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Race, Religion, and Immigration: Experimental Evidence from the Labor Market

Marina Mileo Gorzig¹ · Deborah Rho²

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Abstract

In this project, we examine employers' response to Black immigrants compared to native-born Black Americans. Between July 2017 and December 2018, we applied to publicly advertised positions using fictitious resumes that are manipulated on perceived race and ethnicity (Somali American, African American, and white American). We examine the proportion of resumes that are contacted by employers. We find that male African American applicants are 5 percentage points less likely to be contacted than equivalent white American applicants. Somali American applicants are 11 percentage points less likely to be contacted by employers than equivalent white American applicants and 6 percentage points less likely to be contacted than equivalent African American applicants. For female applicants, the effects followed a similar pattern, but were muted. Signals of language ability, education, and religiosity showed little impact on the proportion contacted by an employer.

Keywords Discrimination · Race/Ethnicity · Immigration · Resume audit

JEL Classification J61 · J68 · J71

Discrimination against Black Americans is often thought of as monolithic—with prejudice targeting all Black Americans equally. Yet, there are striking differences in outcomes between Black immigrants and their children relative to multi-generational African Americans: some Black immigrant groups have strikingly higher average income and wealth than African Americans (De La Cruz-Viesca et al. 2016). Recent debates over reparations for slavery and Jim Crow have brought these differences in income and wealth to the forefront of today's policy discussions over race and immigration (Stockman 2019). In this paper, we examine the nuances of anti-Black racism in the labor market: we explicitly test whether employers discriminate differently against Black

immigrants and refugees relative to African Americans. Between July 2017 and December 2018, we applied to publicly advertised positions using fictitious resumes that are manipulated on perceived race and ethnicity. We sent 3480 resumes from fictitious Somali American, African American¹, and white American job applicants in the Minneapolis and St. Paul metropolitan area. We then examine the proportion of resumes that were contacted by employers.

This approach allows us to examine two key questions. First, we investigate whether employers respond differently to Black immigrant/refugee applicants compared to native-born African American applicants—testing if anti-Black racism is more nuanced than often conceptualized. Second, we explore specific barriers for immigrant and refugee applicants, testing whether indicating birthplace and/or language skills, including religious activities, and the quality of the resumes affects the probability of being contacted by an employer.

In answering these two questions, we draw two main conclusions. First, we find that race and ethnicity have a large

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¹ In this context, "African American" is used to refer to Black Americans who have been in the USA for multiple generations. While first- and second-generation immigrants from Africa may also identify or be identified as "African American," we are using this term to refer more specifically to multi-generational Black Americans.

effect on being contacted by firms. After controlling for other elements on the resume, male African American applicants are 5 percentage points less likely to be contacted than equivalent white American applicants. Somali American applicants are 11 percentage points less likely to be contacted by employers than equivalent white American applicants and 6 percentage points less likely to be contacted than equivalent African American applicants. For female applicants, the effects follow a similar pattern, but are muted. Discrimination against African American and Somali American applicants is particularly large among customer service jobs.

Second, we find that other elements of human capital included on the resume did not affect the proportion contacted. Notably, employers did not respond favorably to Somali American applicants who indicated a US birthplace, included a clear signal of being a native English speaker, or obtained honors in high school or college. While employers hiring for customer service positions may have concerns about Somali Americans' fluency in spoken English, employers did not respond to clear and accessible signals of native fluency in English among Somali American applicants. Nor did employers penalize resumes for including a mosque activity. That is, we find that anti-Black racism is not equal, but rather that discrimination against Somali American applicants is even more powerful than discrimination against African American applicants. This discrimination appears to be so strong that it does not respond to signals of fluency in English, elements of relevant human capital, or signals of religiosity.

Motivation

Discrimination Against Black Immigrants in the Labor Market

Research in sociology, psychology, and economics has examined the higher income of Black immigrants relative to native-born African Americans. A large body of previous research examines self-selection of economic migrants (Butcher 1994; Kalmijn 1996; Doodoo 1997), immigrants' ability to address structural racism (Waters 1999), and different cultural norms (Sowell 1978; Sowell 1984). In addition to these factors, some employers explicitly state they prefer to hire Black immigrants rather than native-born Black Americans (Waters 1999). For example, an employer was asked why he preferred to hire Black immigrants over Black Americans; he stated that he valued immigrants' "reliability, their willingness to do the job or what has to be done" (Waters 1999). Likewise, Deaux (2006) finds that people are affected by a process known as "accent prestige"—she describes how the same Black man was rated as a better job candidate when he spoke with a Caribbean accent than an American accent.

However, numerous resume audit studies or correspondence studies have found that immigrant groups experience substantial discrimination in the labor market. For example, highly skilled Asian immigrants in Canada were contacted far less often than similar white applicants (Oreopoulos 2011) and foreign sounding names were contacted far less than Anglo-Saxon names in Chicago (Jacquemet and Yannelis 2012). Similarly, Gorzig and Rho (2021) find that employment discrimination against Somali American refugees in Minnesota increased after the 2016 election. Additionally, immigrants are over-represented in occupations that are intensive in manual-physical labor skills (Peri and Sparber 2009), and employers hold stereotypes that immigrants are a better fit for these lower status, more physically taxing occupations (King et al. 2006; Shih 2002). There is also substantial prejudice against Muslims in the labor market, which would affect many Somali American immigrants and refugees (Kaushal et al. 2007; Wallace et al. 2014; Adida et al. 2010; Weichselbaumer 2014).

In this project, our first research question directly examines whether employers discriminate differently against Black immigrants relative to African Americans. By applying to jobs with equivalent resumes that are manipulated to be from African American, Somali American, and white American applicants, we are able to test whether employers have a pro-immigrant bias among Black applicants. Because Somali Americans largely arrived as a refugee population, they are less self-selected on economic factors than voluntary economic migrants. We also include manipulations of religious activities, language skills, and education quality on the applicants' resumes, to examine why different levels of discrimination may occur.

It is important to note that Black immigrants, as well as their native-born children, engage in strategic behavior and actively negotiate how employers perceive them. For example, many Black immigrants report using language or accent to distance themselves from the pre-existing African American community or strategically choose to emphasize their immigrant identity in the labor market (Deaux 2006; Waters 1999; Portes and Zhou 1993; Waters 1994; Kasinitz et al. 2008). Numerous qualitative studies find that Somali Americans use religion and other methods to intentionally distance themselves from the pre-existing African American community (Guenther et al. 2011; Kapteijns and Arman 2008; Ajrouch and Kusow 2007; Kusow 2006). In this project, we focus on employer's behavior and leave the question of employees' strategic reaction to employers' prejudices to future research.

Importance of Human Capital for Immigrants, Refugees, and Their Children

In addition to discrimination, many elements of human capital influence immigrants' labor market outcomes. For example, language fluency and social contacts are key determinants of immigrant labor market outcomes (Chiswick and Wang 2016;

Patel and Vella 2013; Chiswick 1991; Dustmann and van Soest 2002; Bleakley and Chin 2004). However, a recent study highlights the complex role of language skills. Oreopoulos (2011) implemented a resume audit study and also interviewed employers about their interview process. Employers stated that language was a key element of why they did not interview immigrants, yet in the field experiment, employers had little response to an indication of language fluency.

Likewise, for immigrants, obtaining a degree in the US leads to higher returns than a similar degree from their home countries (Bratsberg and Ragan Jr 2002). Age at immigration is also important: immigrants who arrived in America as children have gone to school in the USA and will have stronger language skills, leading to better labor market outcomes (Bleakley and Chin 2004; Grogger and Trejo 2002).

Refugees have different human capital, reasons for coming to the USA, and ties to their country of origin than traditional immigrants (McGown 1999; Portes and Stepick 1985). Because refugees are unlikely to return to their home countries, they are more likely to invest in US-specific human capital such as English language skills compared to other foreign-born workers (Cortes 2004; Borjas 1982). The *effects* of traditional measures of human capital may also differ. Investing in education may have a low return for immigrants who employers believe are likely to return to their countries of origin but a higher return to refugees who employers think will stay in the USA.

Our second research question focuses on the importance of human capital in the overall difference between how often employers contact Somali American, African American, and white American applicants. We altered the language skills, education, and work experience of the applicants and examine if employer contact is affected by these elements.

Somali Americans in Minnesota

The USA has received refugees from the civil war in Somalia since the early 1990s. The Twin Cities has served as a major destination for these refugees. In 2017, over 30% of all people in America who identified as Somali² in 2017 lived in Minnesota and approximately 30,115 Somali Americans lived in Minneapolis and St. Paul, comprising an estimated 4.2% of the Twin Cities population (authors calculations from IPUMS 2017 5-year pooled ACS data (Ruggles et al. 2015)). Figure 1 presents the proportion of the population that identifies as Somali American over time. As shown in Fig. 2, Somali

² Somali is defined as having at least one of the following apply:

1. Answering “Somalian” as either the first or second answer to “What is this person’s ancestry or ethnic origin?”
2. Reported birthplace is Somalia
3. Having a parent in the household who reports “Somalian” as their ancestry
4. Having a parent in the household who reports their birthplace as Somalia

Americans in Minnesota are young relative to the overall age distribution of Minnesota so they will comprise an increasing share of the working age population. Figure 3 presents the age-at-migration distribution by age for Somali American immigrants in Minnesota. While nearly all of those 40 years or older were born outside the USA, among the youngest Somali American adults, there are those who were born in the USA, those who arrived as children, and those who arrived as adults.

Within the Twin Cities, Somali refugees and their families have established a distinct identity that is separate from the pre-existing African American community, which can be seen geographically in separate neighborhoods. Figure 4 displays the geographic concentration of individuals who identify as “Black or African American” in Minneapolis (Gorzig and Rho 2021). There are two predominantly Black areas, the neighborhoods to the northwest of downtown, which are historically African American and the area south of downtown, which includes a Somali American enclave in the Cedar Riverside neighborhood. Cedar Riverside includes a well-known apartment complex that houses recent immigrants, known as “Little Somalia.” Students can attend charter schools that incorporate Somali cultural practices and focus on the needs of refugee children. The enclave is also home to a Somali cultural museum and businesses that cater to Somali Americans.

$N = 50,548$ (Twin Cities), 596,468 (rest of MN), 36,394,448 (rest of the USA). Note: From “The Effect of the 2016 United State Presidential Election on Employment,” by M. Gorzig and D. Rho, 2021

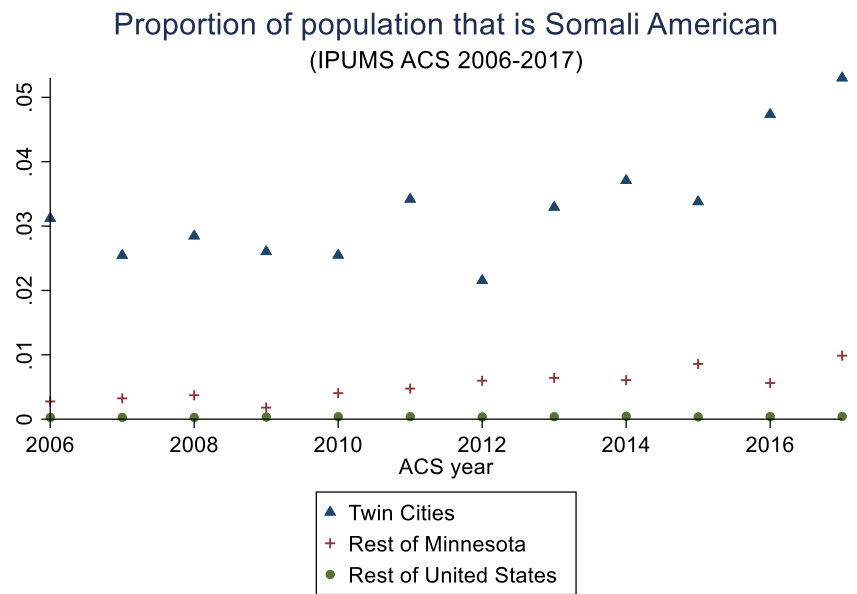
Approach and Methods

Correspondence Study

We applied to publicly advertised positions in the Minneapolis-St. Paul metropolitan area using fictitious resumes that are manipulated on perceived ethnicity (Somali American, African American, and white American) and examine the proportion of resumes that are contacted by employers. Applications began in July 2017 and continued through December 2018. To investigate how education and language skills affect these differences, we included additional manipulations of college education or high school degree and statements regarding language skills.

Every resume has basic contact information for the applicant—a name, address, local phone number, and email address. Each resume includes two work experience entries, education, one activity, and a section labeled “Other skills” with basic computer skills listed. The addresses on the resumes are from mid-range apartment complexes in downtown Minneapolis and are geographically central to the jobs where the applications were sent. The apartments are located

Fig. 1 The proportion of the population that is Somali American (IPUMS ACS)



between predominantly Somali American neighborhoods and historically African American neighborhoods. Because Bertrand and Mullainathan (2004) found no race-based differences in how an applicant’s neighborhood affected the probability of being called back, we do not include geographic variation in addresses. The address of the applicant is balanced with respect to our manipulations of interest, as shown in Appendix 1.

We created a bank of educational backgrounds, work experiences, and other activities from real resumes from Minnesota that were publicly listed on [Indeed.com](https://www.indeed.com). Each resume was then created by randomly selected education, work experiences, and other activities; no work experience, education, or related activity was repeated on a resume sent to

the same employer (Lahey and Beasley 2009). We used this process to create thousands of manipulated resumes. The resumes include variation in the quality of education and work experience. Specifically, some resumes were from high school graduates while others were from college graduates, some resumes listed that the applicant graduated with honors, and some resumes included a managerial position in their work experience. To reduce the possibility of being detected by employers we chose not to block characteristics on the resume, which would make the applicants more similar to each other, and instead have randomized the characteristics on the resumes. As shown in Appendix 1, the work experience and education are balanced with respect to our manipulations of interest.

Fig. 2 Age distribution of Minnesotans (IPUMS ACS). $n = 272,235$ (not Somali American), $n=1137$ (Somali American)

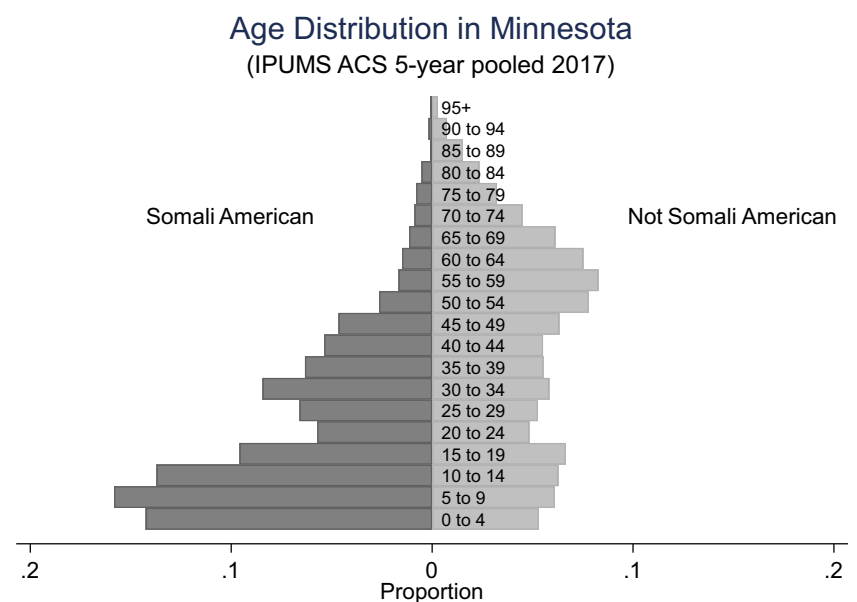
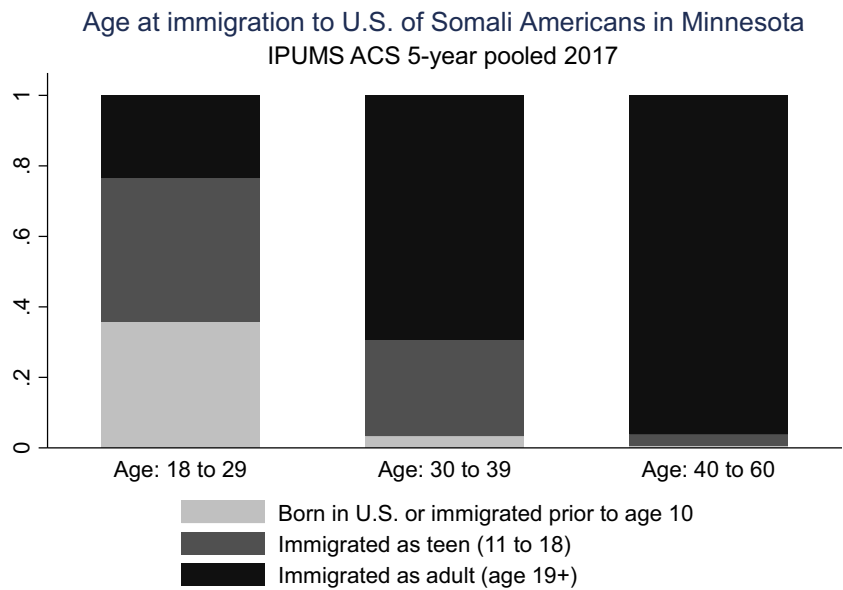


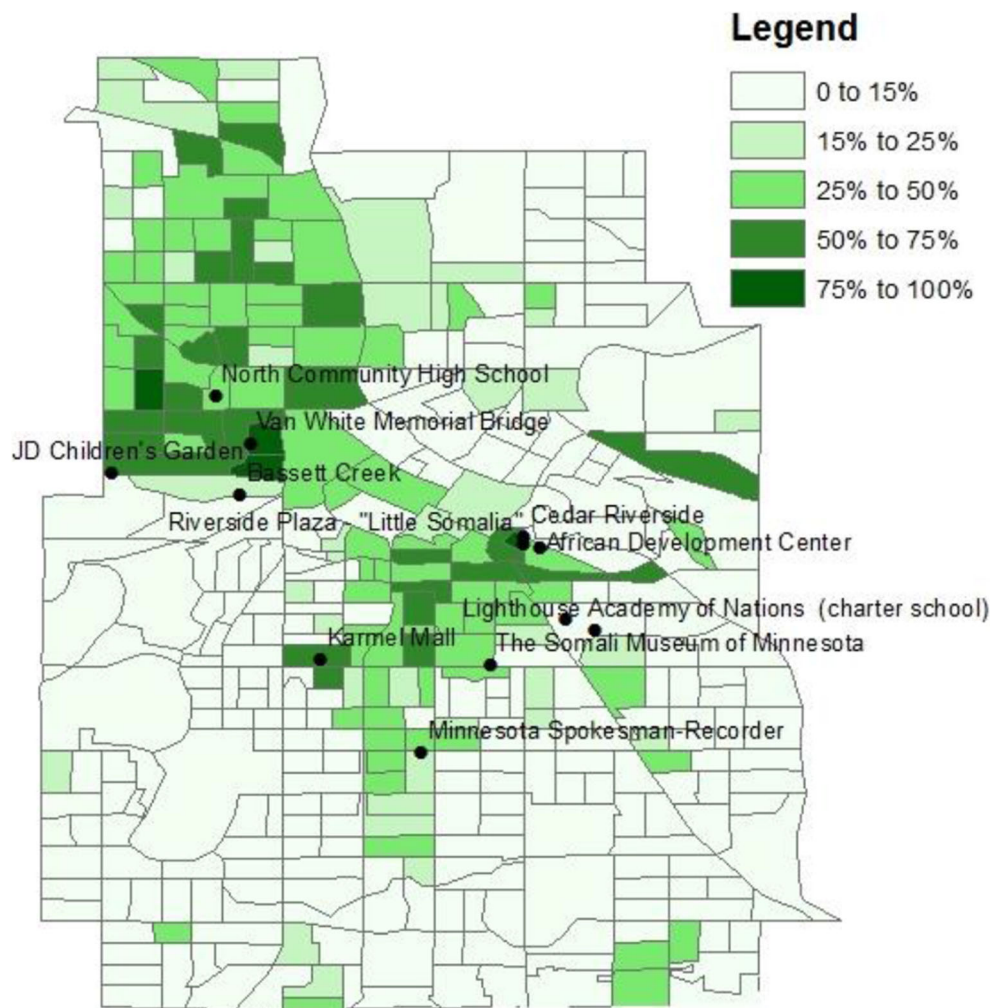
Fig. 3 Age at immigration for Somali Americans in Minnesota. *n* = 517



We manipulate the name on the resume to indicate whether the applicant is Somali American, African American, or white

American and the applicant’s sex. We selected the Somali American names from the CDC’s list of popular Somali first

Fig. 4 A map of Minneapolis showing the proportion reporting their race as “Black or African American” (2014 pooled 5-year ACS via American FactFinder). Note: From “The Effect of the 2016 United State Presidential Election on Employment,” by M. Gorzig and D. Rho, 2021



names. In line with the conventional naming pattern where a surname is the father or grandfather’s first name, the surnames are male first names (United Kingdom 2006). The Somali American names we selected are Aasha Waabberi, Fathia Hassan, Khalid Bahdoon, and Abdullah Abukar. The Somali American names are from the Koran, which is an effective signal of ethnicity because Somali Americans are, by far, the largest Muslim-majority immigrant group in Minnesota. Figure 5 shows the proportion of immigrants in Minneapolis and St. Paul in each reported ancestry.

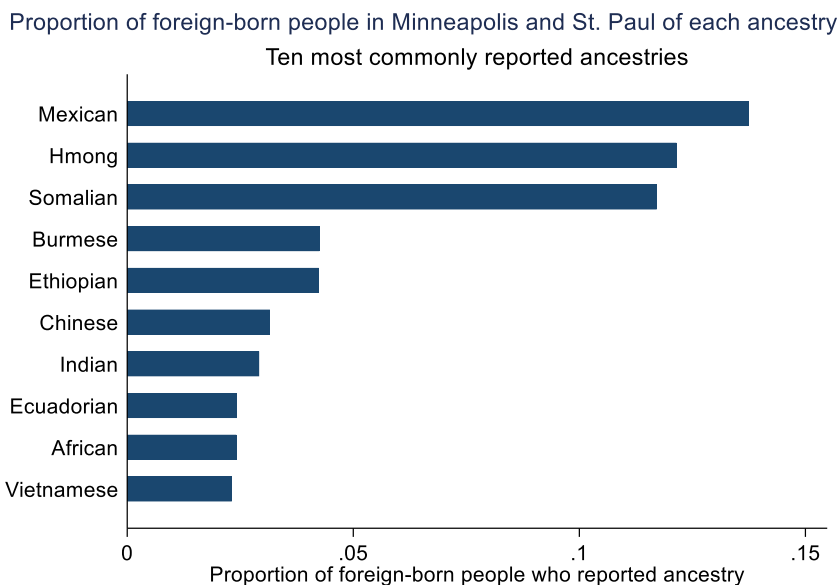
For African American and white American names, we selected names that are racially distinct and pre-tested them to make sure that they clearly signal race and do not signal different socioeconomic status (Levitt and Dubner 2005; Gaddis 2015). Through Amazon Mechanical Turk, survey participants viewed an assortment of names in a random order and rated how strongly they associated the name with five major racial groups and whether they associated the name with high or low socioeconomic status. Names that are strongly associated with being Hispanic/Latino (e.g., José Garcia) were used to test participant’s attention. The survey participants strongly associated names with socioeconomic status and race. The African American names that were correlated with high SES were rated as having lower SES than the white American names that were correlated with low SES. To reduce the impact of perceived differences in SES in this study, we used high SES African American names and low SES white American names. The surnames are the highest percent African American and the highest percent white of the top 100 most common surnames on the 2000 Census. For white American applicants, we use Amber Sullivan, Amy Wood, Jacob Myers, and Lucas Peterson. The African American names are Imani Williams, Nia Jackson, Andre Robinson, and Jalen Harris.

We signal religious affiliation with the related activities section. We randomly select between an activity that signals a religious affiliation (e.g., volunteering at a place of worship), a political activity (e.g., volunteering for a campaign), or a generic activity (e.g., volunteering at a library or hospital). Among resumes that are randomly selected to have a religious activity, the Somali American resumes have a mosque activity, the white American resumes a church activity, and the African American resumes were randomly assigned either a mosque or a church activity. All activities, including mosque and church activities, are drawn from publicly listed resumes.

We signal length of time in the USA on the Somali American resumes with two interacting elements: birthplace and high school. All resumes show a Minnesotan high school. Some resumes list the applicant’s birthplace as the USA, while other resumes do not indicate a birthplace. This manipulation covers two important groups among Somali Americans. First, the manipulation includes “1.5 generation Americans” who are immigrants, but arrived as children or adolescents and attended high school in the USA. Additionally, the manipulations include second-generation Americans who were born in the USA to immigrant parents. The African American and white American applicants also all show a Minnesotan high school.

An essential element for a correspondence or resume audit study to be successful is that the manipulations are believable by the employer. As mentioned previously, Somali refugees began arriving in Minnesota in the early 1990s. Figure 3 shows that Minnesota is currently home to 18–29-year-old Somali Americans who immigrated prior to age 10 (35.7%), as teenagers (40.8%), and as adults (23.4%). That is, Minnesota simultaneously has young adults who are first, 1.5, and second-generation Somali Americans. While we do not know if the manipulation was believed by employers, this

Fig. 5 Proportion of foreign-born people in Minneapolis and St. Paul who describe themselves as each ancestry. IPUMS ACS 2009 to 2018. Note: From “The Effect of the 2016 United State Presidential Election on Employment,” by M. Gorzig and D. Rho, 2021



range of age at immigration indicates that the manipulations of language skills and time in the USA included on the resumes are realistic.

Some Somali American resumes also list information about the applicant’s English skills—some resumes will indicate the applicant is a native English speaker or has an “ESL certification” in English. The language skills are consistent with whether birthplace is included. For example, some of the applicants who list being born in the USA will also list being a native English speaker. Among those who do not specify a birthplace (the 1.5 generation), some applicants do not include language skills, others list being a native English speaker, and some indicate they have an ESL certification.

We applied to publicly advertised jobs in the Minneapolis/St. Paul metro area. We did not apply to jobs with a specific licensure or experience requirement.³ Nor did we apply for jobs that required submitting an application through an employer’s application form because we usually could not include the desired manipulations.

Each job received four of the manipulated resumes, each sent from an email address that matched the name of the applicant. Applications to the same job were sent with a delay between emails. The four resumes were formatted differently from each other, including different font, section headings, and layout and no element on the resume was repeated among the four resumes sent to the same job posting. For example, no employer received two resumes with an identical work experience section. We recorded the occupation, industry, and the text from the job ad.

The outcome of interest is whether the employer contacted the applicant requesting an interview. We recorded whether the employer made any positive contact with the applicant (e.g., a request for an interview). If the employer contacted an applicant, the fictitious applicant immediately responded via email informing the employer that the applicant had just accepted another offer. If an employer contacted multiple fictitious applicants, each fictitious applicant responded from their own email with differently worded responses.

Analysis

To examine if similar Somali American, African American, and white American resumes are more or less likely to be

³ There are a large number of jobs that our applicants are simply not qualified for, such as truck driving positions that require a truck driving license. We do not apply for these jobs for two reasons. If we applied for these jobs, we would use time and resources on jobs that have a near-zero probability of contacting any of our fictitious applicants. This draws time away from applying for jobs that will be responsive to the treatments and reduces statistical power. Second, even if it did not reduce the number of jobs that are responsive to our treatment, the inclusion of a large number of non-responsive jobs will itself reduce the statistical power.

contacted by an employer, we use the following linear probability model:

$$\begin{aligned}
 y_{ij} = & \beta_0 + \beta_1 \text{African American}_{ij} \\
 & + \beta_2 \text{Somali American US born}_{ij} \\
 & + \beta_3 \text{Somali American US high school}_{ij} \\
 & + \theta_0 \text{Female}_{ij} + \theta_1 \text{African American}_{ij} \times \text{Female}_{ij} \\
 & + \theta_2 \text{Somali American US born}_{ij} \times \text{Female}_{ij} \\
 & + \theta_3 \text{Somali American US high school}_{ij} \times \text{Female}_{ij} \\
 & + \mathbf{X}_{ij} \boldsymbol{\delta} + \mathbf{Z}_{ij} \boldsymbol{\gamma} + \eta_j + \varepsilon_{ij}
 \end{aligned} \tag{1}$$

where y_{ij} is an indicator variable showing if employer j had a positive response (e.g., request for an interview) to applicant i . We include an indicator for African American resumes. For Somali American resumes, we include an indicator variable for second generation (US birthplace) and 1.5 generation (US high school). We include Female_{ij} , an indicator for female applicants and interact it with the indicators for race. \mathbf{X}_{ij} is the set of variables for the included manipulations. For example, \mathbf{X}_{ij} includes variables for whether the applicant indicated language skills and indicator variables for church activity, mosque activity, or political activity.

\mathbf{Z}_{ij} are other controls on the resumes, including the formatting of the resume and fixed effects for the specific work experience and educational background. η_j is a job fixed effect. Standard errors will be clustered by job to account for correlation of unobserved characteristics that affect the proportion of applicants contacted by an employer.

We are able to see if similar resumes of different races and ethnicities are contacted at different rates by testing if β_1 , β_2 , and β_3 are statistically significantly different from each other and from 0. For example, $\hat{\beta}_1$ shows the difference between proportion of white American applicants and African American applicants who were contacted by an employer. Similarly, to test the difference in the proportion of African American applicants and US-born Somali American applicants who were contacted by an employer, we use an F test to see if there is a statistically significant difference between $\hat{\beta}_1$ and $\hat{\beta}_2$. Additionally, testing if θ_1 , θ_2 , and θ_3 are statistically significantly different from 0 shows if discrimination varies by the sex of the applicant. For example, $\hat{\theta}_1$ will show if the impact of being African American is *different* for female resumes than male resumes.

In Eq. 1, we include \mathbf{X}_{ij} which includes indication of language skills, quality of work experience, and education. $\hat{\boldsymbol{\delta}}$ will show if these elements are important in determining whether an employer contacts an applicant. For example, if $\hat{\delta}_{\text{Native English speaker}}$ is positive, this shows that including native

English language skills on a resume increases the probability of being contacted by an employer.

These results may vary by occupation. For example, employers for customer service positions may discriminate based on their perceptions of customer prejudice. Likewise, perceptions of an applicant's fluency in spoken English may be more important in customer service positions. Employers also may hold stereotypes about immigrants being a better fit for more physically taxing occupations (King et al. 2006). To examine the pattern of discrimination by occupation, we follow Oreopoulos (2011) and utilize two measure of work, from the Occupational Information Network (O*NET) coding structure. The first is called, "Deal with external customers"; this measures how important it is to work with external customers or the public for a particular occupation and ranges from 0 to 100 with higher values indicating more importance. Using this variable, we sort occupations into terciles and examine whether the differences in callback rates between groups varies by the importance of customer interaction. Similarly, we also consider whether discrimination varies by the degree of physical labor required in a job with a similar analysis with the O*NET measure called "Handling and Moving Objects."

Results

Differences in Discrimination: Main Results

Figures 6 and 7 show important summary statistics: the total proportion of applicants who received a positive response from employers.

With no adjustment for the attributes on the resumes, or job fixed effects, both types of Somali American applicants ($p < .05$) and African American applicants ($p < .1$) were called back less frequently than the white applicants among male applicants. The difference in callback rates for African American males and Somali American males with a US birthplace is not statistically significant. However, among males, the difference between African American resumes and Somali American resumes without a US birthplace is more substantial and statistically significant at the 1% level.

While African American female resumes were slightly less likely to be called back than their white counterparts, this difference is not statistically significant. Among the female resumes, the Somali American groups are less likely to be called back than both white and African American resumes and this difference is statistically significant ($p < .05$).

To control for other elements on the resume, we use the regression specified in Eq. 1. Table 1 shows the results of regressing the outcome variable (if the applicant was contacted by an employer) on indicator variables for the applicant being African American, Somali American (1.5 generation), or Somali American (2nd generation), these indicator variables interacted with an indicator for female, and other elements on the resume. Columns 1 and 4 only include the indicator variables for the applicant being African American, Somali American (1.5 generation), or Somali American (2nd generation). White American resumes are the omitted group. In columns 2 and 5, we include these indicator variables interacted with an indicator for female. In columns 3 and 6, we include an indicator for having a college degree, honors in college, honors in high school, attending a suburban high school, language skills, political/church/mosque activity indicator variables, job fixed effects, work experience fixed

Fig. 6 Proportion who had a positive response from an employer. $n = 1768$ (449 white applicants, 449 African American applicants, 240 Somali American US birthplace, 630 Somali Americans US high school). Bars in black are statistically significantly different from white Americans at the .05 level; bars in gray indicate difference from white Americans at the .1 level

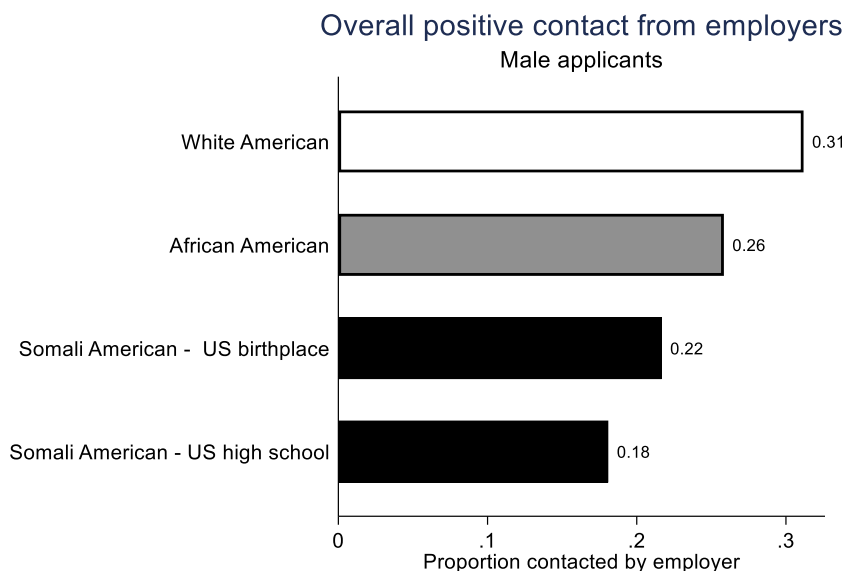
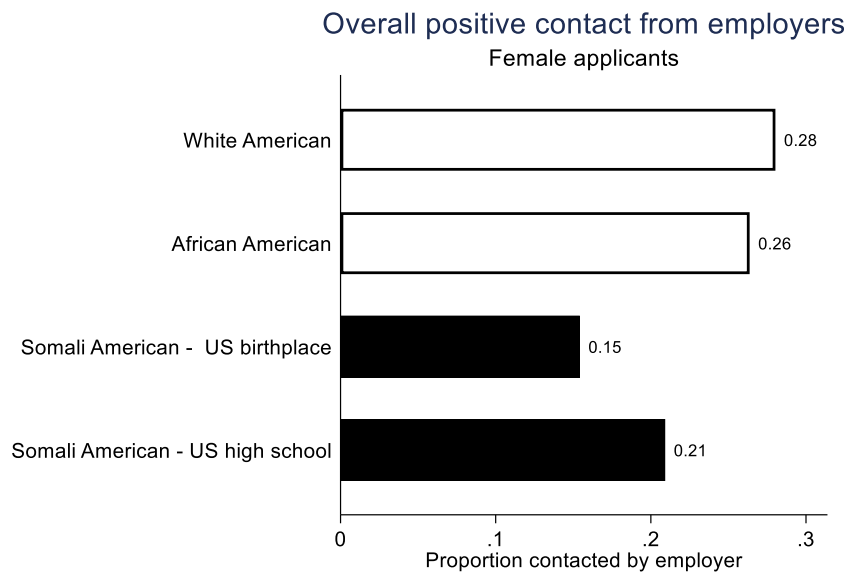


Fig. 7 Proportion who had a positive response from an employer. $n = 1712$ (421 white applicants, 421 African American applicants, 201 Somali American US birthplace, 669 Somali American US high school). Bars in black are statistically significantly different from white Americans at the .05 level



effects, formatting of the resume, and the order in which the resumes were sent to employers. Columns 1, 2, and 3 include job fixed effects, while columns 4, 5, and 6 do not.

As shown in column 1 and column 4 in Table 1, a resume with an African American name was contacted 3.6 percentage points less often than an equivalent resume with a white American name. Column 2 and column 5 show that among male applicants, a resume with an African American name was contacted five percentage points less often than an equivalent resume with a white American name. The positive coefficients on the interactions with the female indicator suggest that discrimination may be slightly less for African American women. Among female applicants, the difference in callback rates between white and African American resumes is not statistically different.

Among male applicants, Somali American resumes were contacted over 11 to 12 percentage points less often than equivalent white American resumes. Somali American applicants were also called less than equivalent African American resumes. In order to test if employers differentiate between African American and Somali American applicants, we implemented an *F* test for the difference between the African American and both second-generation and 1.5-generation Somali American resumes; both differences are statistically significant ($p = .063$ and $p = .006$ respectively).

Both groups of Somali American female applicants are called back about seven percentage points less often than their white counterparts. Both differences are statistically significant; the difference in callback rates between white female applicants and second-generation Somali American female applicants is -6.6 percentage points ($-0.105 + .039 = -.066$ with a p value of $.023$) and the difference between white female applicants and 1.5-generation Somali American female applicants is -7.4 percentage points ($-.115 + .041 = -.074$ with a p value of $.004$).

Notably, the other elements of the resume do not affect callback rates. Including a religious or political activity has no effect on being called back. Additionally, including language skills and birthplace does not affect callbacks for Somali Americans. Perhaps more surprisingly, level of education, attending a suburban high school, and achieving honors in high school or college has no effect on being called back. Columns 4, 5, and 6 show that the results remain largely the same without job fixed effects or clustering by employer. The regression without the employer fixed effects suggests that 1.5-generation Somali American females face less discrimination than their male counterparts.

Differences in Discrimination: Jobs Involving Customer Service

According to Becker’s canonical model of discrimination, taste-based discrimination can originate from three sources: the employer, customers, or co-workers (Becker 1957). To investigate if the discrimination is driven by customer prejudice, we examine the pattern of discrimination by occupation, which allows us to determine if the signals of English fluency are more important among occupations with more customer interaction. If we see discrimination predominantly occurring in occupations with more interaction with customers, but no reaction to signals of English fluency, it could suggest that employers are responding to customer prejudice.

To examine this, we use the approach from Oreopoulos’ (2011) correspondence study of discrimination against highly skilled immigrants in Canada. We utilize a measure of work called, “deal with external customers,” from the Occupational Information Network (O*NET) coding structure. The measure quantifies how important it is to work with external customers or the public for a particular occupation and ranges from 0 to 100 with higher values indicating more importance. As in

Table 1 Results of a linear probability model

	(1)	(2)	(3)	(4)	(5)	(6)
	Contacted by employer					
Differences based on race, ethnicity, sex, and their interaction						
African American	−0.036** (0.016)	−0.052** (0.023)	−0.052** (0.025)	−0.036*** (0.014)	−0.053** (0.025)	−0.052* (0.027)
Somali American (US birthplace)	−0.101*** (0.020)	−0.118*** (0.029)	−0.105*** (0.032)	−0.108*** (0.020)	−0.095*** (0.031)	−0.073** (0.035)
Somali American (US high school)	−0.104*** (0.015)	−0.122*** (0.023)	−0.115*** (0.025)	−0.101*** (0.014)	−0.131*** (0.023)	−0.118*** (0.026)
Female		−0.032 (0.027)	−0.034 (0.027)		−0.032 (0.031)	−0.032 (0.031)
Female × African American		0.034 (0.036)	0.038 (0.037)		0.037 (0.042)	0.035 (0.043)
Female × Somali American (US birthplace)		0.035 (0.040)	0.039 (0.040)		−0.031 (0.047)	−0.029 (0.047)
Female × Somali American (US high school)		0.038 (0.031)	0.041 (0.032)		0.060* (0.035)	0.064* (0.036)
Other elements on resume						
Mosque			−0.011 (0.016)			−0.004 (0.019)
Political activity			0.007 (0.015)			0.025 (0.018)
Church			0.003 (0.025)			−0.002 (0.029)
Include English skill—native speaker			−0.020 (0.018)			−0.049** (0.023)
Include English skill—ESL certificate			0.002 (0.022)			−0.015 (0.024)
Honors in high school			0.002 (0.011)			0.012 (0.012)
College degree			0.013 (0.015)			0.013 (0.018)
Honors in college			−0.009 (0.016)			−0.014 (0.017)
Suburban high school			−0.015 (0.013)			−0.010 (0.015)
Constant	0.297*** (0.010)	0.312*** (0.017)	0.297*** (0.098)	0.297*** (0.016)	0.312*** (0.022)	0.282*** (0.049)
Observations	3480	3480	3480	3480	3480	3480
R-squared	0.695	0.695	0.700	0.011	0.012	0.025
Job FE	Yes	Yes	Yes	No	No	No
Work experience FE	No	No	Yes	No	No	Yes

Robust standard errors are in parentheses, clustered by job. Additional controls not listed include order in which it was sent and formatting of resume
 $*p < 0.1$, $**p < 0.05$, $***p < 0.01$

Gorzig and Rho (2021), all the jobs in our sample were assigned an occupation using the O*NET framework by two research assistants. The sample was then stratified into terciles of customer service orientation. The first tercile is comprised

of the 1/3 of all occupations in the O*NET coding structure with the lowest external customer score (those occupations with an external customer score of 0 to 51). The second tercile is comprised of occupations with the middle 1/3 of external

customer scores (from 51 to 72). The third tercile is comprised of the 1/3 of occupations with the highest external customer score (from 72 to 99).⁴

Figures 8 and 9 show the proportion of applicants who received a positive response from employers by tercile; Fig. 8 displays the results for male applicants and Fig. 9 for female applicants. We see that for male applicants in the first tercile, those applying for jobs with the least amount of customer interaction, the callback rates were very similar for white, African American, and second-generation Somali Americans. However, the difference in callback rates between white applicants and both African American and second-generation Somali Americans widens as the level of customer interaction increases. Somali American resumes that do not list a US birthplace were called back substantially less than white applicants even in the first tercile.

The patterns across terciles are less clear for female resumes. While African Americans do not appear to face substantial discrimination in the lowest tercile, Somali Americans were called back 12 percentage points less than white applicants. African Americans were called back more than white applicants in the second tercile and appear to experience the most discrimination in the third tercile. Somali Americans were also called back less than white resumes in the highest tercile.

In Table 2, we display results from estimating Eq. 1 for jobs by tercile. Among male applicants, for all three minority groups considered, while the difference in callback rates between white resumes and each of the other groups are not statistically significant in the lowest tercile, the differences are large and significant in tercile 3. Among female applicants, the differences in callback rates between white resumes and all other groups is not significant in the first two terciles. However, Somali American female applicants are called back 10–14 percentage points less than their white American counterparts in jobs that require the most customer interaction and these differences are statistically significant. The difference between the proportion of white female applicants and second generation Somali American female applicants is –14.2 percentage points ($-0.135 - .007 = -.142$; p value on F test is .012) and the difference between white female applicants and 1.5-generation Somali American female applicants is –10.2 percentage points ($-0.175 + .073 = -.102$; p value on F test is .039).

Importantly, including a clear indication of being a native English speaker does not increase the proportion called back in any tercile, suggesting that the increased discrimination in occupations with more interactions with customers is not

about language ability. It may be that employers believe that Somali Americans on average have less fluency in English; however, if employers are completely non-responsive to clear signals of English fluency, it suggests that concerns about English ability are not driving these results. Notably, this finding is consistent with the finding from Oreopoulos (2011)—Canadian employers stated that English fluency was their reason for not contacting immigrant applicants; however, these employers also were not responsive to the inclusion of clear signals of English fluency on applicants' resumes.

Similar to the results from the main regressions in which all three terciles are combined, Table 2 shows that nearly all of the resume attributes other than race and gender do not affect callback rates. The exception is the negative and statistically significant effect of including a church activity for the highest tercile.

Differences in Discrimination: Jobs that Require Physical Labor

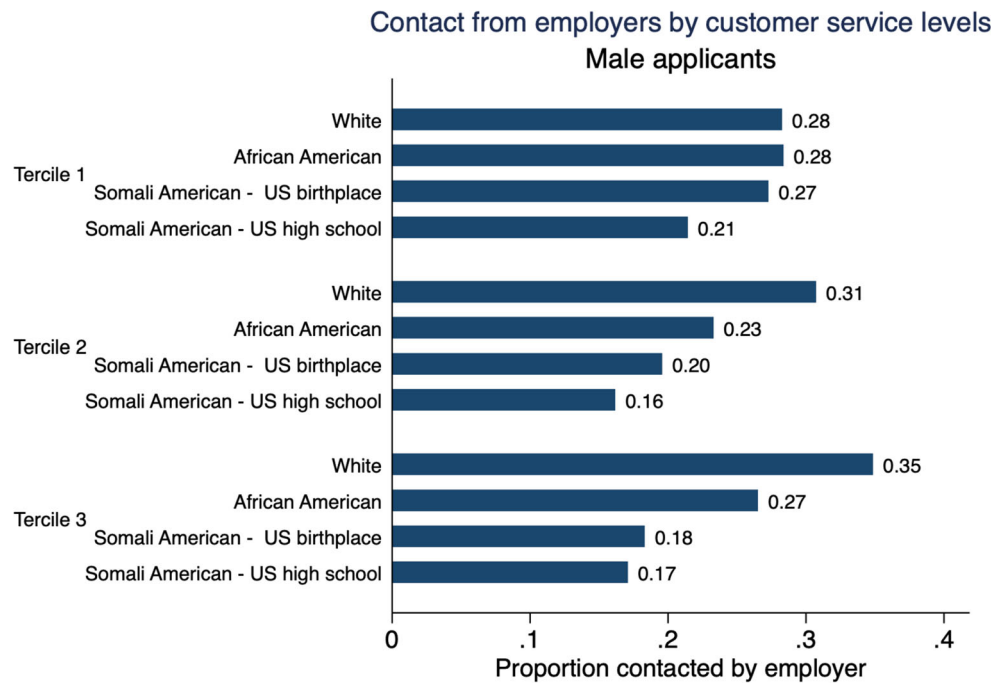
Next, we seek to determine whether employers' stereotypes about the physical abilities of different groups affect labor market discrimination. To do this, we consider whether discrimination varies by the degree to which the job requires physical labor. We use the O*NET measure "handling and moving objects" which measures how important it is to work "using hands and arms in handling, installing, positioning, and moving materials, and manipulating things" from 0 to 100 with higher values indicating more importance. As with the customer service analysis, we stratify our sample into terciles of the physical labor measure. The tercile cutoffs are based on all occupations included in the O*NET coding structure, not the jobs in our sample. The lowest tercile consists of the 1/3 of occupations with the lowest score for "handling and moving objects" (with a score of 0 to 32); the second tercile comprises the occupations with the middle 1/3 of scores (33 to 63). The third tercile are occupations with the 1/3 of "handling and moving objects" scores (64 to 99).⁵

Figures 10 and 11 show the proportion of applicants who received a positive response from employers by tercile; Fig. 10 displays the results for male applicants and Fig. 11 displays the results for female applicants. We see that for male applicants in the first tercile, those applying for jobs with the least amount of handling and moving objects, the callback rates for all minority groups are much lower than that of white applicants. However, the difference in callback rates between white resumes and African American resumes as well as the difference between white resumes and 1.5 generation Somali

⁴ Common jobs from the first tercile include dishwasher, carwash worker, or working in construction. The second tercile includes jobs like being an administrative assistant, cook, and data entry. The third tercile includes jobs like baristas, retail salespeople, customer service representatives, and being a server.

⁵ Common jobs from the first tercile includes customer service representatives and secretaries/administrative assistants. The second tercile includes jobs such as cashiers, cooks, and servers. The third tercile includes jobs like dishwashers, janitors/cleaners, and laborers.

Fig. 8 Proportion who had a positive response from an employer by tercile of customer service measure. $n = 1768$ (tercile 1 = 552 applicants, tercile 2 = 682 applicants, tercile 3 = 534 applicants)



American resumes diminish substantially as the level of physical labor increases.

The patterns across terciles are less clear for female resumes. African American resumes were called back approximately at the same rate as white American resumes. However, both Somali American groups were called back substantially less than white applicants in all three terciles ($p < .05$ for all four two-way comparisons in the tercile 2 and tercile 3; differences are large but not statistically significant in tercile 1).

In Table 3, we display results from estimating Eq. 1 for jobs separated into terciles of the physical labor measure. Among male applicants, discrimination diminishes as the tercile increases for all three minority groups. The difference in callback rates between white and African American resumes is not statistically significant in all three terciles. However, Somali American male applicants are called back 17–18 percentage points less than similar white American male applicants in tercile 1, and this difference is statistically significant.

Fig. 9 Proportion who had a positive response from an employer by tercile of customer service measure. $n = 1712$ (tercile 1 = 540 applicants, tercile 2 = 626 applicants, tercile 3 = 546 applicants)

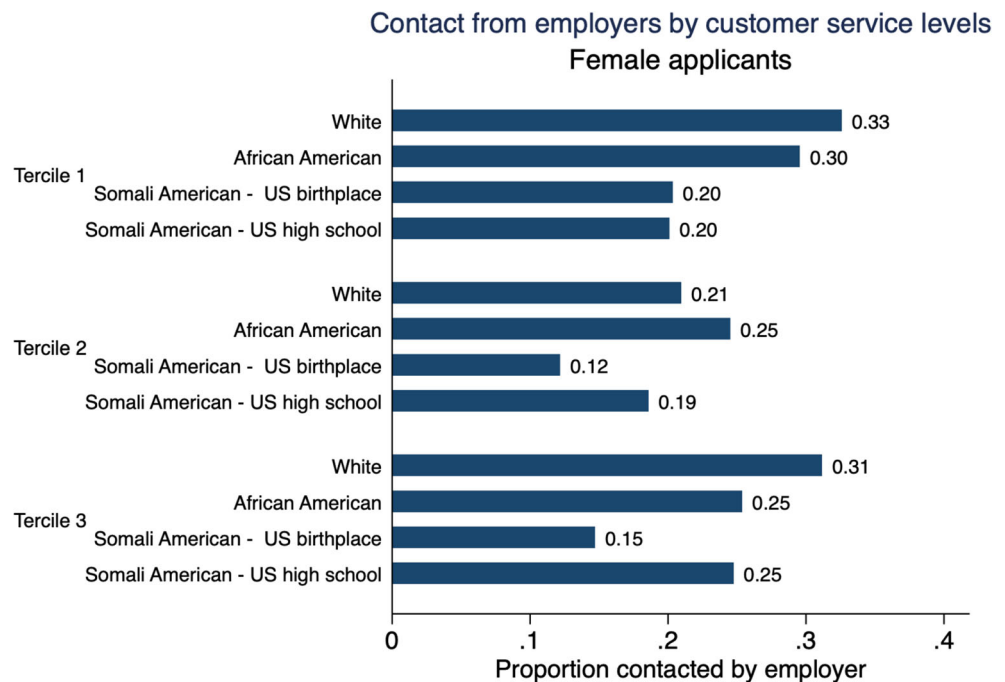


Table 2 Results of a linear probability model by customer service tercile

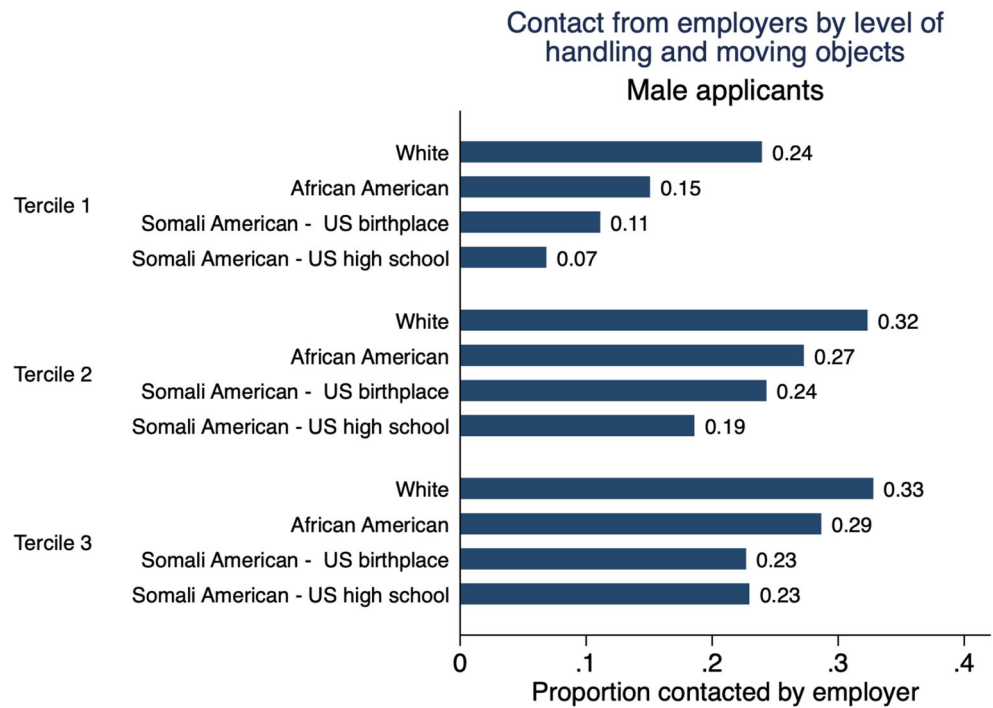
	Tercile 1 (1) Contacted by employer	Tercile 2 (2) Contacted by employer	Tercile 3 (3) Contacted by employer
Differences			
African American	−0.010 (0.050)	−0.041 (0.034)	−0.100** (0.048)
Somali American (US birthplace)	−0.037 (0.068)	−0.118** (0.046)	−0.135** (0.056)
Somali American (US high school)	−0.044 (0.050)	−0.096*** (0.035)	−0.175*** (0.048)
Female	−0.021 (0.051)	−0.073* (0.044)	−0.003 (0.053)
Female × African American	0.022 (0.069)	0.063 (0.061)	0.060 (0.067)
Female × Somali American (US birthplace)	−0.003 (0.082)	0.108* (0.064)	−0.007 (0.074)
Female × Somali American (US high school)	−0.005 (0.057)	0.061 (0.051)	0.073 (0.063)
Other elements on resume			
Mosque	−0.015 (0.031)	−0.022 (0.025)	−0.023 (0.035)
Political activity	0.007 (0.030)	0.004 (0.023)	−0.012 (0.030)
Church	0.038 (0.052)	0.037 (0.038)	−0.074* (0.043)
Include English skill—native speaker	−0.030 (0.035)	−0.011 (0.029)	−0.035 (0.036)
Include English skill—ESL certificate	−0.014 (0.041)	−0.003 (0.036)	0.010 (0.038)
Honors in high school	−0.005 (0.022)	−0.005 (0.018)	0.022 (0.021)
College degree	0.024 (0.030)	−0.012 (0.021)	0.038 (0.029)
Honors in college	−0.024 (0.033)	−0.009 (0.022)	0.008 (0.032)
Suburban high school	−0.035 (0.025)	−0.014 (0.020)	0.010 (0.024)
Constant	0.162 (0.213)	0.486*** (0.158)	0.178 (0.142)
Observations	1092	1308	1080
R-squared	0.705	0.715	0.726
Job FE	Yes	Yes	Yes
Work experience FE	Yes	Yes	Yes

Robust standard errors, clustered by job, are in parentheses. Additional controls not listed include order in which it was sent and formatting of resume
 * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

The difference diminishes to about 7–9 percentage points in tercile 3.

As with male resumes, among female applicants, the difference in callback rates between white and African American

Fig. 10 Proportion who had a positive response from an employer by tercile of handling and moving objects measure. *n* = 1768 (tercile 1 = 297 applicants, tercile 2 = 772 applicants, tercile 3 = 699 applicants)



resumes is not statistically significant. We also see the same pattern in differences between Somali American applicants and white applicants among females as we did for males; discrimination diminishes as the tercile increases. In tercile 1, the difference between white American female applicants and Somali American female applicants ranges from 10.7

percentage point less (second generation) to 12.4 percentage point less (1.5 generation). In the third tercile, the difference between white American female applicants and Somali American female applicants is much smaller, ranging from – 3.6 percentage points (second generation) to – 5.2 percentage points. (1.5 generation).

Fig. 11 Proportion who had a positive response from an employer by tercile of handling and moving objects measure. *n* = 1712 (tercile 1 = 315 applicants, tercile 2 = 732 applicants, tercile 3 = 665 applicants)

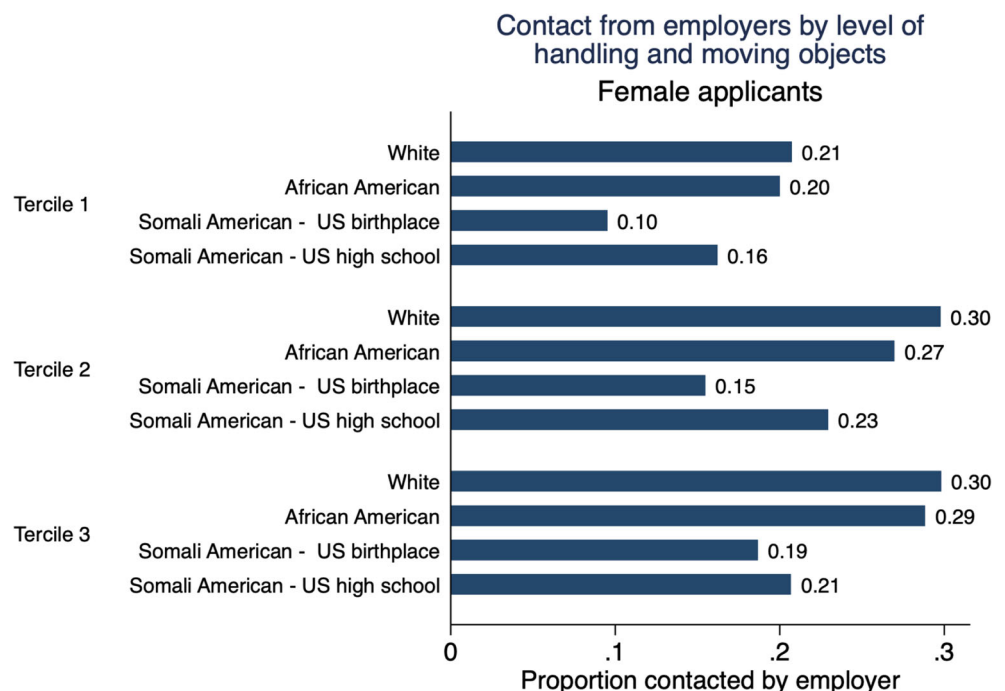


Table 3 Results of a of linear probability model by handling and moving objects tercile

	Tercile 1 (1) Contacted by employer	Tercile 2 (2) Contacted by employer	Tercile 3 (3) Contacted by employer
Differences			
African American	-0.110 (0.068)	-0.049 (0.035)	-0.022 (0.040)
Somali American (US birthplace)	-0.166** (0.072)	-0.096** (0.044)	-0.092* (0.055)
Somali American (US high school)	-0.180*** (0.062)	-0.111*** (0.038)	-0.074* (0.042)
Female	0.003 (0.067)	-0.018 (0.040)	-0.056 (0.046)
Female × African American	0.121 (0.104)	0.035 (0.052)	0.017 (0.061)
Female × Somali American (US birthplace)	0.059 (0.099)	0.018 (0.058)	0.056 (0.073)
Female × Somali American (US high school)	0.056 (0.083)	0.040 (0.049)	0.022 (0.051)
Other elements on resume			
Mosque	0.009 (0.048)	-0.031 (0.025)	-0.005 (0.026)
Political activity	0.001 (0.038)	0.008 (0.023)	0.004 (0.026)
Church	-0.026 (0.063)	-0.027 (0.036)	0.040 (0.044)
Include English skill - native speaker	0.019 (0.054)	-0.026 (0.029)	-0.026 (0.031)
Include English skill - ESL certificate	0.039 (0.058)	-0.004 (0.032)	-0.002 (0.036)
Honors in high school	-0.007 (0.031)	0.017 (0.017)	-0.009 (0.018)
College degree	0.011 (0.037)	0.013 (0.024)	0.008 (0.026)
Honors in college	0.025 (0.040)	-0.022 (0.025)	-0.014 (0.029)
Suburban high school	0.025 (0.029)	-0.026 (0.018)	-0.027 (0.023)
Constant	0.139 (0.155)	0.347** (0.155)	0.333* (0.191)
Observations	612	1504	1364
R-squared	0.656	0.734	0.705
Job FE	Yes	Yes	Yes
Work experience FE	Yes	Yes	Yes

Robust standard errors, clustered by job, are in parentheses. Additional controls not listed include order in which it was sent and formatting of resume
 * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

The Role of Religion in Discrimination

A complex and difficult aspect of this study is the role of religion. Each resume contained a generic activity, a political

activity, or a religious activity. In Minnesota, the vast majority of Somali Americans are Muslim and the majority of white Americans are Christian. So, the religious activity on the Somali Americans resumes was a mosque and on white

American resumes it was a church. For African American resumes, we randomly selected between a church and mosque activities. While complex, this variation does allow for an examination of how religion impacts discrimination.

Figure 12 shows the proportion who received positive contact within each race and ethnicity by the type of extracurricular activity (generic, political, mosque, and church). Within all race and ethnicity groups, there is a preference for applicants who included a political activity on their resume (not statistically significant for any group). But, there is no difference within group between the generic activity and the religious activities. For African Americans, there is no meaningful difference between the generic, church, and mosque activity. The differences between the race and ethnicity groups are unaffected by the inclusion of signals of a particular religion (for African Americans) or signs of religiosity (white American and Somali American) suggesting that religion itself is not a driving force of the higher levels of discrimination against Somali Americans.

Geographic Variation in Employer Response

As previously shown in Fig. 4, Somali Americans are geographically concentrated in the Cedar Riverside neighborhood south of downtown Minneapolis. Employers in or near Cedar Riverside may act differently than employers in other areas because of this geographic concentration. For example, speaking Somali could be an important skill in an area with many Somali-speaking customers. Likewise, more employers will be Somali American in or near Cedar Riverside and may be less likely to discriminate against other Somali Americans.

In total, we sent 3480 applications to 870 jobs. Of those 870 jobs, we were able to exactly locate 338 (1352 applications). We coded each job for the travel distance between the job and the intersection of Cedar Ave and Riverside Ave, the

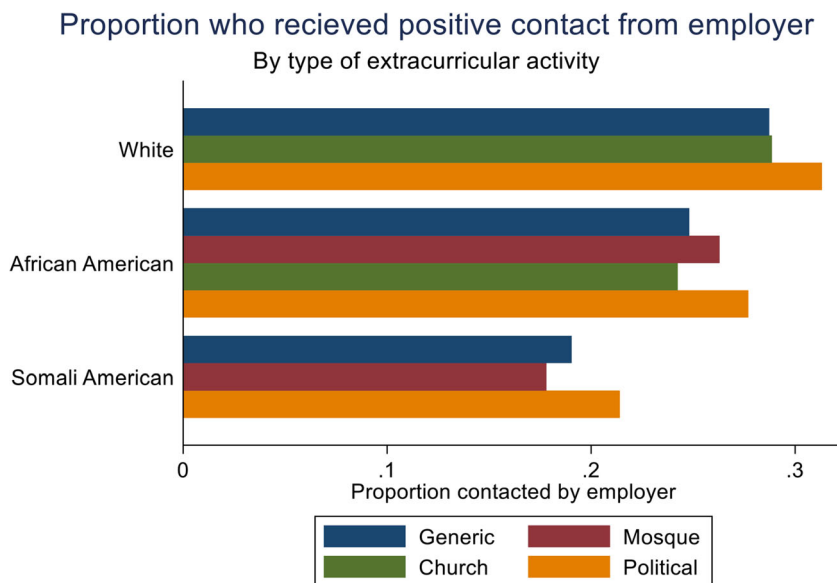
intersection for which the neighborhood is named. The jobs ranges from being 0.7 miles from the Cedar/Riverside intersection to 53.3 miles, with the median job being 12.05 miles from the intersection of Cedar Ave and Riverside Ave. We use the jobs within 12.05 miles of Cedar/Riverside intersection to examine if being closer to Cedar Riverside changes the pattern of discrimination.

Figure 13 shows the smoothed locally weighted regression of the proportion of white American, African American, and Somali American applicants who were contacted by the proximity of the job to the Cedar Riverside neighborhood. Because locally smoothed regression can be sensitive to the bandwidth selected, the figure displays the results for three different bandwidths. White American applicants are consistently contacted more than African American or Somali American applicants. When farther away from Cedar Riverside, African American applicants are predicted to be contacted slightly more than Somali American applicants. As the jobs get closer to Cedar Riverside, the proportion of African American and Somali American converge. Indeed, the predicted proportion of Somali Americans contacted actually exceeds African Americans for jobs very close to the Cedar/Riverside intersection—a pattern especially strong for Somali American applicants who list a US birthplace.

Similarly, Fig. 14 shows the actual proportion of African American and Somali American applicants who were contacted with the jobs split into 3-mile intervals of their proximity to the Cedar/Riverside intersection. As with the locally smooth regression, the jobs that are closer to Cedar Riverside show more equality between the African American and Somali American applicants. No differences in Fig. 14 are statistically significant.

This pattern suggests that some of the factors driving discrimination against Somali Americans relative to African

Fig. 12 The proportion of applicants who received positive contact from an employers by the extracurricular activity they included on the resume. $n = 3480$



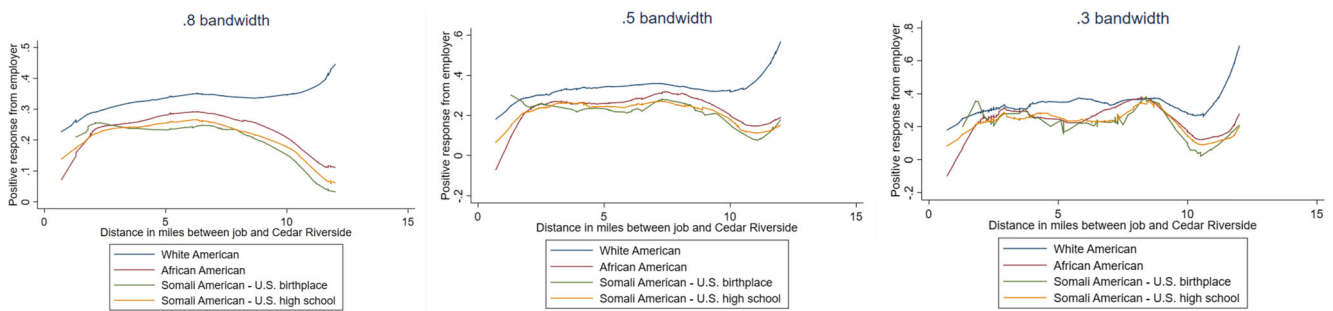


Fig. 13 Locally weighted smoothed regression of the proportion called back for white American, African American, and Somali American job applicants based on the distance between the job and Cedar Riverside.

Jobs included are the closest 50% to Cedar Riverside (within 12.05 miles). $n = 676$

Americans dissipates close to the Cedar Riverside neighborhood. Being multilingual may be an important element of human capital that is more sought after within or near Cedar Riverside. Likewise, there may be more Somali American employers who could discriminate less.

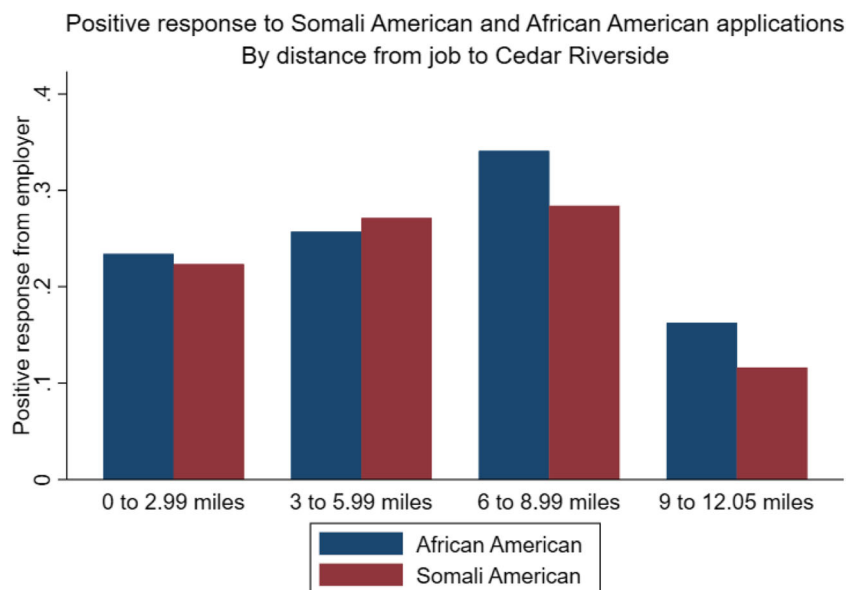
Strength and Limitations

Strengths

Correspondence studies are a powerful tool to study employer behavior in the labor market. Resume audit studies can balance the characteristics of the fictitious applicants and resumes can include many relevant manipulations. Importantly, the outcome focuses on employers’ actual behavior (Bertrand and Duflo 2016). Additionally, a resume audit study captures a form of discrimination that has large impacts on the applicants, but may not even be noticed by employers themselves.

Furthermore, correspondence studies generally focus on smaller companies, which may have less formal hiring practices and are more likely to reflect the human behavior behind an employment decision (Goldin 1990). For example, our study is not able to include applications to any job that requires a Social Security Number as part of the application. This causes our sample to be biased towards employers with less formal screening mechanisms. Of a sample of job ads that met the requirements to be included in the study, 37.5% were locally owned businesses (for example, a local restaurant or local coffee shop). The other 62.5% were local jobs at larger companies (for example, Williams Sonoma or Petco). Because the goal of this research is to observe how people react to an application from a Somali American, African American, and white American resumes, by avoiding companies that use software to initially screen applicants, we are more likely to capture the actual human reaction to the resumes. Though the job ads in this initial sample were from companies with less formal procedures, the jobs themselves were fairly traditional: the vast majority of ads were for full-

Fig. 14 Proportion of African American and Somali American applicants contacted by distance from the job to Cedar Riverside. $n = 507$ (141 applications in 0 to 2.99 miles, 105 applications in 3 to 5.99 miles, 132 applications in 6 to 8.99 miles, 129 applications in 9 to 12.05 miles)



time work and very few were for short term or temporary positions.

Limitations

While powerful, correspondence studies have some important limitations. For example, many jobs are acquired through social networks, whereas a correspondence study is limited to publicly advertised positions. This means that a correspondence study will not reflect the average job seeker's experience. Likewise, while the white American and African American names we used signal race, they are not typical names and will not reflect the average job seeker's experience. In our experiment, we selected high SES African American, low SES white American names, and common Somali American names, which may make our results more reflective of the typical Somali American than white American or African American job seeker.

Secondly, it is the discrimination that occurs at the marginal firm that affects the well-being of job seekers, whereas a correspondence study captures the average effect (Becker 1957). Thirdly, we do not know the demographic characteristics of the employer; we are unable to tell whether, for example, African American employers are less discriminatory than average. Similarly, the majority of ad postings do not indicate the specific location of the job—making it difficult to test for the impact of a job being close to the Somali American neighborhood of Cedar Riverside.

Additionally, correspondence studies focus on one step in the job acquisition process: getting an interview. Multiple types of discrimination may show up in the application stage; for example, an employer selecting who to interview is operating in an information-poor environment so may engage in statistical discrimination as well as taste-based discrimination. Because this is often a necessary step in the job search process and is subject to many possible types of discriminatory behavior, it is an essential element to consider. However, discrimination in getting a job offer, number of hours, the starting wage, and subsequent promotions will not be captured by a correspondence study. For example, immigrant or refugee communities may have a preference for hiring other members of their community, but then suppress their wages or provide poor working conditions (den Butter et al. 2007).

Finally, correspondence or resume audit studies reveal the difference in the average proportion contacted based on the resumes sent. Heckman and Siegelman (1993) and Heckman (1998) show that differences in the variance of unobserved characteristics can create differences in the proportion contacted that are not due to discrimination but rather are an artifact of the study. To correct this, Neumark (2012) developed a technique to use variation in observed characteristics on the resume to separate the marginal effect of race that comes through the *level* of the latent variable

(discrimination) and the marginal effect of race that come from *variance* of the latent variable (artifact of the study) (Neumark 2012, page 1141). Unfortunately, while we designed the study with multiple sources of variation (for example, level and quality of education, managerial experience on the resume), employers did not respond as strongly to these as we expected. Because we do not have consistent employer response to observed characteristics, we are unable to implement the Neumark correction.

Conclusion

In this project, we examine whether employers discriminate differently against Black Muslim refugees and their children compared to African Americans. We find that employers *do* differentiate between African American and Somali American applicants—among male applicants, employers contact African American applicants five percentage points less than equivalent white American applicants, but Somali American applicants are contacted 11 percentage points less often than equivalent white applicants. Discrimination against African Americans and Somali Americans was largest in occupations that had the most contact with customers, suggesting that employers may be acting on perceived prejudice among their customers. For Somali Americans, discrimination decreased in jobs that required more physical labor. For female applicants, the effects followed a similar pattern, but were muted. Signals of language ability, US birthplace, and education quality had very little effect on the proportion contacted.

Additionally, we found little evidence of discrimination against applicants who included a mosque activity on their resume. *Within* each race/ethnicity, those applicants who included a religious activity were contacted at the same proportion as those who included a generic activity. The differences *between* the race and ethnicity groups are unaffected by the inclusion of signals of a particular religion (for African Americans) or signs of religiosity (white American and Somali American). Religious discrimination does not appear to be driving discrimination against Somali Americans.

Our results show that discrimination against Black Americans has a strong effect in the labor market, but that it is not monolithic—employers discriminate more against Somali American refugees and their children relative to African Americans. While our results speak most directly to how racism impacts the labor market in Minnesota, our findings offer insight into how racism is more nuanced than sometimes conceptualized. Though Somali Americans are highly concentrated in a few locations in the USA, it is likely that employers in other states also discriminate in locally specific ways that reflect the nuances of the ethnic groups in their locations.

Appendix 1: Balance of Other Resume Elements with Respect to Key Manipulations

The work experiences included on the resumes are selected randomly. As a check, we regress an indicator variable for key groups (white American, African American, Somali American with US birthplace, Somali American with US high school) on the full list of work experience indicator variables. The following table shows the *p* value of the *F* statistic for jointly testing if any of the coefficients are significantly different from zero. None of the *p* values are below 0.1.

	White American	African American	Somali American–US birthplace	Somali American–no birthplace
<i>p</i> value of <i>F</i> statistic	0.5329	0.9389	0.1472	0.3056

We also use a chi-squared test to examine if the type of extracurricular activity, education level of the resume, including honors, and address are balanced with respect to the four race/ethnicity groups. In all cases, we fail to reject the null hypothesis that the manipulations are balanced across these elements at the 0.05 level.

Variable tested	<i>p</i> value on chi-squared test
Type of extracurricular (religious, political, generic)	0.683
Education level (college versus high school)	0.161
College honors or none	0.065
High school honors or none	0.297
Address	0.131

Appendix 2: Impact of Education and Order Sent for Different Race and Gender Groups

The resumes included numerous elements like education and order the resume was sent that we controlled for in the regressions presented in Tables 1 and 2—largely, these elements did not affect the proportion who received positive contact from the employer. However, these elements may have different impacts by race, ethnicity, and gender. Figure 15 shows the proportion of male applicants contacted for each race and ethnicity based on if they included honors in high school, if they had a college degree, if they included honors in college, and the order the resume was sent. The most notable pattern here is that for Somali American men, those that were the third or fourth resume sent were much less likely to be contacted than those that were sent first. This pattern did not show up for white American or African American men. In general, the different educational attributes did not strongly alter the proportion contacted; however, for African American men and Somali American men with a US birthplace, including honors in high school might have a larger effect than for white male applicants.

Figure 16 shows the same relationships, except for the women. We do not see the same striking preference for the first resume sent among Somali American women that we did for men. There may be some different impacts of the education included on the resume, but these differences are not consistent. White American women who included honors in high school were contacted more than those that did not, and this pattern did not hold for African American or Somali American women. Including honors in college had a positive impact for Somali American women, but not white or African American women. Including a college degree was beneficial for African American women, but not white or Somali American women. Overall, there is no consistent pattern of differences in proportion contacted based on education.

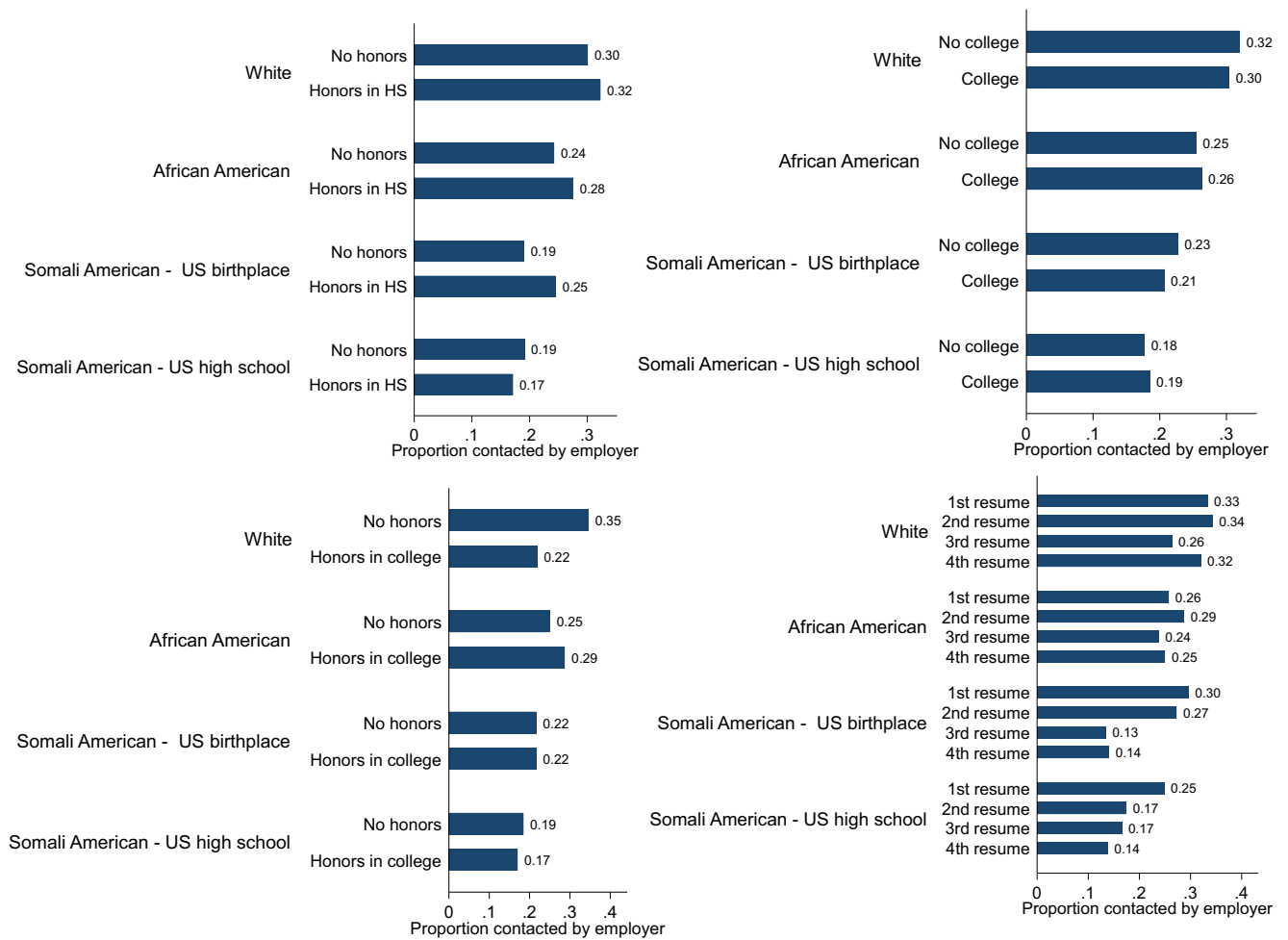


Fig. 15 The proportion of male applicants contacted by if they included having graduate from high school with honors (upper left), college (upper right), honors in college (lower left), and order the resume was sent (lower right). $n = 1768$

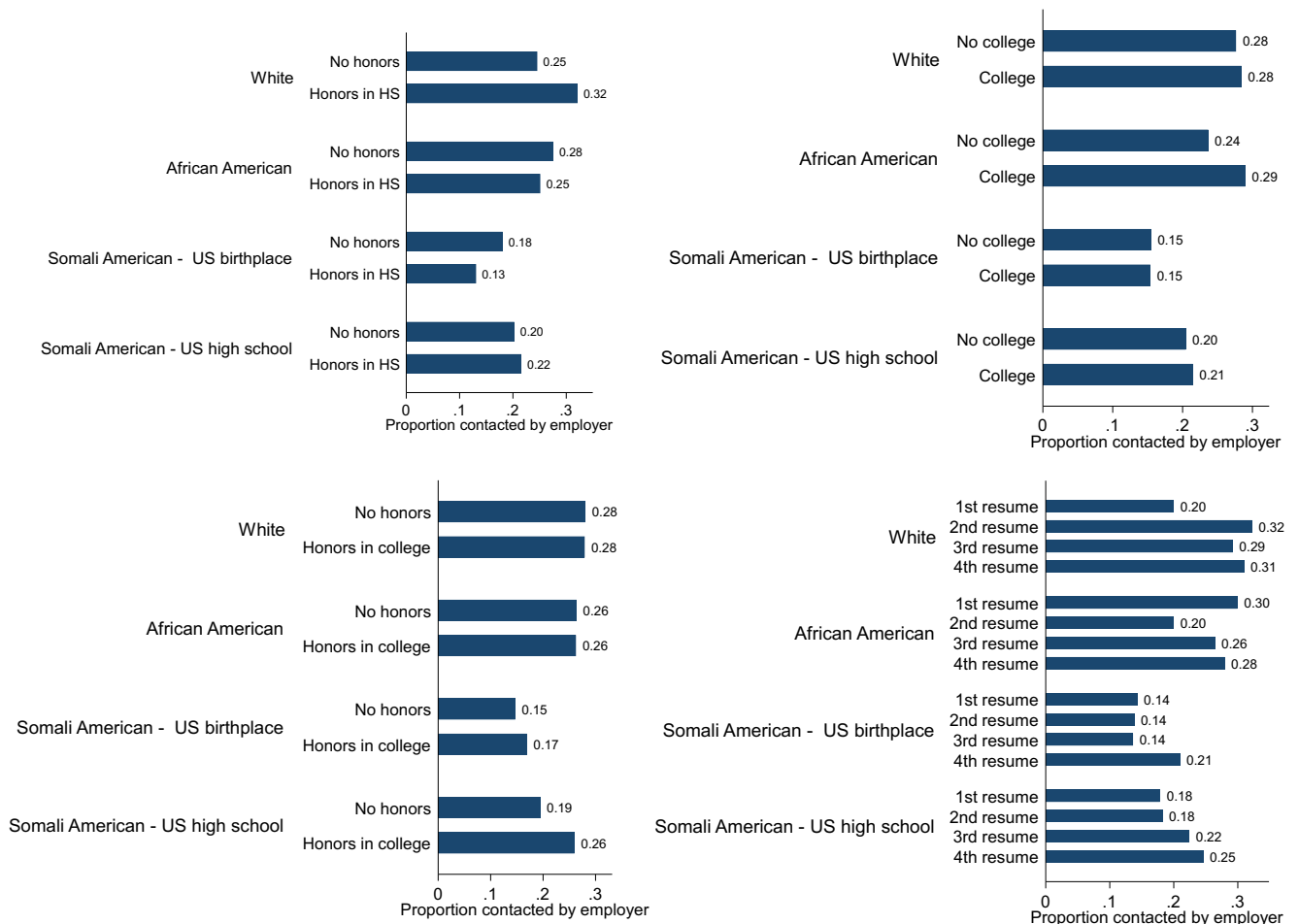


Fig. 16 The proportion of female applicants contacted by if they included having graduate from high school with honors (upper left), college (upper right), honors in college (lower left), and order the resume was sent (lower right). $n = 1712$

Appendix 3: Example of Resume

The following is an example of one of the manipulated resumes. This resume has a Somali American name, no birthplace or language skills listed, and a political activity for the extracurricular. The dates on the resumes were updated throughout the data collection period. All entries are randomly selected from publicly listed resumes. When sent, resume would be in size 12 font and one page. Resume is show here is smaller font for display purposes.

*Abdullah Abukar*Abdullah.Abukar16@gmail.com

1400 S 2nd Street #18

Minneapolis, Minnesota

(612)-884-7228

Employment history

December 2015–November 2017

Assistant Manager at Walmart

- Responsible for hiring, placing personnel, and keeping attendance records

- Performed annual job reviews
- Improved team retention rate

December 2013–December 2015

Administrative Assistant for Solus LED

- Organize the warehouse and track inventory
- Pull and package orders to be sent out to customers
- Utilize Excel to create spreadsheets for organization and daily functions
- Prepare order forms and lighting rebates
- Answer phone calls and emails as they come in
- Re-organized the stocking and ordering process which increased efficiencies and decreased error rates

Related activities

Member of Students for Sustainability

- Organized club fundraiser
- Worked to educate campus and community about environmental issues and how to move into a more sustainable lifestyle
- Residents worked with horse, miniature donkeys, full size donkey, goats, sheep, chickens, turkey, llamas, and cats
- Club activities include bringing in speakers, Earth week, and on-campus farmer's market

Educational qualifications

Eagan High School

June 2017

Skills

- Word, Excel, and other standard programs

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Data Availability All data and code will be provided to the journal (if desired) or will be posted publicly to the author's website.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

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