

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

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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 fictional resumes that are manipulated on perceived race and ethnicity (Somali American, African American, and white American) and 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.

This project would not have been possible without our *amazing* team of research assistants. We are incredibly grateful for the hard work of **Pachia Xiong, Joshua Edelstein, Anna Starks, Jenna Czarnecki, Carina Anderson, Hannah Lucey, Jordan Ewings, Zach LeVene, and Michael Gleason.**

We thank the Russell Sage Foundation, the University of St. Thomas and the Minnesota Population Center (P2C HD041023) for generously providing funding for this project.

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 multigenerational African Americans - some black immigrant groups have higher average wealth and income than African Americans (De La Cruz-Viesca et al 2016). Recent debates over reparations for slavery and Jim Crow have brought these differences 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 if 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 3,480 resumes from fictitious Somali American, African American<sup>1</sup>, and white American job applicants in the Minneapolis and St. Paul metropolitan area. We then examined the proportion of resumes that are contacted by employers.

This approach allows us to examine two key questions. First, we examine if 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 examine specific barriers for immigrant and refugee applicants, testing if indicating birth place and/or language skills, including religious activities, and the quality of the resumes affects the probability of being contacted by an employer.

We find that race and ethnicity have a large effect on being contacted by employers. After controlling for other elements on the resume, male African American applicants are 5

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<sup>1</sup> In this context, “African American” is used to refer to black Americans who have been in the U.S. 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.

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. Discrimination against African American and Somali American applicants was particularly large among customer service jobs. However, other elements of human capital included on the resume did not affect the proportion contacted. Employers did not respond favorably to Somali American applicants who indicated a U.S. birthplace, included a clear signal of being a native English speaker, or obtained honors in high school or college. 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 trumps elements of relevant human capital and signals of religiosity.

## ***Background***

### ***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 1974; 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).

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 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, Gorsuch and Rho (2019) find that employment discrimination against Somali American refugees in Minnesota increased after the 2016 election. Additionally, there is substantial prejudice against Muslims in the labor market, which would affect many Somali American immigrants and refugees (Kaushal, Kaestner, and Reimers 2007; Wright, Wallace, Bailey, and Hyde 2013; Adida, Laitin, and Valfort 2014; Weichselbaumer 2014).

In this project, we directly examine if 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 if 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, Pendaz, and Makene 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 Somali refugees and their children*

In addition to discrimination, many elements of human capital also 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; Oreopoulos 2011). Likewise, obtaining a degree in the U.S. leads to higher returns than a similar degree from their home country (Bratsberg and Ragan 2002). Age at immigration is also important: immigrants who arrived in America as children have gone to school in the U.S. and will have stronger language skills, leading to better labor market outcomes (Bleakley and Chin 2004; Grogger and Trejo 2002). Immigrants from countries with a longer history of immigration to the U.S. also have higher earnings (Hatton and Leigh 2011).

Among the many attributes that affect immigrants' earnings, language acquisition is often found to be a key determinant (Chiswick 1991; Dustmann and van Soest 2002; Bleakley and Chin 2004; Chiswick and Wang 2016). However, the role of language acquisition itself is difficult to pin down, because language skills may be measured with error or may be a proxy for an immigrant's motivation, class, social networks, or other unobserved characteristics. A recent

study further highlights the ambiguous role of language acquisition. 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. This ambiguous finding suggests that the true effect of language acquisition in immigrants' labor market success remains unclear.

Refugees have different human capital, reasons for coming to the U.S., and ties to their home country than traditional immigrants (Berns McGown 1999). Because refugees are unlikely to return to their home countries, they are more likely to invest in U.S.-specific human capital such as English language skills compared to other immigrants (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 home country but a higher return to refugees who employers think will stay in the U.S.

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, for example, racial difference in employer contact is smaller among those with a college degree.

## *Minnesotan Context*

### *Somali Americans in Minnesota*

Minnesota offers a unique environment to examine how employers respond to applications from black immigrants, African American, and white American applicants.

Beginning in the early 1990s, the U.S. began receiving refugees from the civil war in Somalia.

Minnesota, and particularly the Twin Cities area, served as a major destination for refugees. In

2014, 27.6% of all people in America who identified as Somali<sup>2</sup> lived in Minnesota.

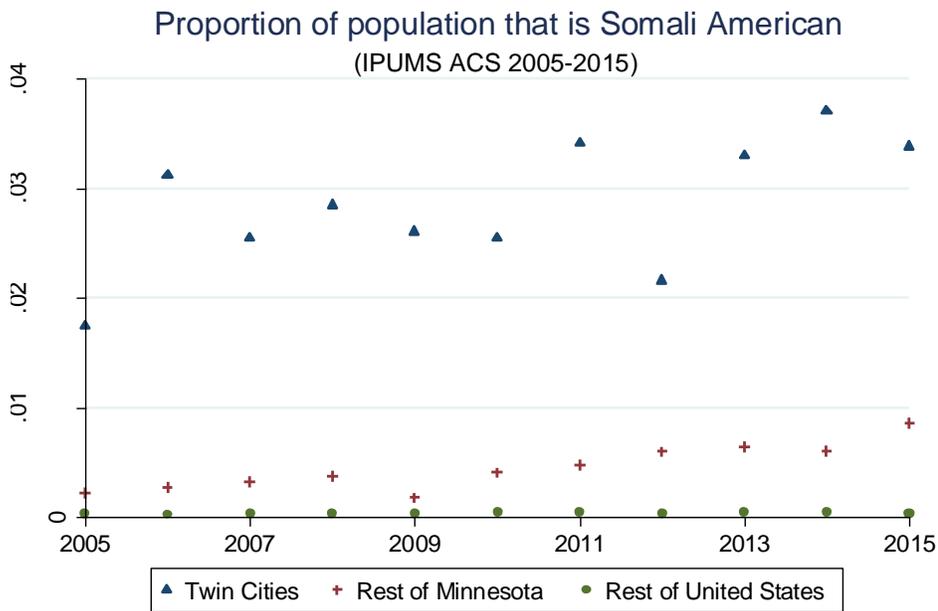
Approximately 25,950 Somali Americans live in Minneapolis and St. Paul, comprising 3.7% of the Twin Cities population. Somali Americans in Minnesota are young relative to the overall age distribution of Minnesota so will comprise an increasing share of the working age population.

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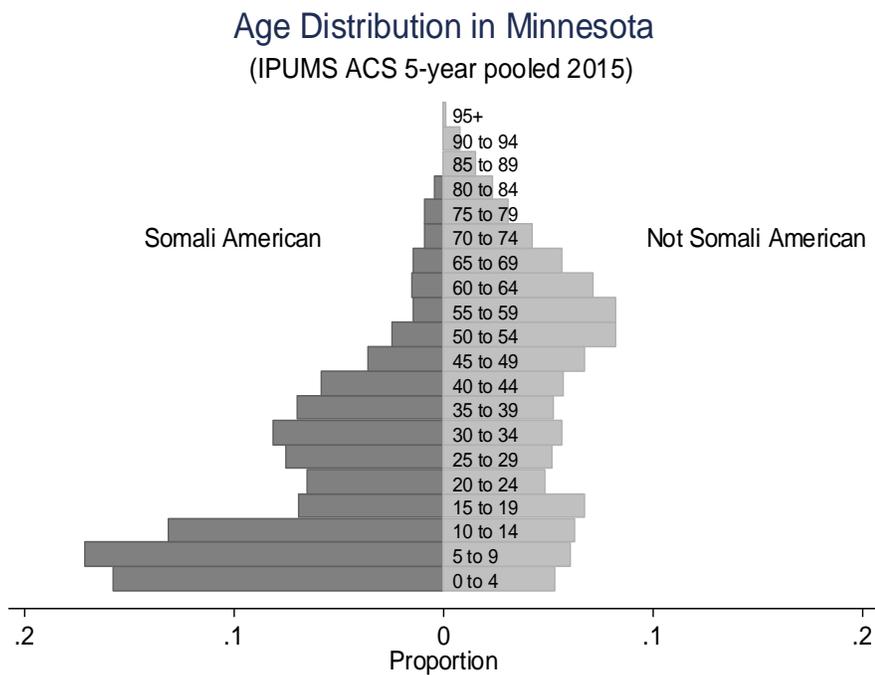
<sup>2</sup> In this context, Somali is defined as having at least one of the following apply:

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

This expansive definition is used for two reasons. First, some Somali Americans either do not report their ancestry or report it as African, East African, African American, or similar broad option. Using a more expansive definition will capture some of these people. Second, there is a persistent pattern where “Somalian” appears to be occasionally mis-transcribed as “Samoaan” in the ancestry question. The more expansive definition will count these people, if their birthplace, parents’ ancestry, or parents’ birthplace was reported correctly.



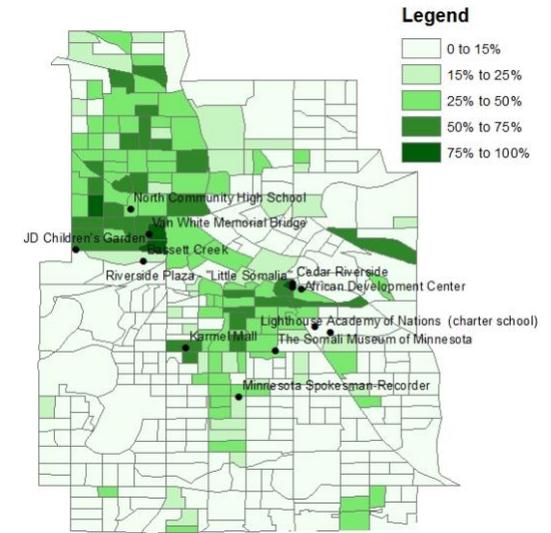
**Figure 1:** The proportion of the population that is Somali American (IPUMS ACS).  
*N* = 30,426,312 (total), 40,238 (Twin Cities), 493,548 (Rest of MN)



**Figure 2:** Age distribution of Minnesotans (IPUMS ACS).  
*N* = 270,839 (Not Somali American), 912 (Somali American)

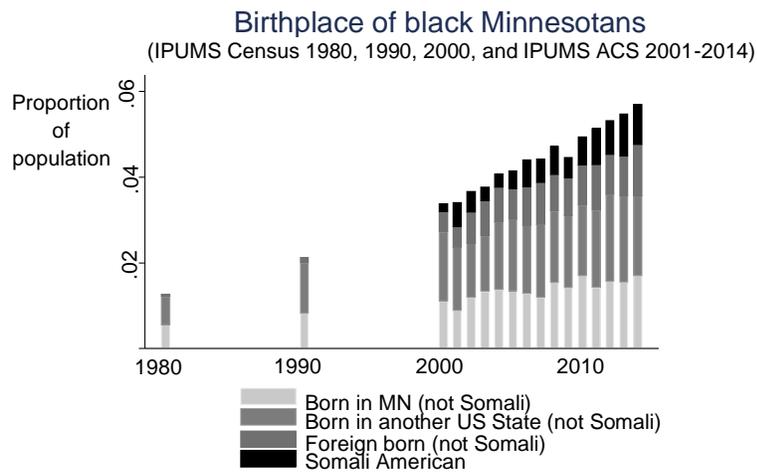
In Minnesota, Somali refugees and their children have established an identity that is distinct from the pre-existing African American community, including establishing separate neighborhoods. As shown in Figure 3, there are two predominantly black areas of Minneapolis. The neighborhoods to the northwest of downtown are historically African American. Until recently, this area was isolated from the rest of the city by a major highway to the south and an interstate to the east.

Somali Americans have established neighborhoods south of downtown; the Riverside Plaza is a well-known apartment complex housing recent immigrants and is known as “Little Somalia.” The neighborhood includes charter schools that address the needs of children who spent substantial time in refugee camps and also incorporate religious and cultural practices. This neighborhood is home to a Somali cultural museum and the Karmel Square mall with stores selling traditional Somali food, clothing, and other items.



**Figure 3:** A map of Minneapolis showing the proportion reporting their race as “Black or African American” (2014 pooled 5 year ACS via American FactFinder)

In 1980, only 1.3% of the Minnesotan population reported their race as black or African American. Over the past 35 years, the proportion of the state that is black has grown to 5.7%. As shown in Figure 4, this growth was both driven by internal migration from other states and black immigrants (including Somali refugees). In 2014, 49% of U.S.-born black Minnesotans were born outside of Minnesota, compared to only 24% of U.S.-born white Minnesotans. This internal migration was particularly driven by migration from Illinois: in 2014, 40% of U.S.-born black Minnesotans who were born in a different state were born in Illinois.



**Figure 4:** *The ethnicity and birthplace of Minnesotans who report their race as “Black or African American”*  
*N=1,295,169 (total), 26,112 (Black or African American)*

## Approach and Methods

### *Audit Study*

We applied to publicly advertised positions using fictional 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 examine how education and language skills affect these differences, we included additional manipulations of college education or high school degree and statements regarding language skills.

Each resume has basic contact information for the applicant, including a name, address, local phone number, and email address. The resume includes two work experience entries, one activity, an education, 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, located between the historically African American neighborhoods and the predominantly Somali

American neighborhoods. We select these addresses because they are geographically central to the jobs we apply for. We do not include geographic variation in addresses, because Bertrand and Mullainathan (2004) found no difference based on the applicant's race in how their neighborhood affected the probability of being called back. As shown in Appendix 2, the address of the applicant is balanced with respect to our manipulations of interest.

We created a bank of work experiences, educational backgrounds, and related activities drawn from real resumes from Minnesota that were publicly listed on Indeed.com. Each resume is then created by randomly selected work experiences, education, and related activities; no work experience, education, or related activity was repeated on a resume sent to the same employer (Lahey and Beasley 2007). 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. As shown in Appendix 2, the work experience and education are balanced with respect to our manipulations of interest.

We manipulate the name on the resume to indicate the applicant's sex and if the applicant is Somali American, African American, or white American. The Somali American names were selected from the CDC's list of popular Somali first names. The surnames are a male first name, following the conventional naming pattern where a surname is the father or grandfather's first name (United Kingdom 2006). The Somali American names we use are Aasha Waabberi, Fathia Hassan, Khalid Bahdoon, and Abdullah Abukar.<sup>3</sup>

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<sup>3</sup> Note that these first names are from the Koran, and are not specific to Somali Americans. However, in the Minnesotan context, Somali Americans are the largest, most visible Muslim group.

To select African American and white American names, we chose names that are racially distinct and pre-tested them to select names that clearly signal race and do not signal different socioeconomic status (Levitt and Dubner 2005; Gaddis 2015). Participants on Amazon Mechanical Turk viewed a selection of names in a random order and rated how strongly they associated the name with five major racial groups and if they associated the name with high or low socioeconomic status. Names that were clearly Hispanic/Latino (e.g., José Garcia) were used to test participant's attention. Respondents strongly associated names with race and socioeconomic status. The African American names that were higher SES were still rated as having lower SES than the low SES white American names. To reduce the role that perceived differences in SES play in this study, we used high SES African American names and low SES white American names. The surnames are the highest percent white and the highest percent African American of the top 100 most common surnames on the 2000 Census. The white American names we use are Amber Sullivan, Amy Wood, Jacob Myers, and Lucas Peterson. The African American names we will use 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), political activities (e.g., volunteering for a campaign), or a generic activity (e.g., volunteering at a library or hospital). Among the religious activities, the Somali American resumes will have a mosque activity, the white American resumes a church activity, and the African American resumes will randomly select between mosque and church. All activities, including mosque and church activities, are drawn from publicly listed resumes.

We signal length of time in the U.S. on the Somali American resumes with two interacting elements: birthplace and high school. All resumes will show a Minnesotan high school. Some resumes will list the applicant's birthplace as the U.S. while other resumes will 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 US. Additionally, the manipulations include second generation Americans who were born in the U.S. to immigrant parents. The African American and white American applicants will also all show a Minnesotan high school.

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 U.S. will also list being a native English speaker. Among those who do not specify a birthplace (the 1.5 generation), some applicants will not include language skills, others will list being a native English speaker, and some will indicate they have an ESL certification.

We apply to publicly advertised jobs in the Minneapolis/St. Paul metro area, excluding those with a specific licensure or experience requirement.<sup>4</sup> We also do not apply for jobs that require submitting an application through an employer's application form, because we usually cannot include the desired manipulations.

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<sup>4</sup> 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 fictional 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.

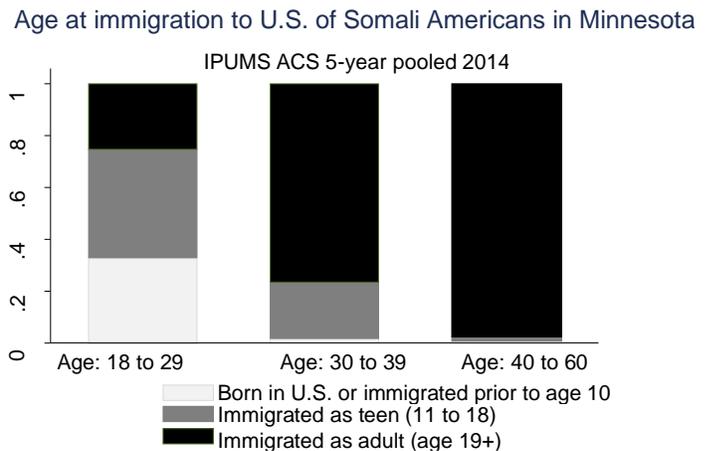
Each job received four of the manipulated resumes. The resumes were sent from an email address that matches the name of the applicant and were sent with a delay between emails. No element on the resume was repeated among the four resumes sent to the same employer. For example, no employer received two resumes with an identical work experience section. We recorded the occupation, industry, and the text from the job ad. We recorded as much detail about the location of the job as possible, in order to compare differences between Minneapolis/St. Paul, the suburbs, and greater Minnesota. As shown in Appendix 2, the order in which the resumes were sent is balanced with respect to our key manipulations.

Our outcome of interest is if the employer contacted the applicant regarding an interview. We recorded if the employer made any positive contact with the applicant (e.g., a request for an interview). If the employer contacted an applicant, the fictional applicant immediately responded informing the employer that the applicant has just accepted another offer.

***Realistic manipulations of time in the U.S.***

An essential element for an audit study to be successful is that the manipulations are believable by the employer. A key manipulation is that the resumes include Somali American applicants who were born in the United States and those who attended high school in the U.S. but may have immigrated as

a child. As mentioned previously, Somali refugees began arriving in Minnesota in the early 1990s, so if we were trying to implement this study ten years ago, there would be very few 22-



**Figure 5:** Age at immigration for Somali Americans in Minnesota. Figures use complex weights. N=405

year-old Somali Americans who were native English speakers. However, as shown in Figure 5, Minnesota is currently home to 18-29 year old Somali Americans who immigrated prior to age 10 (33%), as teenagers (42%), and as adults (25%). That is, Minnesota simultaneously has young adults who are first, 1.5, and second generation Somali Americans. This range of age at immigration shows that the manipulations of language skills and time in the U.S. included on the resumes are realistic manipulations.

### *Analysis*

To examine if similar Somali American, African American, and white American resumes are more or less likely to be contacted by an employer, we use the following linear probability model:

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

Where  $y_{ij}$  is an indicator variable showing the employer  $j$ 's reaction to applicant  $i$ . We include an indicator for African American resumes. For Somali American resumes, we include an indicator variable for second generation (U.S. birthplace) and 1.5 generation (U.S. high school). We include  $\text{Female}_{ij}$ , an indicator for female applicants and interact this with the indicators for race.  $\mathbf{X}_{ij}$  is the set of variables for the included manipulations. For example,  $\mathbf{X}_{ij}$  will include if the applicant indicated their language skills, indicator variables for church activity, mosque activity, and 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.  $\eta_j$  is a firm 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 will be able to see if similar resumes of different races and ethnicities are contacted at different rates by testing if  $\hat{\beta}_1$ ,  $\hat{\beta}_2$ , and  $\hat{\beta}_3$  are statistically significantly different from each other and from 0. For example,  $\hat{\beta}_1$  will show the difference between proportion of white American applicants and native-born Somali American applicants who were contacted by an employer. The difference between  $\hat{\beta}_1$  and  $\hat{\beta}_3$  will show the difference in the proportion of African American applicants and U.S.-born Somali American applicants who were contacted by an employer. Additionally, testing if  $\hat{\theta}_1$ ,  $\hat{\theta}_2$ , and  $\hat{\theta}_3$  are statistically significantly different from 0, we will see if discrimination varies by the sex of the applicant.

In Equation 1, we include  $\mathbf{X}_{ij}$  which includes indication of language skills, quality of work experience, and education.  $\hat{\delta}$  will show if these elements are important in determining if an employer contacts an applicant. For example, if  $\hat{\delta}_{\text{Native English speaker}}$  is positive, this will show that including native English language skills on a resume increases the probability of being contacted by an employer.

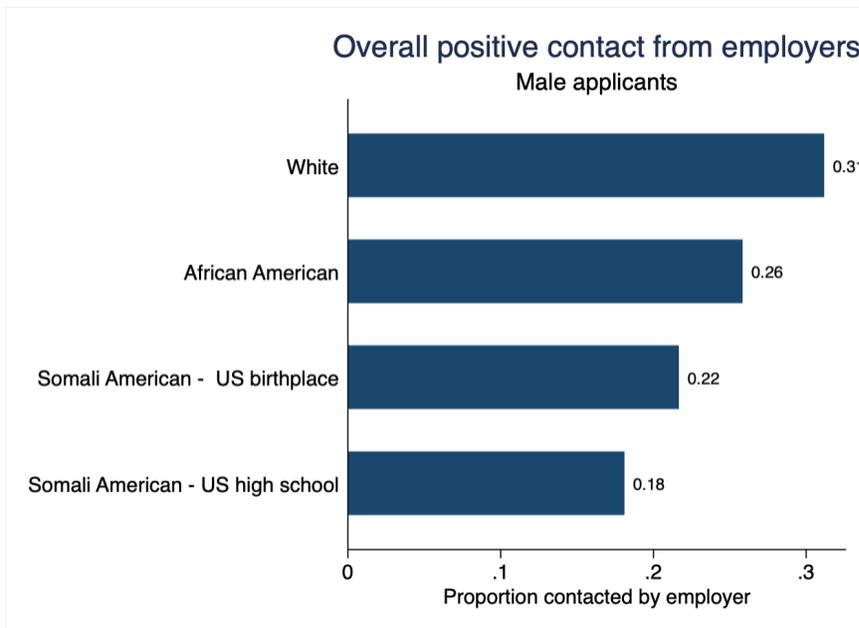
These results may vary by occupations. Employers may discriminate based on their perceptions of customer prejudice. We examine the pattern of discrimination by occupation. If we see discrimination predominantly occurring in occupations with more interaction with customers, this would suggest that employers are responding to customer prejudice. To examine this, we utilize a measure of work called, “Deal with external customers,” from the Occupational Information Network (O\*NET) coding structure. This measure of how important it is to work

with external customers or the public for a particular occupation ranges from zero to 100 with higher values indicating more importance. Using this variable, we will sort occupations into terciles and examine whether the differences in callback rates between groups varies by the importance of customer interaction. We will 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” which we discuss in more detail below.

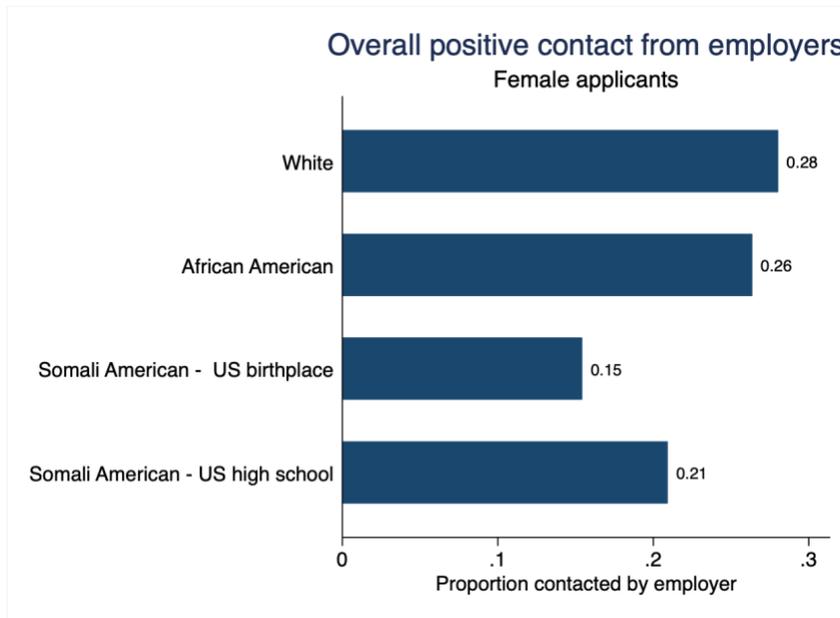
## Results

### *Differences in discrimination: main results*

The following graphs show important summary statistics: The total proportion of applicants who received a positive response from employers.



*Figure 6: Proportion who had a positive response from an employer. n=1,768*



*Figure 7: Proportion who had a positive response from an employer. n=1,712*

With no adjustment for the attributes on the resumes, or employer fixed effects, the African American and both types of Somali American resumes were called back less frequently than the white resumes for male applicants ( $p < .05$ ). The difference in callback rates for African American males and Somali American males with a U.S. birthplace was not statistically significant. However, among males, the difference between African American resumes and Somali American resumes without a U.S. birthplace was 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.

To control for other elements on the resume, we use the regression specified in Equation 1. The following table 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, and 2<sup>nd</sup> generation) and these indicator variables interacted with an indicator for female. White American resumes are the omitted group. Controls 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, employer fixed effects, work experience fixed effects, formatting of the resume, and the order in which the resumes were sent to employers.

**Table 1: Results of a of linear probability model**

	(1) Contacted by employer	(2) Contacted by employer
<i>Differences</i>		
<b>African American</b>	-0.052** (0.025)	-0.052* (0.027)
<b>Somali American (US birthplace)</b>	-0.105*** (0.032)	-0.073** (0.035)
<b>Somali American (US high school)</b>	-0.115*** (0.025)	-0.118*** (0.026)
<b>Female</b>	-0.034 (0.027)	-0.032 (0.031)
<b>Female*African American</b>	0.038 (0.037)	0.035 (0.043)
<b>Female*Somali American (US birthplace)</b>	0.039 (0.040)	-0.029 (0.047)
<b>Female*Somali American (US high school)</b>	0.041 (0.032)	0.064* (0.036)
<i>Other elements on resume</i>		
<b>Mosque</b>	-0.011 (0.016)	-0.004 (0.019)
<b>Political activity</b>	0.007 (0.015)	0.025 (0.018)
<b>Church</b>	0.003 (0.025)	-0.002 (0.029)
<b>Include English skill - native speaker</b>	-0.020 (0.018)	-0.049** (0.023)
<b>Include English skill - ESL certificate</b>	0.002 (0.022)	-0.015 (0.024)
<b>Honors in high school</b>	0.002 (0.011)	0.012 (0.012)
<b>College degree</b>	0.013 (0.015)	0.013 (0.018)
<b>Honors in college</b>	-0.009 (0.016)	-0.014 (0.017)
<b>Suburban high school</b>	-0.015 (0.013)	-0.010 (0.015)
<b>Constant</b>	0.297*** (0.098)	0.282*** (0.049)
<b>Observations</b>	3,480	3,480
<b>R-squared</b>	0.700	0.025
<b>Employer FE</b>	Yes	No
<b>Work experience FE</b>	Yes	Yes

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

*Robust standard errors, clustered by job. Additional controls not listed include: Order in which it was sent and formatting of resume.*

As shown in Table 1, among male applicants, African Americans are contacted less frequently than white Americans, controlling for numerous elements on the resume. A resume with an African American name is contacted five percentage points less often than an equivalent resume with a white American name. Somali American resumes are also called back less than equivalent white American resumes and these differences are greater than for African American resumes. The F-test for the difference between the African American and second generation and 1.5 generation Somali American resume are both statistically significant ( $p=.063$  and  $p=.006$  respectively). The positive coefficients on the interactions with the female indicator suggest that discrimination may be slightly less for African American and Somali American women. Among female applicants, the difference in callback rates between white and African American resumes is not statistically different. However, the differences in callback rates between white applicants and second generation and 1.5 generation Somali American resumes are both statistically significant ( $p=.023$  and  $.004$  respectively). Both groups of Somali American female applicants are called back about seven percentage points less often than their white counterparts. The regression results also suggest that listing being a native speaker on Somali American resumes decreases callback rates.

Notably, the other elements of the resume do not affect callback rates. Including a religious or political activity had no effect on being called back. Additionally, including language skills and birthplace do 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 have no effect on being called back. Column two shows the same regression without the employer fixed effects or clustering by employer to show the results remain largely the same with these controls. The regression without the employer fixed effects suggests that

discrimination against female 1.5 generation Somali Americans is less than that faced by their male counterparts.

***Differences in discrimination: The customer is always right?***

Becker's canonical model of discrimination highlights three ways discrimination could manifest: in the utility function of the employer, customer, or co-workers. To examine if the discrimination is primarily driven by customer prejudice, we examine the pattern of discrimination by occupation. If we see discrimination predominantly occurring in occupations with more interaction with customers, this would suggest that employers are responding to customer prejudice.

To examine this, we utilize a measure of work called, "Deal with external customers," from the Occupational Information Network (O\*NET) coding structure. This measure of how important it is to work with external customers or the public for a particular occupation ranges from zero to 100 with higher values indicating more importance. Two research assistants coded an occupation for all of the jobs in our sample using the O\*NET framework; we then stratify our sample into terciles of customer-service orientation.<sup>5</sup> The tercile cutoffs are based on all occupations included in the O\*NET coding structure, not the jobs in our sample. The lowest

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<sup>5</sup> The O\*NET structure includes 964 detailed occupations. The RAs both coded each job in our sample with an occupation code. The two RAs agreed on the exact occupation for 74.5% of jobs. If the RAs coded the same job with two different occupations, we used the average of the "Deal with External Customer" score from the two coded occupations. For example, one job was coded as "Cashier" by one RA and as "Retail Salesperson" by the other. These occupations have scores of 91 and 97 respectively. This job was given the average of 94.

We also coded occupations with AutoCoder a machine learning algorithm developed for the Department of Labor that assigns O\*NET occupational codes to job descriptions. Unfortunately, about 24% of the jobs in our sample had a match score below 70. Scores of 70 or above are generally considered to be a good fit. Therefore, we do not use AutoCoder for our analysis.

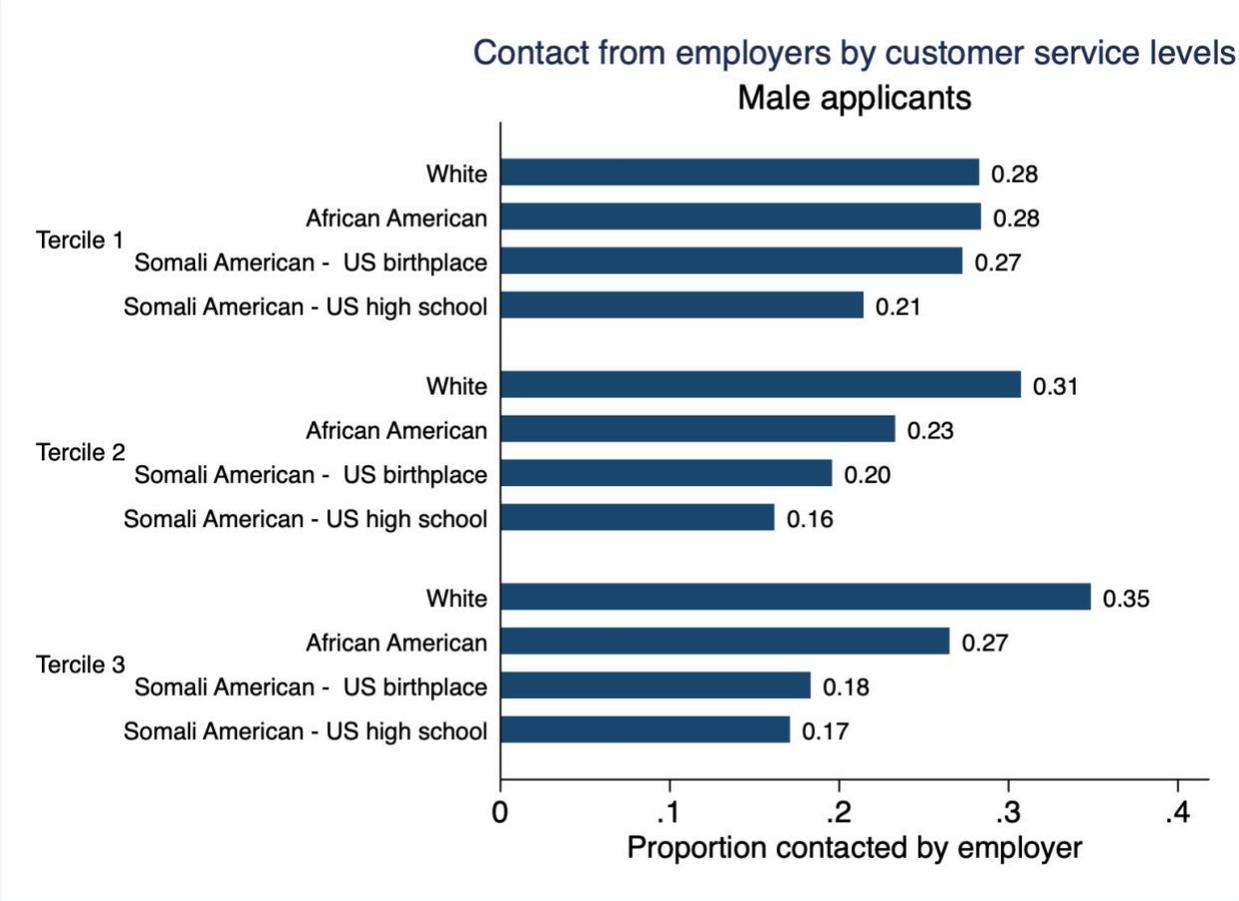
tercile consists of jobs with an external customer score of 0 to 51, the second tercile is from 51 to 72, and the highest tercile is from 72 to 99.<sup>6</sup>

Figures 8 and 9 show the proportion of applicants who received a positive response from employers by tercile. We see that for male applicants in the first tercile, those applying for jobs with the least amount of customer interaction, the callback rates are very similar for white, African American, and 2<sup>nd</sup> generation Somali Americans. However, the difference in callback rates between white applicants and both African American and 2<sup>nd</sup> generation Somali Americans widens as the level of customer interaction increases. Somali American resumes that do not list a U.S. birthplace are called back substantially less than white applicants even in the first tercile.

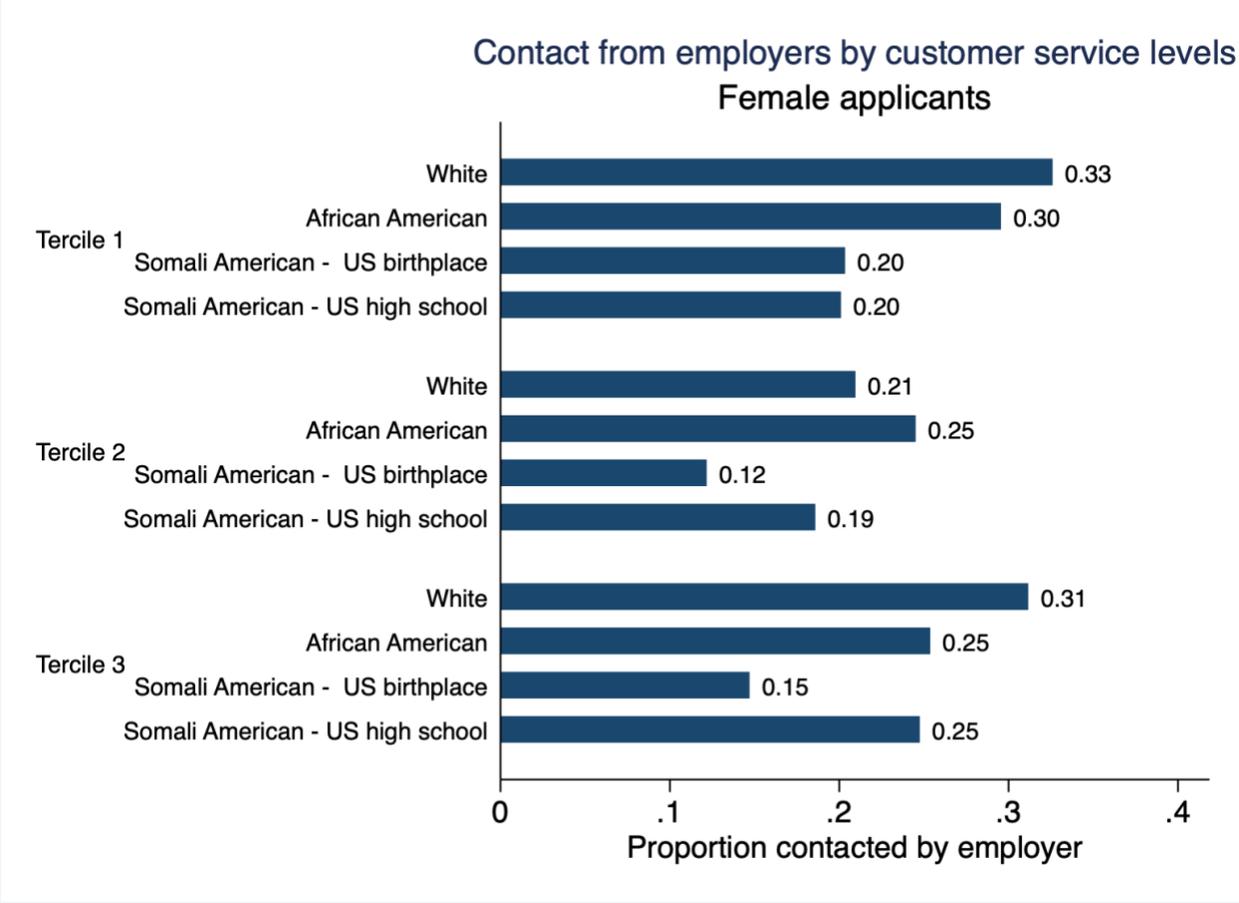
The patterns across terciles are less clear for female resumes. While African Americans do not appear to face substantial discrimination in the lowest tercile, Somali Americans are called back 12 percentage points less than white applicants. African Americans are called back more than white applicants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

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<sup>6</sup> 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.



**Figure 8:** Proportion who had a positive response from an employer by tertile of customer service measure.  
*n*=1,768



*Figure 9: Proportion who had a positive response from an employer by tercile of customer service measure. n=1,712*

In Table 2, we display results from estimating Equation 1 for jobs by terciles. Among male applicants, for all three minority groups considered, discrimination is largest among the more customer-oriented jobs. While the difference in callback rates between white applicants 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 applicants and all other groups is not significant in the first two terciles. However, in the highest tercile, the difference between white applicants and second generation and 1.5 generation Somali American resumes are both statistically significant ( $p=.012$  and  $.039$ ).

respectively). 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.

**Table 2: Results of a of linear probability model by Customer Service Tercile**

	<b>Tercile 1</b>	<b>Tercile 2</b>	<b>Tercile 3</b>
	(1)	(2)	(3)
	<b>Contacted by employer</b>	<b>Contacted by employer</b>	<b>Contacted by employer</b>
<i>Differences</i>			
<b>African American</b>	-0.010 (0.050)	-0.041 (0.034)	-0.100** (0.048)
<b>Somali American (US birthplace)</b>	-0.037 (0.068)	-0.118** (0.046)	-0.135** (0.056)
<b>Somali American (US high school)</b>	-0.044 (0.050)	-0.096*** (0.035)	-0.175*** (0.048)
<b>Female</b>	-0.021 (0.051)	-0.073* (0.044)	-0.003 (0.053)
<b>Female*African American</b>	0.022 (0.069)	0.063 (0.061)	0.060 (0.067)
<b>Female*Somali American (US birthplace)</b>	-0.003 (0.082)	0.108* (0.064)	-0.007 (0.074)
<b>Female*Somali American (US high school)</b>	-0.005 (0.057)	0.061 (0.051)	0.073 (0.063)
<i>Other elements on resume</i>			
<b>Mosque</b>	-0.015 (0.031)	-0.022 (0.025)	-0.023 (0.035)
<b>Political activity</b>	0.007 (0.030)	0.004 (0.023)	-0.012 (0.030)
<b>Church</b>	0.038 (0.052)	0.037 (0.038)	-0.074* (0.043)
<b>Include English skill - native speaker</b>	-0.030 (0.035)	-0.011 (0.029)	-0.035 (0.036)
<b>Include English skill - ESL certificate</b>	-0.014 (0.041)	-0.003 (0.036)	0.010 (0.038)
<b>Honors in high school</b>	-0.005 (0.022)	-0.005 (0.018)	0.022 (0.021)
<b>College degree</b>	0.024 (0.030)	-0.012 (0.021)	0.038 (0.029)
<b>Honors in college</b>	-0.024 (0.033)	-0.009 (0.022)	0.008 (0.032)
<b>Suburban high school</b>	-0.035 (0.025)	-0.014 (0.020)	0.010 (0.024)
<b>Constant</b>	0.162 (0.213)	0.486*** (0.158)	0.178 (0.142)
<b>Observations</b>	1,092	1,308	1,080
<b>R-squared</b>	0.705	0.715	0.726
<b>Employer FE</b>	Yes	Yes	Yes
<b>Work experience FE</b>	Yes	Yes	Yes

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

### *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 zero 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 jobs with a score of 0 to 32, the second tercile is from 33 to 63, and the highest tercile is from 64 to 99.7

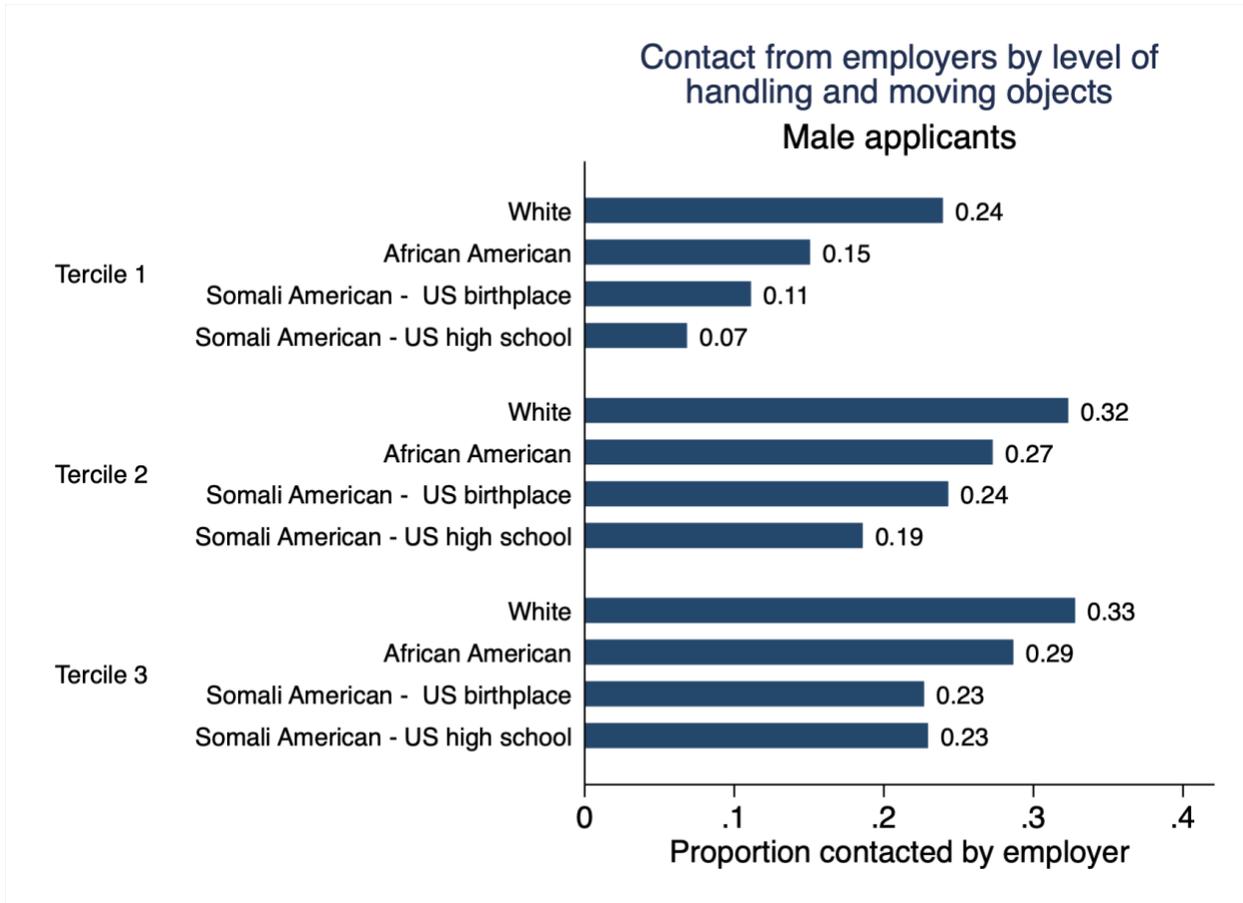
Figures 10 and 11 show the proportion of applicants who received a positive response from employers by tercile. We see that for male applicants in the first tercile, those applying for jobs with the least amount of handling and moving objects, the callback rates for all minority groups are much lower 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 American resumes diminish substantially as the level of physical labor increases.

The patterns across terciles are less clear for female resumes. African American resumes are called back approximately at the same rate as white American resumes. However, both

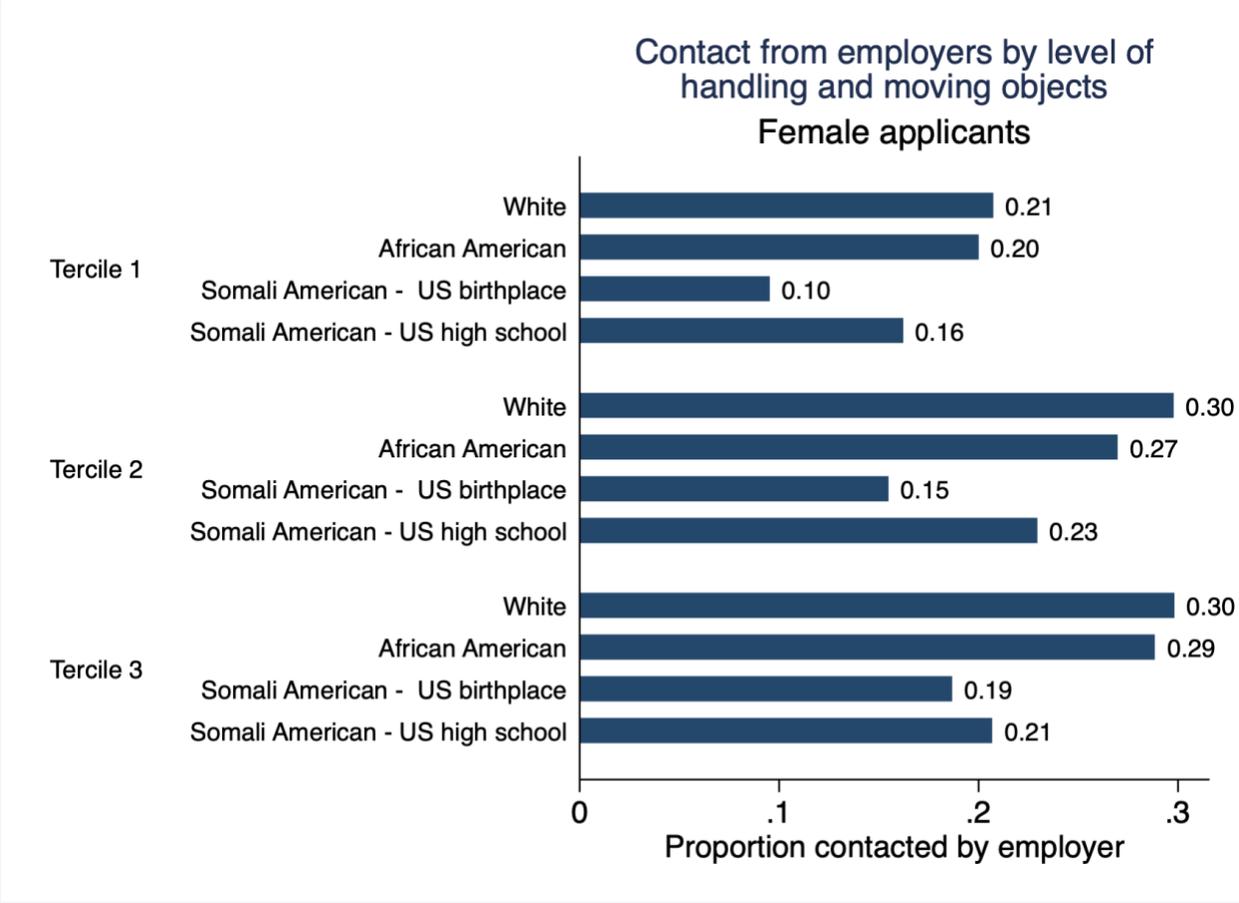
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<sup>7</sup> Common jobs from the first tercile includes customer service representatives and secretaries/administrative assistants. The second tercile includes jobs such as cashiers, cooks, and servers. The third tercile includes jobs like dishwashers, janitors/cleaners and laborers.

Somali American groups are called back substantially less than white applicants in all three terciles.



**Figure 10:** Proportion who had a positive response from an employer by tercile of handling and moving objects measure.  $n=1,768$



**Figure 11:** Proportion who had a positive response from an employer by tercile of handling and moving objects measure.  $n=1,712$

In Table 3, we display results from estimating Equation 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 Americans are called back 17-18 percentage points less than similar white Americans in tercile 1 and this difference is statistically significant. The difference diminishes to about 7-9 percentage points in tercile 3. Among female applicants, the difference in callback rates between white and African American resumes is also not statistically significant. However, we 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.

**Table 3: Results of a of linear probability model by Handling and Moving Objects Tercile**

	<b>Tercile 1</b>	<b>Tercile 2</b>	<b>Tercile 3</b>
	(1)	(2)	(3)
	<b>Contacted by employer</b>	<b>Contacted by employer</b>	<b>Contacted by employer</b>
<i>Differences</i>			
<b>African American</b>	-0.110 (0.068)	-0.049 (0.035)	-0.022 (0.040)
<b>Somali American (US birthplace)</b>	-0.166** (0.072)	-0.096** (0.044)	-0.092* (0.055)
<b>Somali American (US high school)</b>	-0.180*** (0.062)	-0.111*** (0.038)	-0.074* (0.042)
<b>Female</b>	0.003 (0.067)	-0.018 (0.040)	-0.056 (0.046)
<b>Female*African American</b>	0.121 (0.104)	0.035 (0.052)	0.017 (0.061)
<b>Female*Somali American (US birthplace)</b>	0.059 (0.099)	0.018 (0.058)	0.056 (0.073)
<b>Female*Somali American (US high school)</b>	0.056 (0.083)	0.040 (0.049)	0.022 (0.051)
<i>Other elements on resume</i>			
<b>Mosque</b>	0.009 (0.048)	-0.031 (0.025)	-0.005 (0.026)
<b>Political activity</b>	0.001 (0.038)	0.008 (0.023)	0.004 (0.026)
<b>Church</b>	-0.026 (0.063)	-0.027 (0.036)	0.040 (0.044)
<b>Include English skill - native speaker</b>	0.019 (0.054)	-0.026 (0.029)	-0.026 (0.031)
<b>Include English skill - ESL certificate</b>	0.039 (0.058)	-0.004 (0.032)	-0.002 (0.036)
<b>Honors in high school</b>	-0.007 (0.031)	0.017 (0.017)	-0.009 (0.018)
<b>College degree</b>	0.011 (0.037)	0.013 (0.024)	0.008 (0.026)
<b>Honors in college</b>	0.025 (0.040)	-0.022 (0.025)	-0.014 (0.029)
<b>Suburban high school</b>	0.025 (0.029)	-0.026 (0.018)	-0.027 (0.023)
<b>Constant</b>	0.139 (0.155)	0.347** (0.155)	0.333* (0.191)
<b>Observations</b>	612	1,504	1,364
<b>R-squared</b>	0.656	0.734	0.705
<b>Employer FE</b>	Yes	Yes	Yes
<b>Work experience FE</b>	Yes	Yes	Yes

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

## **Strength and Limitations**

### ***Strengths***

Resume audit studies are a very useful approach to studying behavior in the labor market. These studies can carefully balance the characteristics of the fictional applicants, the resumes can include many relevant manipulations, and the outcome focuses on employers' actual behavior (Bertrand and Duflo 2016). Additionally, a resume audit study captures a form of discrimination that is almost costless to the employer but has large impacts on the applicants. This captures a relevant form of discrimination that may go unnoticed by the employers themselves.

Additionally, resume audit 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 local businesses. 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 time work and very few were for short term or temporary positions.

### ***Limitations***

While powerful, the audit study approach has some important limitations with respect to understanding discrimination in the job search. An audit study will not necessarily reflect the average job seeker's experience, because many jobs are acquired through social networks,

whereas an audit study is limited to publicly advertised positions. Secondly, it is the discrimination that occurs at the marginal firm that affects the well-being of job seekers, whereas an audit study captures the average effect (Becker 1957). Third, we do not know the demographic characteristics of the employer; we are unable to tell if, for example, African American employers are less discriminatory than average.

Additionally, an audit study focuses on one particular part of the job acquisition process: getting an interview. The application stage is often a necessary step to acquiring a job and one where multiple types of discrimination may manifest. 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 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, other important aspects of discrimination will not be captured by an audit study, including getting a job offer, the starting wage, and subsequent promotions.

## **Conclusion**

Race and immigration are controversial topics in the United States. Numerous long-standing policy debates center around racial discrimination, as well as immigration policies and refugee programs. In this project, we examine if employers discriminate differently against black immigrants and their children compared to African Americans. We find that employers **do** differentiate between African American and Somali American 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 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. Signals of language ability, U.S. birthplace, and education quality had very little effect on the proportion contacted. Our results show that discrimination against black Americans has a strong effect in the labor market, but that it is not monolithic – employers do discrimination more against black immigrants and their children relative to African Americans.

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## **Appendix 1: Probit and logit models**

The main analysis of our paper relies on a linear probability model because interaction terms are difficult to interpret in non-linear models. To examine if our main results are robust to model specification, we also analyzed a version of Equation 1 that was augmented to be able to calculate the marginal effects of the key interaction terms (Norton, Wang, and Ai 2004; Ai and Norton 2003).

## Appendix 2: Balance of other resume elements with respect to key manipulations

The work experiences included on the resumes are selected randomly. To check this, we regress an indicator variable for key groups (white American, African American, Somali American with U.S. birthplace, Somali American with U.S. 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 the any of the coefficients are significantly different from zero. None of the p-values are below 0.1.

	<b>White American</b>	<b>African American</b>	<b>Somali American – U.S. birthplace</b>	<b>Somali American – no birthplace</b>
<b>p-value of F-statistic</b>	0.5329	0.9389	0.1472	0.3056

We also use a chi-squared test to examine if the type of extra-curricular 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.

<b>Variable tested</b>	<b>p-value on chi-squared test</b>
Type of extra-curricular (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