.0243)	(0.0243)	(0.1404)
Pronouns-Republican	-0.032 **	-0.033 **	-0.034 **	-0.034 **	-0.115	-0.027	-0.024	-0.023	-0.021	-0.150
	(0.016)	(0.016)	(0.016)	(0.016)	(0.091)	(0.024)	(0.024)	(0.024)	(0.024)	(0.125)
Pronouns-High Customer Facing	-0.026	-0.025	-0.028	-0.027	-0.207 *	0.008	0.015	0.014	0.017	0.332 ***
	(0.023)	(0.023)	(0.023)	(0.023)	(0.117)	(0.036)	(0.036)	(0.036)	(0.036)	(0.128)
Pronouns-Low Customer Facing	-0.036 *	-0.037 *	-0.040 **	-0.039 **	-0.234 **	0.000	0.001	0.004	0.004	0.026
	(0.019)	(0.019)	(0.019)	(0.019)	(0.103)	(0.030)	(0.030)	(0.030)	(0.030)	(0.167)
Pronouns-Male Dominated	-0.007	-0.008	-0.003	-0.006	0.040	0.044	0.043	0.040	0.038	0.123
	(0.023)	(0.023)	(0.023)	(0.023)	(0.121)	(0.035)	(0.035)	(0.035)	(0.035)	(0.178)
Pronouns-Female Dominated	0.026	0.019	0.023	0.021	0.179 *	0.025	0.028	0.026	0.024	0.026
	(0.022)	(0.021)	(0.021)	(0.021)	(0.094)	(0.032)	(0.033)	(0.032)	(0.032)	(0.171)
Pronouns-Years Relevant	-0.002	-0.002	-0.003	-0.003	-0.020	0.009	0.008	0.011	0.010	0.106 *
	(0.007)	(0.007)	(0.007)	(0.007)	(0.039)	(0.011)	(0.011)	(0.011)	(0.011)	(0.060)
Pronouns-Equal Opportunity	0.012	0.020	0.017	0.021	-0.084	-0.061 *	-0.066 *	-0.069 *	-0.067 *	-0.160
	(0.026)	(0.026)	(0.026)	(0.026)	(0.146)	(0.036)	(0.037)	(0.036)	(0.036)	(0.227)
Pronouns-Gender or Sexuality	0.019	0.012	0.016	0.013	0.136	0.057	0.060	0.060	0.059	0.246
	(0.033)	(0.033)	(0.033)	(0.033)	(0.166)	(0.052)	(0.052)	(0.051)	(0.051)	(0.262)
Pronouns-Small Business	-0.044	-0.045 *	-0.040	-0.041	0.046	0.091 **	0.091 **	0.079 *	0.080 *	-0.061
	(0.027)	(0.027)	(0.027)	(0.027)	(0.132)	(0.045)	(0.045)	(0.044)	(0.044)	(0.203)
Observations	7970	7970	7970	7970	1284	7970	7970	7970	7970	1284
Resume Controls		X		X	X		X		X	X
Firm Controls			X	X	X			X	X	X
Job Posting FE					X					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects derived from the logistic regression described in equation (5). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 47: Estimates of Discrimination Against Applicants who Disclose Pronouns: All Interactions (Continuous Variables, No Squares)

	Nonbinary Pronoun Estimates					Binary Pronoun Estimates				
	(A)	(B)	(C)	(D)	(E)	(A)	(B)	(C)	(D)	(E)
Pronouns	-0.006	-0.012	-0.010	-0.010	-0.069	-0.003	-0.011	-0.006	-0.012	-0.313
	(0.045)	(0.044)	(0.044)	(0.044)	(0.255)	(0.069)	(0.066)	(0.066)	(0.066)	(0.293)
Pronouns-Implied Male	0.005	0.005	0.007	0.006	0.045	0.0058	0.0027	0.0011	0.0007	-0.0182
	(0.017)	(0.017)	(0.017)	(0.016)	(0.089)	(0.0247)	(0.0245)	(0.0243)	(0.0244)	(0.1448)
Pronouns-Republican Vote Share	-0.086	-0.090	-0.093	-0.093	-0.347	-0.079	-0.052	-0.052	-0.047	-0.548
	(0.063)	(0.059)	(0.059)	(0.059)	(0.342)	(0.095)	(0.092)	(0.091)	(0.092)	(0.490)
Pronouns-O*NET Score	0.0001	0.0002	0.0002	0.0002	-0.0002	-0.0000	0.0001	0.0000	0.0001	0.0066 *
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0021)	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0037)
Pronouns-Percent Male	-0.024	-0.017	-0.015	-0.016	-0.129	0.0075	0.0021	-0.0006	0.0007	0.0737
	(0.026)	(0.026)	(0.027)	(0.026)	(0.151)	(0.0399)	(0.0405)	(0.0406)	(0.0404)	(0.2128)
Pronouns-Years Relevant	-0.003	-0.002	-0.004	-0.003	-0.014	0.009	0.008	0.011	0.010	0.098
	(0.007)	(0.007)	(0.007)	(0.007)	(0.038)	(0.011)	(0.011)	(0.011)	(0.011)	(0.061)
Pronouns-Equal Opportunity	0.013	0.019	0.016	0.020	-0.078	-0.061 *	-0.064 *	-0.068 *	-0.066 *	-0.202
	(0.026)	(0.026)	(0.026)	(0.026)	(0.146)	(0.036)	(0.037)	(0.036)	(0.036)	(0.215)
Pronouns-Gender or Sexuality	0.016	0.010	0.014	0.010	0.119	0.055	0.057	0.057	0.056	0.279
	(0.033)	(0.033)	(0.033)	(0.033)	(0.168)	(0.052)	(0.052)	(0.051)	(0.051)	(0.241)
Pronouns-Small Business	-0.042	-0.044 *	-0.039	-0.041	0.055	0.087 *	0.090 **	0.078 *	0.079 *	-0.106
	(0.027)	(0.027)	(0.027)	(0.027)	(0.133)	(0.045)	(0.045)	(0.044)	(0.044)	(0.196)
Observations	7970	7970	7970	7970	1284	7970	7970	7970	7970	1284
Resume Controls		X		X	X		X		X	X
Firm Controls			X	X	X			X	X	X
Job Posting FE					X					X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects derived from the logistic regression described in equation (5). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 48: Estimates of Discrimination Against Applicants who Disclose Pronouns: All Interactions (Continuous Variables, Including Squares)

	Nonbinary Pronoun Estimates					Binary Pronoun Estimates				
	(A)	(B)	(C)	(D)	(E)	(A)	(B)	(C)	(D)	(E)
Pronouns	0.165	0.153	0.133	0.143	0.042	-0.023	0.036	0.036	0.042	0.422
	(0.134)	(0.138)	(0.139)	(0.138)	(0.723)	(0.206)	(0.223)	(0.220)	(0.222)	(0.290)
Pronouns-Implied Male	0.004	0.005	0.007	0.006	0.046	0.007	0.003	0.001	0.001	-0.018
	(0.017)	(0.017)	(0.017)	(0.016)	(0.087)	(0.025)	(0.025)	(0.024)	(0.024)	(0.145)
Pronouns-Republican Vote Share	-1.023 **	-0.969 **	-0.921 **	-0.929 **	-3.173	-0.209	-0.421	-0.453	-0.465	-1.661
	(0.467)	(0.468)	(0.467)	(0.467)	(2.579)	(0.715)	(0.722)	(0.715)	(0.719)	(3.682)
Pronouns-Republican Vote Share^2	0.913 **	0.857 *	0.806 *	0.815 *	2.753	0.139	0.357	0.390	0.406	1.034
	(0.453)	(0.453)	(0.452)	(0.452)	(2.508)	(0.692)	(0.697)	(0.690)	(0.694)	(3.646)
Pronouns-O*NET Score	0.002	0.001	0.002	0.002	0.018	0.0028	0.0023	0.0026	0.0024	-0.0123
	(0.002)	(0.003)	(0.003)	(0.003)	(0.013)	(0.0033)	(0.0034)	(0.0034)	(0.0034)	(0.0234)
Pronouns-O*NET Score^2	-0.0000	-0.0000	-0.0000	-0.0000	-0.0001	-0.0000	-0.0000	-0.0000	-0.0000	0.0002
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0001)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0002)
Pronouns-Percent Male	-0.023	-0.016	-0.028	-0.027	-0.067	-0.087	-0.072	-0.055	-0.042	-0.620
	(0.118)	(0.124)	(0.123)	(0.123)	(0.633)	(0.174)	(0.180)	(0.179)	(0.179)	(1.008)
Pronouns-Percent Male^2	0.004	0.001	0.016	0.013	-0.036	0.094	0.079	0.058	0.047	0.738
	(0.117)	(0.121)	(0.120)	(0.120)	(0.625)	(0.170)	(0.174)	(0.173)	(0.173)	(0.993)
Pronouns-Years Relevant	0.025	0.023	0.021	0.021	0.179 *	-0.046	-0.043	-0.040	-0.040	-0.196
	(0.020)	(0.020)	(0.020)	(0.020)	(0.106)	(0.029)	(0.029)	(0.029)	(0.029)	(0.192)
Pronouns-Years Relevant^2	-0.009	-0.008	-0.008	-0.008	-0.063 *	0.019 **	0.017 *	0.017 *	0.017 *	0.103
	(0.006)	(0.006)	(0.006)	(0.006)	(0.033)	(0.009)	(0.009)	(0.009)	(0.009)	(0.067)
Pronouns-Equal Opportunity	0.012	0.019	0.016	0.020	-0.071	-0.061 *	-0.066 *	-0.069 *	-0.067 *	-0.212
	(0.026)	(0.026)	(0.026)	(0.026)	(0.144)	(0.036)	(0.037)	(0.036)	(0.036)	(0.207)
Pronouns-Gender or Sexuality	0.016	0.011	0.015	0.012	0.120	0.058	0.059	0.060	0.058	0.229
	(0.033)	(0.033)	(0.033)	(0.033)	(0.170)	(0.052)	(0.052)	(0.051)	(0.051)	(0.280)
Pronouns-Small Business	-0.045 *	-0.046 *	-0.040	-0.042	0.016	0.094 **	0.094 **	0.081 *	0.083 *	-0.066
	(0.027)	(0.027)	(0.027)	(0.027)	(0.138)	(0.045)	(0.045)	(0.044)	(0.044)	(0.201)
Observations	7970	7970	7970	7970	1284	7970	7970	7970	7970	1284
Resume Controls		X		X	X		X		X	X
Firm Controls			X	X	X			X	X	X
Job Posting FE				X						X

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns. Marginal effects derived from the logistic regression described in equation (5). The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.

Table 49: Heteroskedastic Logistic Estimates of Discrimination (Corrects for Potential Bias from Differences in the Variance of Unobservables)

	Nonbinary Pronouns	Binary Pronouns
Panel A: Logistic Estimates		
Coefficient Estimate	-0.052 ***	-0.021
	(0.008)	(0.013)
Panel B: Heteroskedastic Logistic Coefficient Estimates		
Total Estimate	-0.055 ***	-0.020
	(0.009)	(0.014)
Levels Estimate	-0.047 **	-0.036
	(0.017)	(0.030)
Variance Estimate	-0.008	0.016
	(0.016)	(0.027)
Panel C: Tests		
Overidentification test p-value (X_i coefficient ratios are equal for treatment and control)	0.928	0.489
Standard deviation of unobservables (treatment / control)	0.952	1.101
Test p-value (ratio of standard deviations = 1)	0.676	0.590
Observations	7970	7970
Resume Controls	X	X
Firm Controls		
Job Posting FE		

Note: This table reports marginal effects for the average applicant associated with disclosing nonbinary "they/them" pronouns and binary "he/him" or "she/her" pronouns congruent with name-implied sex, compared to not disclosing pronouns, derived from the logistic and heteroskedastic logistic regressions described in equation (1) with resume controls. The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.
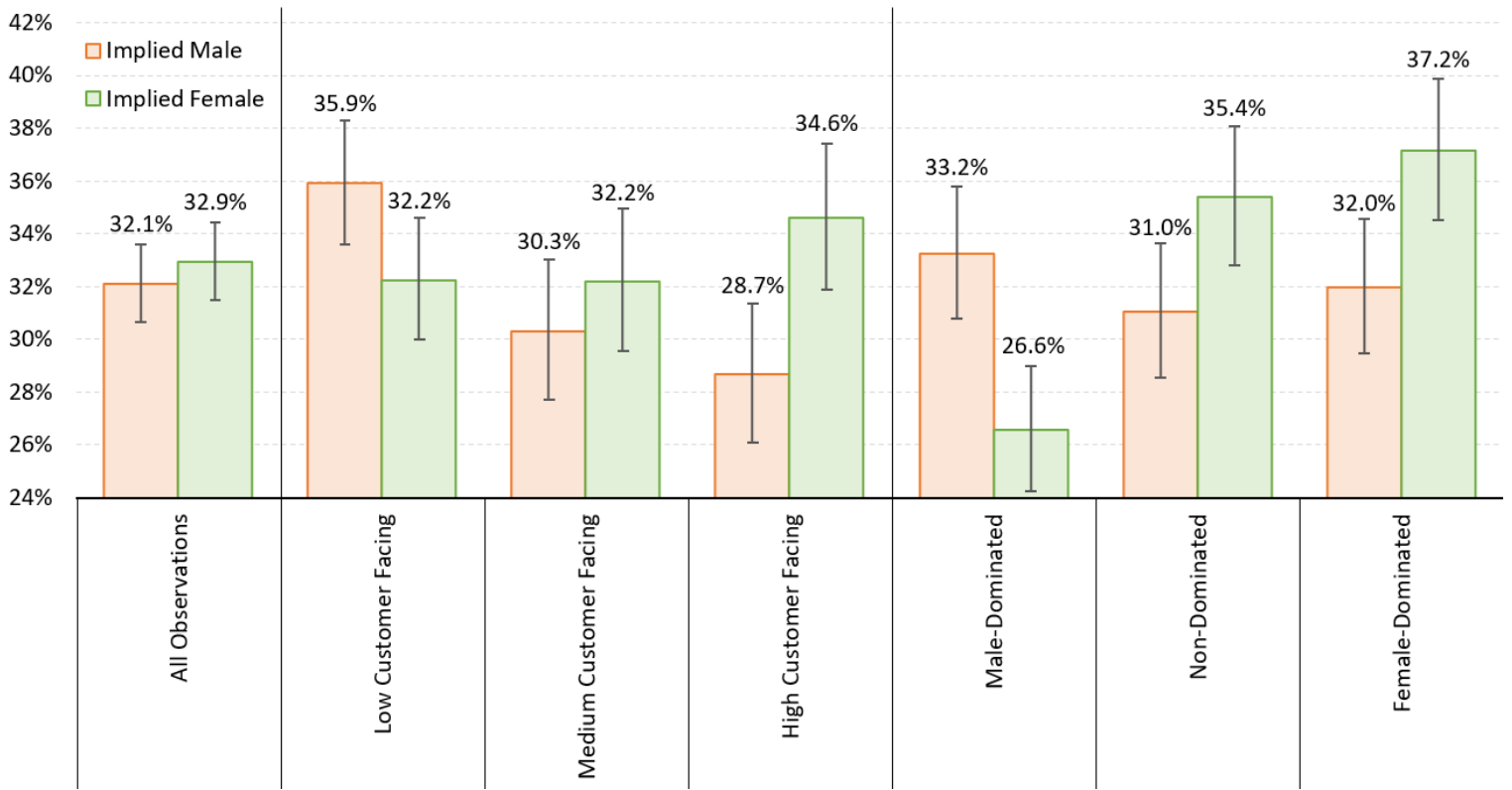
Figure 5: Positive Employer Response: Implied Male Versus Female, by Occupation Type

Table 50: Estimates of Discrimination Against Male and Female Applicants: Differences by Worker Composition

	(A)	(B)	(C)	(D)
Panel A: Regressions Include Applications in Male-Dominated Occupations Only				
Implied Female	-0.067 ***	-0.066 ***	-0.066 ***	-0.066 ***
	(0.022)	(0.021)	(0.021)	(0.021)
Observations	2752	2752	2752	2752
Panel B: Regressions Include Applications in Non-Dominated Occupations Only				
Implied Male	-0.044 *	-0.047 **	-0.048 **	-0.050 **
	(0.023)	(0.023)	(0.022)	(0.022)
Observations	2610	2610	2610	2610
Panel C: Regressions Include Applications in Female-Dominated Occupations Only				
Implied Male	-0.052 **	-0.044 **	-0.047 **	-0.040 *
	(0.024)	(0.022)	(0.022)	(0.022)
Observations	2608	2608	2608	2608
Panel D: Regressions Include All Applications				
Implied Male	-0.039 **	-0.043 *	-0.046 **	-0.045 **
	(0.016)	(0.022)	(0.021)	(0.022)
Implied Male * Female Dominated	-0.001	-0.003	-0.003	0.002
	(0.020)	(0.032)	(0.032)	(0.032)
Implied Female * Male Dominated	-0.093 ***	-0.104 ***	-0.105 ***	-0.104 ***
	(0.018)	(0.026)	(0.026)	(0.026)
Observations	7970	7970	7970	7970
Resume Controls		X		X
Firm Controls			X	X
Job Posting FE				

Note: This table reports marginal effects for the average applicant associated with having a name that is implied male versus female. Marginal effects for Panels A to C are derived from the logistic regression described in equation (8) with different data subsets; for Panel D from (9). Controls are the same as what has been used in all other regressions, and pronoun disclosure (nonbinary or binary) is additionally controlled for in all regressions. The dependent variable is an indicator variable which equals 1 if the applicant received a positive employer response. Standard errors are clustered at the job posting level for all regressions, and reported in parentheses. Stars indicate statistical significance: *** 1% level, ** 5% level, * 10% level.