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Abstract

Ethno-racial workplace segregation increases already existing ethno-racial inequality. While previous research has identified discriminatory employers as drivers of workplace segregation, this study addresses the role of the employees. Sociological and social psychological theory suggest that people prefer to surround themselves with people who positively confirm their social identity or who contribute with higher group status. Through web-based surveys, we measure employee attitudes and preferences concerning ethno-racial workplace diversity, to what extent they differ by ethnicity/race, and if they contain intersectional patterns. Thereafter, we use simulation models to analyze the consequences for workplace segregation that these preferences would have, if realized.

The main survey results showed that all ethno-racial groups favored their own in-group as colleagues, especially European Americans. As a secondary choice, the respondents preferred the out-group with the highest labor market status. Intersectional patterns were identified, as minority women were preferred as colleagues over minority men. Our simulation model, based on the results of two surveys on stated vs. indirectly revealed preferences, showed that employee preferences were at best not diverse enough to desegregate workplaces. When based on the most common preferences (i.e. excluding a few outliers), the simulations even suggested that these preferences can cause segregation. We relate these findings to Schelling's model of segregation.

Introduction

The fact that people live, work and socialize with ethno-racially similar others is not a problem in itself. The reason that researchers and policymakers are concerned with segregation is that it is associated with social inequality. Empirical studies across contexts have shown that ethno-racial inequality occurs because individuals of different ethno-racial identities end up working within different occupations, but also because even within occupations, workplaces dominated by ethno-racial groups with a high status have higher wages and better working conditions (Kmec 2003; Åslund and Nordström Skans 2010, studying the United States and Sweden, respectively). Thus, when socioeconomic inequalities between ethno-racial groups exist, segregation reinforces these differences.

In the US, the empirical case of this study, workplace segregation has been shown to be substantial: using the dissimilarity index, Stainback and Thomaskovic-Devey (2012) found that in 2005, about 50 percent of all African American and Hispanic workers in the private sector would have had to change jobs in order to achieve a workplace composition equal to that of random allocation. The authors also showed that ethno-racial segregation has a gendered dimension: workplaces in male-dense occupations are more ethno-racially segregated than workplaces in female-dense occupations.

The workplace segregation that occurs within occupations has several different causes. On an already ethno-racially stratified labor market, different opportunity hoardings (Tilly 1998) provide individuals with different pathways into the labor market, resulting in both occupational and workplace segregation. Second, when some employers discriminate against ethno-racial minorities and some do not, the discriminated groups will eventually be clustered at some workplaces and the non-discriminated groups at others (see e.g. Author 2014; Pager, Western, and Bonikowski 2009). Third, employees might contribute to segregation by their choice of employer; even weak ethno-racial biases have the potential to generate almost

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complete residential segregation (Schelling 1969; 1971) and extensive school segregation (e.g. Spaiser et al. 2016).

Workplace segregation within occupations is an understudied phenomenon (Åslund and Nordström Skans 2010); what is lacking in particular is research concerning the role of employees to workplace segregation (Sorensen 2004). This is a significant gap in the segregation literature: even though individuals' opportunities are constrained by societal structures and their positions within these structures, over the course of a working life, there is likely to be some room for preferences to influence where people work. Employees could impact workplace segregation by their tenure at a workplace: by staying longer at workplaces where they work with similar others, and by leaving workplaces where they constitute a minority. Indeed, employees may be drivers of segregation in a similar way as employers. And, as Schelling (1969; 1971) and others following him have shown, even slight preferences can cause high levels of segregation.

The research that has been performed on this issue suggests that employee behavior is important to ethno-racial workplace segregation. In the US, Sorensen (2004) found, studying a large single firm, that what mainly influences turnover is decreases in the in-group's share of the work group; losses thus have a stronger negative effect than the positive effect of gains in in-group members. Kmec (2007), on the other hand, showed that having been referred to a job by an in-group employee reduced voluntary turnover (at a single private firm). Thus, her findings suggest that it is also important to take preorganizational relationships (c.f. Krueger and Carsud 1993) into account in the study of turnover rates and ethno-racial segregation. Jointly, these two studies have shown that meritocratic employer behavior may not be enough to achieve ethno-racially integrated workplaces.

In this paper, we contribute to the study of workplace segregation by studying the neglected role of attitudes (i.e., positive or negative expressions toward something) and

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preferences (i.e., an ordering of alternatives, based on attitudes) of individuals concerning ethno-racial workplace composition, and the consequences that these preferences and attitudes may have. We take a particular interest in gendered variation in attitudes and preferences for workplace diversity, i.e., whether attitudes and preferences vary depending on the gender of the respondents or the gender of out-group colleagues. We also aim to assess the possible impact that these preferences would have on workplace segregation, if realized. In this sense, our study aims to assess the possible effects of preorganizational preferences to workplace segregation.

We contribute to the literature on ethno-racial workplace segregation by addressing the following questions:

1. What are the attitudes and preferences for diversity at the workplace among potential employees in the US?

2. Who has which attitudes and preferences, and toward whom? More specifically: do respondents favor some ethno-racial out-groups over others, and if so, how does the gender of the colleagues influence ethno-racial workplace preferences? Do men and women have different attitudes and preferences for workplace diversity?

3. What are the consequences of these preferences for workplace segregation?

Theory and Previous Research

Preferences for Homophily and Status

Previous research suggests that ethno-racial similarity at the workplace is associated with greater proximity between employees (Lincoln and Miller 1979). It also generates stronger social relationships and greater workplace attachment (e.g., Mueller et al 1999; Tsui and O'Reilly 1989). Theoretical modeling has shown that in-group favoritism can emerge as a result of coordination tasks (Author 2015). Meanwhile, this favoritism can also be directed

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toward high-status groups signaling high trust (Author and X 2015). Preferences for ethno-racial homogeneity in various contexts are often explained using *social identity theory* (*SIT*), a social psychological theory that explains group-level phenomena like segregation by referring to basic individual-level human needs and preferences. It proposes a distinction between personal and social identity, and argues that the latter influences the former and is mainly derived from group memberships. Since it is important for people to have a positive self-image, people strive to maintain a positive view of themselves as well as their in-group (e.g., Ellemers, Spears, and Doosje 2002). This may be achieved by perceiving the in-group as positively distinct from other groups (Tajfel and Turner 1979), an idea that is more easily maintained in a homogenous social environment (Rubin and Hewstone 1998). Individuals of high-status groups often express stronger in-group identification than do individuals of low-status groups (Ellemers et al. 1998).

However, having a few representatives from other social categories, that is, "tokens", can even enhance feelings of in-group favorableness. In such groups, the dominating group still has the power to control the workplace group and its culture. In fact, the presence of "tokens" in such groups, often results in an "under*lining* rather than an under*mining* of majority culture" (Kanter 1993[1977], 387). The reverse, being a token, comes with many problems. Token persons typically have to represent their social category rather than themselves as individuals, and are thus viewed upon by the majority in a stereotypical manner.

The different effects of workplace diversity on well-being may also be understood through *status construction theory (SCT),* a sociological and social psychological theory that focuses on the importance of the different *statuses* of social categories for the emergence and durability of inequality. SCT defines status as a ranking of groups based on social esteem, competence and respect. Status rankings are constructed through status beliefs, that is, widely held beliefs about differences in status between social groups and individuals associated with

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these groups (e.g. Ridgeway 1991; Ridgeway et al. 1998; Ridgeway and Correll 2006). Individual actors perceive status beliefs proposed by legitimate authorities or by the majority as socially valid, as status beliefs are accepted as a matter of social reality, both by those who benefit from the status ranking and by those who are disadvantaged by it. In addition, these "third-order beliefs" are also often transformed into first-order, individual beliefs (Ridgeway and Correll 2006).

Applying SCT on our study, when a society is stratified along ethno-racial lines, ethno-racial workplace composition becomes a marker of job status: a high proportion of individuals from underprivileged minorities signals a lower workplace status, compared with similar workplaces with a high proportion of employees from high-status groups. This approach can, for instance, explain why European Americans have been found to be more negatively affected in terms of well-being when they are in the minority at a workplace, compared with African Americans and Hispanics (Mueller et al. 1999; Stainback and Irvin 2012; Tsui et al. 1992).

In sum, SIT predicts that all groups should express in-group preferences, but unprivileged groups to a lesser extent. SCT predicts that people are sensitive to status hierarchies, and should thus prefer individuals of high-status groups as colleagues in order to enhance their own status or, if they already have a high status, to avoid status contamination.

Gender and Gendered Ethno-Racial Workplace Attitudes and Preferences

Gender differences in normative orientations have been extensively studied and suggest, in short, that women and men are socialized into different normative orientations (e.g. Beutel and Marini 1995; Cross and Madson 1997). As a result, women express more empathy, and are more concerned about others and social relationships. The theorizing and empirical evi-

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dence concerning how gender differences in normative orientations influence ethno-racial attitudes are conflicting (c.f. Johnson and Marini, 1998, and Hughes and Tuch, 2003).

Gendered ethno-racial work-related issues have primarily been addressed by the intersectional literature (for reviews, see Browne and Misra 2003; Ozbiligin et al. 2011). A gap within this literature is that it primarily focuses on individual experiences of inequality or discrimination as opposed to observed measures of inequality, or attitudes, preferences and stereotypes (Browne and Misra 2003). However, attempts to close this gap theoretically have recently been made within the frames of SCT. Ridgeway and Kricheli Katz (2013) argue that the fact that the three systems of inequality – ethnicity/race, gender and class – are *perceived* as distinct influences how we as individuals perceive people of different groups. When cultural beliefs about race/ethnicity and gender intersect, different stereotypes emerge for men and women from the same ethno-racial group. Through this classificatory work, some individuals become "off-diagonal" if the different stereotypes about their ethnicity/race, gender and class are contradictory. For instance, African American women are argued by Ridgeway and Kricheli-Katz to neither fit the stereotype of "African American" or "woman": being stereotyped as too aggressive to fit the female stereotype and too feminine to fit the masculine stereotype attached to being African American. Being off-diagonal is likely to create mostly disadvantages, but at times also fewer disadvantages as a result of being difficult to categorize (e.g. Author 2014; Author et al. 2015).

To the extent that ethno-racial attitudes and preferences shape workplace segregation, it may thus also be important to study gendered aspects of ethno-racial attitudes, stereotypes and preferences. In this study, we explore whether ethno-racial attitudes and preferences may vary by the subject's own gender or the gender of the out-group members.

Preferences and Segregation

Schelling (1969; 1971) has shown how segregation can emerge even in contexts where all individuals involved would prefer non-segregated outcomes, that is, where homophily and aspirations for high status are not salient. While Schelling's model was developed to explain neighborhood segregation, the underlying mechanisms have also been shown to be at work in other types of segregation processes, such as those leading to segregated schools (e.g. Saporito and Lareau 1999; Spaiser et al. 2016). In this study, we investigate through a simple simulation model how the different preferences of employees could influence workplace segregation, if acted upon, and in isolation from other factors. Although many other factors influence where people want to work, we believe that the result of such a test will indicate in which direction the preferences of employees drive ethno-racial workplace composition.

Outline of Study

To address our three research questions, we conducted two studies where the respondents were asked to consider different scenarios and situations dealing with selection into workplaces that varied along the lines of their ethno-racial and gendered composition. In Study 1, the respondents were asked straightforwardly to state their preferences for companies with respect to their composition. To test the external validity of the results from Study 1, we then carried out another study, where the companies were accompanied by a more profound description and varied more subtly along ethno-racial lines. The set-ups of the studies enable an evaluation of SIT and SCT through the respondents' expressions of their attitudes and preferences to the in-group and out-groups, through questions on attitudes, preferred demographic distributions of colleagues and rankings of already set distributions.

The studies were carried out through surveys at the Amazon Mechanical Turk (MTurk), which is a crowdsourcing Internet marketplace where registered individuals are paid to

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perform small tasks set up by requesters. Compared with other non-representative data, previous studies show that the respondents at the MTurk are a source of high quality data and vary more in demographical characteristics than do respondents recruited on social media or at universities (e.g., Casler, Bickel, and Hackett 2013; Paolacci, Chandler, and Ipeirotis 2010). All studies took place between September 2014 and March 2015, that is, while Obama was still president and prior to Trump announcing his candidacy for president. Finally, to find out the consequences of the preferences for segregational patterns, and to address research question 3 on the potential role of employee preferences for segregation, we implemented an agent-based model and ran simulations based on the results from one of the tasks in Study 1.

First Study: Stated Preferences

Design

In Study 1, we asked respondents directly for their attitudes and preferences concerning the ethno-racial identity and gender of potential colleagues at an imagined workplace, about which they received no other information. There were three such tasks: one where respondents were asked for the attitudes toward different groups, one where they were asked to compose their preferred workplace, and one where they were asked to rank different companies. At the end of the survey, several questions on the respondents' personal background were asked. The full survey is presented in Appendix A.

First, we listed six ethnic/racial identities, divided into men and women, giving a total of twelve groups. For each of the groups, the respondents were asked to rate their general feeling toward working with a person identifying with that group, on a scale from negative to positive through slightly negative, neutral and slightly positive. The groups were "African American/Black/Caribbean/African", "Asian/Pacific Islander", "European American",

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"Hispanic/Latino", "Middle Eastern/North African" and "Native American/Other". From here on, these categories will be referred to with the first concept from each category.

Second, the respondents were asked to choose their preferred colleagues for their ideal workplace. To avoid making the task overly complex, the task was to allocate percentage shares to only four groups of people: European American men, European American women, minority group men and minority group women, where minority group refers to the five groups listed above that are not European Americans. The first two tasks address our second research question, and parts of the first one. This also means that when analyzing the results, it is primarily the responses of European Americans that with certainty tells us anything about in-group preferences and diversity. As the "minority category" is heterogenous, there is no clear alternative for the expression of in-group preference for minority respondents.

Third, the respondents were faced with making a complete ranking between different companies. The companies varied only in their composition of European Americans versus minority group members. Each company had eight employees, and the number of minority group members were 0 (company X), 2 (Y), 4 (Z), 6 (W) and 8 (V), respectively, presented in random order. While the second task relates to the ideal workplace, this task provides us with a complete preference structure and also informs us on what the respondents would do void of their ideal choice. For example, would someone with a preference for an even divide go in the direction of more or fewer minority group members as a second choice? This addresses our first research question and provides us with behavioral profiles to plug into a simulation model, in order to address our third question.

In both Study 1 and Study 2 (described below), we posted a survey at MTurk, inviting workers who had an HIT approval rate of at least 95% (i.e. who had a record of successfully

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completing at least 95 % of performed tasks) and who were located in the United States. The respondents were paid $0.4 each.

One problem with the design of these three tasks is that there is a high likelihood of social desirability concerns influencing the results. We know from previous research that people are reluctant to express attitudes, even in anonymous surveys, if they contradict established social norms. An alternative strategy is indirect questioning, that is, to ask the respondents about the attitudes and preferences of "other people" (e.g., Fisher 1993). This strategy captures third order beliefs about homophily and status, but includes no measure of first order beliefs. Our design thus gives us a conservative test of first order individual preferences concerning explicit homophily and status preferences, rather than measuring the actual strength of these preferences. Thus, in what follows, we focus on differences between groups rather than the strength of the expressed attitudes.

Respondents

Mturk workers have been shown to be demographically representative of the US internet users, but not of the entire population (Paolacci, Chandler, and Ipeirotis 2010).[1] Previous research has shown that the pool of MTurk workers, compared to the larger population, consists of slightly more European Americans, is significantly younger, has a higher education and contains more men and students. Since none of our respondents are retired, the sample has a higher share of both unemployed and employed than the population. Most of these differences are linked to the age of the respondents: since internet users tend to be younger, these differences are expected. About half of the respondents had experience of at some point having worked at a workplace where a majority of their colleagues were from minority groups. While this may seem like a lot, it is likely the case that some people who

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[1] However, the alternative to the MTurk, the collection of data through surveys, does not generate a representative sample of the population either (Huff and Tingley 2015).

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today hold qualified positions at majority-dominated workplaces worked within low-skilled jobs at minority-dominated workplaces when they were younger/students. We have no information on the area of residence of our respondents. However, MTurk workers do generally not differ from respondents responding to surveys made by major polling organizations. Huff and Tingley (2015) show that MTurk workers resemble survey respondents responding to the Cooperative Congressional Election Survey, CCES, on area of residence (the rural-urban scale), occupation, and race. More details on the background of the respondents can also be found in Appendix C.

Results

A total of 1,100 respondents were recruited to answer questions on their preferred workplace. Among these respondents, 785 identified as "European American", 65 as "Asian", 55 as "Hispanic", 46 as "African American", 13 as "Other", 7 as "Middle Eastern", 58 as mixed and 9 were unknown. With respect to this distribution, our analyses will focus on the European American respondents, unless otherwise stated. Thus, only parts of our analysis cover the attitudes and preferences of minorities. The results for the minority groups will be presented either jointly, as "minorities", or separately for the three groups that have more than 40 respondents.

The respondents were first asked about their attitudes toward different groups with the task to rate their feelings toward working with them; second, they were asked to compose their ideal workplace; and third, they were asked to rank five companies with a varying ethno-racial composition. These three tasks will be analyzed separately.

Attitudes

Figure 1 presents the attitudes among respondents in the sample's four largest ethno-racial groups toward potential colleagues in all the groups described above.[2] It should be kept in mind that there are relatively few respondents within the three minority groups, but the results in Figure 1 indicate a clear homophily effect. About half of the respondents (47%) make no difference between majority and minority groups, and the same number prefer European Americans. Due to the asymmetric distribution for the differences between ethno-racial ratings, we used a nonparametric test for whether they are significant. For European Americans, average feelings (4.12) toward the in-group are significantly more positive than their average feelings (3.72) toward minority groups ($p < 0.001$, V = 80,349, Wilcoxon signed rank test), and the differences are significant also for the three minority groups ($p < 0.001$, V = 1,126 for Asian Americans, $p \approx 0.011$, V = 189 for African Americans, and $p \approx 0.027$, V = 361 for Hispanics, Wilcoxon signed rank tests).

Figure 1 about here.

Both people of Asian and Hispanic ethno-racial identity are positive toward the majority group, and European Americans are more positive toward colleagues of Asian ethno-racial identity than other minority groups. It can be noted that none of the groups express negative attitudes on average toward any group, with none of the medians, nor means, scoring below "neutral". However, the purpose of this survey is to identify differences in attitudes between groups, and ethno-racial boundaries toward different groups, not to measure the absolute strength of an ethno-racial bias.

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[2] Due to a technical error, only the first 753 attitudes toward the groups Middle Eastern and Other were registered. Since this affected all the remaining respondents, we expect no systematic difference to those that were registered.

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In general, women are rated higher than men ($p < 0.01$, $t = 2.97$, mean difference 0.045). Analyzing differences in attitudes toward men and women in the largest ethno-racial groups separately, we find that the result is driven by differences in gendered ethno-racial attitudes toward some of the minority groups. There is no difference in attitudes toward African American women and men, and not a significant one for European Americans ($p = 0.235$, $t = 1.19$, mean difference 0.021) or the miscellaneous group, but for the other three groups, namely those of Asian, Hispanic and Middle Eastern identity ($p < 0.001$).

Ideal Ethno-Racial Compositions of Workplaces

The respondents were also asked to compose their ideal workplace with respect to the proportional share of colleagues along the lines of gender and European Americans versus minorities. Attitudes toward individuals from different groups and the frequencies of each need not necessarily predict one another – for example, people may have positive attitudes toward specific groups when represented in small numbers, but less so when they constitute a majority (c.f. Kanter 1977). Descriptively, there are two main distributions of interest: the actual distribution of majority and minority groups in the population, that is, approximately 18, 18, 32, 32; and an allocation of 25% to each group (majority men and women, and minority men and women), which is the uniform distribution, and the most common response, signaling no particular opinion about the ethno-racial identity of colleagues. Also, research has shown that Americans greatly overestimate the share of minorities in the population. Teixeira and Halpin (2013) show, drawing on a sample of 3,000 respondents, that Americans estimate 49 percent of the population to belong to an ethno-racial minority, while the actual number is 37 percent (see also Wong 2007). Thus, what large parts of the population believe about its ethno-racial demography would give us the same proportions as an even allocation of majority/minority men and women, given that it assesses men and women to be of equal proportions. While proportions of minorities between 37 and 50 percent are indeed more

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diverse than the actual population, there is thus reason to believe that they may express a satisfaction with status quo. Allocations above 50 percent would signal a clear diversity preference, while those below 37 percent would signal minority avoidance.

There were 771 compositions among European American respondents that were successfully completed, that is, summing up to 100, and 239 compositions among minority group members. The latter group of respondents allocated their preferred colleagues roughly evenly across the four groups. The results for the former, the European Americans, are given in Table 1, for averages, and Figure 2, for distribution of responses.

Table 1 about here.

Figure 2 about here.

While there is a stated preference for diversity in the workplace among European Americans, there is also a clear preference for in-group over minority group colleagues. Figure 2 shows that almost all the respondents clearly prefer European Americans to be in the majority. On average, the preferred distribution resembles the actual distribution in society, but the distribution of responses is skewed. Most responses (46%) are for an even distribution. Only 8% would prefer minority groups to be in the majority, while 29% would prefer an allocation below the population average. All in all, preferences are at least not desegregating.

Preferences vary between groups of respondents. A linear regression model (for the entire sample) is presented in Table 2 (all p < 0.01). The residuals are somewhat heavy-tailed, violating the normality assumption of the error terms, but all effect sizes (in Model 1) are highly significant, and non-parametric Wilcoxon rank sum tests give similar results. The strongest predictor of minority preference is if the respondent is itself a minority group member (8.2 percentage points). Women have a stronger such preference than men (3.0), and

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so do respondents with previous experience of working with mostly minority group colleagues (3.7). Minority avoidance increases with age (0.13 per year). Having a foreign-born parent is not at all predictive of minority preferences (Model 2).

Table 2 about here.

Ranking of Companies with Different Ethno-Racial Composition

The previous task gave the respondents full freedom in composing workplaces. While this may (crudely) reflect what the respondents would ideally strive for, it does not tell us what the preferences in a non-ideal world are. To further analyze the respondents' attitudes to in-groups and out-groups, the third task was to rank five companies with 0, 2, 4, 6 and 8 out of 8 employees from a minority group. Labelling the rankings according to these numbers, the ranking chosen by a respondent that wants as few colleagues as possible to be from minority groups would be 02468. Someone with a primary preference for diversity, and a secondary preference for European Americans would give the ranking 42608; with a secondary preference instead for minorities it would be 46280. Those who want to maximize the number of minority group colleagues would choose 86420.

Rankings are hard to analyze statistically, but they can be mapped to an interval measure by counting *inversions*.[3] An ordered pair of numbers in the ranking is an inversion if the greater number comes before the smaller number. This gives us a measure of minority preference, ranging from the ranking 02468 with zero inversions to the ranking 86420 with ten (all the pairs are inversions). The ranking 42608 has four inversions: 42, 40, 20 and 60, and similarly 46280 has six. Thus, with this measure, 0 represents maximizing the number of European American colleagues, 10 maximizing the number of minority group colleagues, and 5 having no preference between these.

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[3] There are other approaches, such as sequence analyses, but these are unnecessarily complex for our purposes. Inversions are a well-established measure for sequences within discrete mathematics.

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The average rankings are presented in Figure 3. We can conclude that, among European Americans, there is a preference for some diversity, with 4 and 2 being ranked first most often. While men have no clear preference between 2 and 4, women prefer the more diverse company. There is also an aversion toward the company with only minority group members. The ranking that can be deduced from the averages is 42068, which coincides well with the average number of inversions: 2.80. Looking instead at respondents from minority groups, the deduced ranking would be 42608 and the average number of inversions 4.44, which is significantly higher than that for European Americans ($p < 0.001$, $W = 58,180$). There is also a significantly larger number of inversions among European American women, 3.04, than European American men, 2.64 ($p \approx 0.037$, $W = 75,947$).

Figure 3 about here.

Second Study: Indirectly Revealed Preferences

Design

In order to investigate the external validity of the findings in the first study and to see whether ethno-racial preferences are strong enough to be elicited in a setting that more closely resembles an actual choice between companies, we conducted a second study where descriptions of companies were provided and where variation in ethno-racial diversity was more subtly manipulated. Given only weak ethno-racial preferences, participants then have an opportunity to be influenced mainly by the company descriptions. The survey as presented to the participants is given in Appendix B.

Each participant was presented with three company presentations. The presentations were given consecutively on separate webpages, and were then all presented again in small font and small photos on a summary page. On the summary page, the respondent was asked to rank the

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three companies, and was also given the opportunity to see all of the presentations again before the decision. Finally, the respondents were asked some biographical questions.

Each company description consisted of the name (Y, Z or W) and a short description of the company, and a very brief presentation of its employees.

All companies were presented as mobile phone operators and the description for each presented company was randomly selected from a set of six company descriptions. The descriptions were all standard selling texts with similar content and consisted of a total of 100–150 words.

Below the descriptions we presented photos, names and job titles of eight employees, which were the manipulation of the experiment. Thus, ethno-racial identity was signaled by photos combined with names that are distinct for the ethno-racial groups in questions. The gender quota was held constant, with four women and four men, while the distribution of ethno-racial identities varied between the three companies. As in our first study, for company Y, the number of European American employees was six, for company Z it was four and for company W it was two. The remaining employees were an even mix of Middle Eastern and Hispanic origin.[4]

Both companies and employees were presented in random order. We used a set of ten first names and ten last names for each gendered ethno-racial identity and randomly drew names from the respective set. We also used four sets of photos: twenty European American women, twenty European American men, ten minority women and ten minority men, and

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[4] A more traditional choice would be to study preferences concerning African Americans and Hispanics, i.e., the largest minorities in the US. The reason for our focus on the Middle Eastern group is that this study was originally designed for a Swedish context, where the Middle Eastern group constitute one of the largest and most stigmatized groups. We posted the present survey as a pilot on Amazon Turk. However, once the pilot was performed, we found the American context so intriguing that we chose to change our empirical case. The survey with the directly revealed preferences was designed as a result of this decision. However, we do find it meaningful to study preferences also against minority groups that are not as often the focus of scholarly attention.

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randomly allocated one photo to each name (consistent with gender and ethno-racial identity).[5] Finally, workplace hierarchies may be important for diversity preferences, so job titles were allocated randomly to the names (HR, administration, communications, accounts, sales, technology and, included twice, analysis).

The manipulation of this experiment resembles the rankings task in the first study, excluding companies with none or all European American employees. The reason for not including all five companies from the previous study is that the manipulation would have become more evident, with companies ranging from 0% to 100% minority group employees, and that this task is a larger one, involving company descriptions. The experiment was implemented and run in a newly developed behavioral experiment platform named Behavery (Funcke 2015). We invited workers at the MTurk who had an HIT approval rate of at least 95% and who were located in the United States. The respondents were paid $0.4 each.

Results

A total of 355 respondents completed the survey, out of which 340 were native-born (137 women and 203 men; mean age 33 years), in turn out of which 257 were European Americans and 83 were minority group members. The following results apply to the native-born European Americans unless otherwise mentioned. For more information on the respondents, see Appendix C.

The average ranking for company Y was 1.90, for Z 1.93 and for W 2.16. Y was chosen over Z 51% of the time, and Y and Z over W 58% of the time. The distribution of rankings

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[5] The photos were collected from various face databases: (1) FaceResearch.org, (2) Investigative Interviewing Research Laboratory Face Stimuli (http://iilab.utep.edu/stimuli.htm), (3) Iranian Face Database (Dehshibi and Bastanfard 2010; Bastanfard, Abbasian Nik and Dehshibi 2007), (4) Iranian Women Database (http://pics.stir.ac.uk), (5) Karolinska Directed Emotional Faces (Lundqvist, Flykt and Öhman 1998), (6) Park Aging Mind Face Database (Minear and Park 2004), and (7) Radboud Faces Database (Langner et al. 2010). The photos were post-processed to provide a uniform impression (same size, similar lighting, similar noise levels and zoomed in to show only the face).

over the companies is significantly different from a uniform distribution ($p < 0.001$, χ^2 test). Among women, the average rankings were 2.00, 1.88 and 2.12, respectively, and among men 1.83, 1.97 and 2.19, respectively. The order in which the companies were presented had a significant effect on the ranking, with average ranking 1.82 for the first company, 1.96 for the second and 2.21 for the third.

To control for ordering effects, we performed an ordered logistic regression, using the Huber-White sandwich estimator (Huber 1967; White 1982) to correct for dependencies between the three rankings made by each respondent. In the regression, we also control for potential biases toward specific company presentation texts. The results are presented in Table 3.

The results show that there is a significant avoidance of the company with the highest diversity. There are also statistically significant differences between respondents with respect to gender. For women, there is a non-significant preference for the medium diversity ($p = 0.11$; coefficient = -0.48; Wald $Z = -1.59$ in Model 1 in Table 3 including only female respondents) over low diversity company, while for men it is the opposite ($p = 0.07$; coefficient = 0.48; Wald $Z = 1.79$). The difference between genders is significant (see Model 2 in Table 3). Also, the avoidance of the high diversity company is driven mainly by male respondents.

The rankings task in Study 1 included also companies at the extremes, with only European Americans and only minorities. Removing these from the data and looking at relative rankings for the middle companies, similar to Study 2, the average rankings among the 873 European American respondents were 1.70 for the low, 1.60 for the medium and 2.70 for the high diversity company. Y was chosen over Z 50% of the time, Y over W 80% of the time, and Z over W 90% of the time. Similar to Study 2, the high diversity company is

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avoided. Average rankings among women were 1.80, 1.54 and 2.66, respectively, and among men 1.63, 1.64 and 2.73, respectively. While there is here a clear avoidance of the high diversity company also among women, again similar to Study 2, women prefer the medium diversity company, while men do not. An ordinal logistic regression similar to Model 2 in Table 3 (excluding variables for presentation order and texts) gives a significant ordering of Z, Y and W for women, and a significant interaction effect between company and gender for Y (all ps < 0.001).

In conclusion, the results from Study 2 are consistent with those of the rankings task in Study 1, with a reduced effect, in particular with respect to the avoidance of the high diversity company among women. In both studies, the high diversity company is avoided, and women prefer the medium diversity company, while men do not.

Simulations

What do the preferences found here mean in terms of segregation? Given a mechanism for assigning people to workplaces, would the preferences for homophily and high-status lead to reduced, preserved, or increased segregation, as compared to a situation where potential employees have neutral preferences or are assigned randomly?

We have designed and implemented a simple agent-based model for assigning people to workplaces based on ethno-racial preferences. We focused on the rankings data, from the first study, since these do not only include primary preferences, but also preferences for when the primary option is not available. An alternative would be to use the ideal compositions data and a model where agents minimize the distance among available options to their ideal composition, but we have seen that utilities are not symmetric around the ideal composition and may decline faster in one direction. For example, a respondent preferring a diverse workplace while her group is in majority, may still prefer a completely homogeneous

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workplace to one where minorities are in a slight majority. So, in short, using the preference rankings data, we looked at what would be the macro-outcome if people were assigned to available companies based only on their ethno-racial preferences.

Model Specification

In the model, there are n companies and a subpopulation S of up to N agents. Each company has a capacity to host C agents from S. Each agent has a preference ranking and a binary minority variable. The preference ranking is a ranking of five hypothetical companies with the proportional share of minorities employed being 0, ¼, ½, ¾ and 1. The minority dummy indicates whether the agent itself is a minority group member. A total of T agents are sampled randomly and consecutively one by one from an infinite population P of some distribution of preference rankings and minorities, and added to S.

For each agent x added to S, the companies are assigned inverse utilities based on their proportional share of minorities, rounded to the closest quartile, and the preference rankings of x. The agent x is assigned to the company with the highest utility, or randomly to one of them in case of a tie. If there are more than N agents in S, then one random agent is removed from S (and the company it was assigned to).

In our simulations, we set the distribution of preference rankings among majority agents in the population P to the one from our survey data, or a subsample of our survey data. For minority agents, preference rankings are either from the survey data, or indifferent, with no preference for any company. The reason for the latter is that due to the survey design, rankings from minorities are less reliable. We have also run simulations where all agents are indifferent and thus randomly allocated to companies, as a null model and control treatment.

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The maximum number N of agents in S is 1,000 and the number of rounds T is 1,000,000. The number n of companies is 5, 20, or 50, and their capacity C is set to $1.1*N/n$, $1.5*N/n$ and infinity (that is, the total capacity is 10% more than the total population, 50% more, or it is unlimited).

After T rounds, we compute the index of dissimilarity d, that is, the proportional ratio of agents that would have to move to a different company in order to match the proportion of minorities in S. Let W and B be the total number of majority and minority group agents in S, respectively, and let w_i and b_i be the number of majority and minority group agents at company i, respectively. The index of dissimilarity is:

$$d = \frac{1}{2}\sum_{i=1}^{n}\left|\frac{b_i}{B} - \frac{w_i}{W}\right|$$

The model has been implemented in Java, and source code and documentation can be downloaded at (Author 2016):

https://www.openabm.org/model/5123

Results

The results are presented in Table 4.

Table 4 about here.

First, we let P have the same distribution of both minorities and preference rankings as in our survey data (SD all in Table 4). We compared this to a control treatment, where the proportion of minorities is the same, but where agents have no preferences (SD control). The dissimilarity index is roughly the same in these two populations, and, importantly, the survey data preferences do not decrease dissimilarity, and increase it when there are many companies

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to choose from. Thus, given the raw data, preferences are at least preserving segregation, void of other mechanisms.

There are at least two reasons for not using the survey data preferences for minorities as they are: First, they are likely not representative, since the minority group was not specified as being ingroup or outgroup. Second, the ratio of minorities (23.6%) is not the same as in the US population (36 %) (US Census Bureau 2011). We ran simulations where minority agents were instead indifferent and randomly assigned to the companies. The population ratio of minorities was set to one third.

The control treatment (IM control) produces similar results to the survey data ratio (SD control). Using actual preference rankings from majority respondents (IM all) produces similar or lower dissimilarity measures to the survey data (SD all). Thus, assigning minorities randomly preserves or reduces segregation, and provides a conservative dissimilarity measure.

The survey data includes large diversity in preference rankings (including inconsistent rankings such as a primary preference for 50/50, and a secondary preference for complete homogeneity). Many of these preference rankings are unlikely to be represented in many subpopulations and job markets. Meanwhile, two thirds of the respondents submitted to one of only five rankings. If we look at a population including only these five rankings, which includes all rankings shared by more than 5% of the respondents, then we get a considerably increased dissimilarity index, approaching actual levels on the US job market (IM common 2/3). This partly means that diversity in preferences counteract segregation, but if we look only at the preferences that are most likely to be represented in a smaller (or less diverse) population, then employee preferences, in isolation, become major drivers of segregation. The results are not contingent on choosing the proportion of most common preferences to be 2/3.

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If we expand to include the most common preferences shared by ¾ of the population, then we get slightly reduced, but largely similar, levels of dissimilarity (IM common 3/4).

Finally, we could reduce diversity in preferences even further. Looking at only the most common ranking (02468) trivially results in large dissimilarity, at least when companies have large capacity, since agents avoid minorities as much as possible. The average preference ranking (42068) is less obvious, since agents have a primary preference for diversity, and will opt for more homogeneous companies only when diverse companies are not available. The simulations show that with such a preference ranking, the resulting dissimilarity index is actually larger than in the US population, at least when the number of companies and their capacity is large (IM average). Average ethno-racial workplace preferences among potential employees could thus alone generate the workplace segregation we see in society, isolated from other mechanisms.

In conclusion, the simulations indicate that employee preferences do not counteract segregation. At least, they preserve segregation, and have a potential for increasing it. Dissimilarity increases with decreased diversity in preferences. In general, people and companies are not matched on the entire job market, but in subpopulations formed by professions, skills and geographical boundaries. Both due to smaller size and increased homogeneity in subpopulations, we would expect less diversity in preferences and, as a result, higher probabilities for segregation. Even if most respondents have a preference for diversity, their secondary preferences are to increase the number of European Americans rather than minorities, and these secondary preferences can be sufficient to increase segregation.

Concluding discussion

The overall aim of this paper is to study the role of employees to ethno-racial workplace segregation. This topic has been surprisingly neglected in previous research on ethno-racial

workplace and labor market segregation. We set out to study this issue by first measuring attitudes and preferences toward working with members of different ethno-racial categories (by gender), thereafter measuring the potential influence that these attitudes and preferences would have on segregation, if realized. We posed three research questions: What are the preferences for workplace diversity among potential employees in the US? Who has which preferences, and toward whom? And what would the consequences of these preferences be for workplace segregation?

Preferences among Potential Employees

The overall results of our analysis show, as expected, that in general, the respondents prefer to work with colleagues of the same ethno-racial identity as themselves. In Study 1, the allocation of colleagues among European Americans, the group that expressed the strongest preferences for homophily, was 60 per cent majority and 40 per cent minority colleagues, and the preference for in-group dominance was embraced by practically all European American respondents. A similar preference for being in the numerical majority was found when the European American respondents were asked to rank companies with different ethno-racial compositions and when performing similar tasks in Study 2. Another finding was that the experience of having worked at a workplace that was numerically dominated by minorities, was positively associated with preferences for diversity. We can of course not establish that it was this experience that made the respondents more positive to diversity. It could just as well be that they worked at these workplaces because they were already positive toward diversity. It is however worth noting that the result is consistent with Gordon Allport's (1954) contact hypothesis, that is, that an increased frequency of positive and meaningful social interactions between groups improves attitudes toward out-groups.

The overall results are consistent with the general prediction of SIT, that people prefer to work with ethno-racially similar others. While we cannot, based on our research design, pro-

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vide a causal explanation as to why such an in-group bias exists, SIT suggests that the underlying mechanism is that there are benefits to social identity from homogenous environments, and a positive social identity strengthens personal identity. However, there were between-group differences in the intensity of the in-group preference: European Americans stood out as more reluctant to be in the numerical minority at the workplace than other groups. These findings can either be explained by greater gains to personal identity through in-group identification among European Americans since they constitute a high-status group (SIT), or, alternatively, European Americans' reluctance to be in the minority may concern identity less and status more: to them, being in the numerical minority implies working with individuals from low-status groups (SCT). The more fine-grained analysis of attitudes toward specific groups showed that preferences by and large followed the predictions of SCT: the respondents favored ethno-racial out-groups with a high societal status (e.g. Lee and Bean 2007): minority group members preferred European American colleagues over other minority groups, and European Americans favored Asians.

Differences in the intensity of in-group preferences across groups are potentially important to workplace segregation since the dominant ethno-racial groups have been shown to drive segregation processes such as ethno-racial school segregation (e.g. Saporito and Lareau 1999; Spaiser et al. 2016) and residential segregation (e.g. Aldén, Hammarstedt and Neuman 2015; Card, Maas and Rothstein 2008). High-status groups generally have more options to choose where they work, live and where their children go to school, and therefore have the resources to act on their preferences more than other groups. Our results suggest that European Americans have a stronger in-group bias than other groups. In combination with better opportunity structures, these preferences risk to exacerbate segregation processes.

Both European American men and women had gendered ethno-racial attitudes, preferring female minority members as colleagues over male minority members, a finding that under-

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scores the importance of an intersectional approach to the study of ethno-racial issues. This pattern was primarily driven by more positive attitudes toward Asian, Hispanic and Arabic women. One way to interpret this finding is to draw on the theory of off-diagonality by Ridgeway and Kricheli Katz (2013): when the respondents prefer women at the workplace, they do so because they want colleagues with feminine traits. Since African American women are stereotyped as more masculine than other women, they become "off-diagonal" in this context. Women expressed a slightly larger preference for diversity than did men. However, the difference is small, and it is debatable to what extent such small differences support the theories of ethno-racial attitudes as a result of gender socialization, as opposed to an awareness of ethno-racial group position (Hughes and Tuch 2003).

A limitation of this study is that due to the small number of observations for each of the minority groups, fewer conclusions could be drawn concerning their ethno-racial attitudes. However, the findings constitute important hypotheses for future research to expand upon; while Asians and Hispanics seem concerned about status when choosing out-group colleagues, the African American respondents expressed an indifference to status in their choice of out-groups. They also had more neutral ethno-racial preferences in general, a tendency that has also been found in previous research (Wodtke 2012). As US minorities represent an increasing share of the population (Non-Hispanic Whites are predicted to no longer constitute the majority by 2050), the study of minority preferences for diversity should interest not only ethnicity scholars, but also labor market sociology/economics. The finding that minority women tend to be more popular as colleagues also speaks to intersectionality research, as it identifies a context where women might face less of a disadvantage than men.

Consequences for Workplace Segregation

To address the issue of what could be the consequences of employee workplace preferences, and thus to examine the potential role of employees in the mechanisms leading to segregation,

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we designed and implemented an agent-based model. Rather than trying to mimic a more realistic situation, we opted for a simple model that could be calibrated to our data, keeping the number of free parameters and arbitrary assumptions to a minimum. The simulations showed that even if the respondents do express a wish to have some out-group representation at the workplace, this is not enough to bring about change at an already segregated labor market. On the contrary, the preferences could even be a driving force increasing workplace segregation, and have the potential of leading to a dissimilarity index as large as that observed in the US society. This can be explained by the fact that when there are no moderately diverse workplaces available, the respondents preferred workplaces where they would still be part of the group in the majority, rather than more heterogeneous workplaces. This is similar to the dynamics from Schelling's seminal model (1969, 1971), where moderately diversity-prone agents with a threshold for acceptance of out-groups bring about segregation at the macrolevel. Here, we have used a model with fewer artificial spatial restrictions than the Schelling model, also allowing for heterogeneous preferences that are informed by data, and find that the general results still hold. We have also identified a reason for why a segregation pattern emerges: since moderately diverse environments are rarely available, it is not sufficient that people have a preference for them, if their secondary preferences are for less diversity.

Including preferences related to actual work tasks may alleviate or increase the effect found in the simulations; given that there is a large ethno-racial dissimilarity between professions, it is likely to be the latter.

We also found that with less diversity in preferences, which would be the result if we were to divide the population into subgroups (based on geography, professions, etc.), the dissimilarity index increased. A future test of the model would be to collect data on

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preference distributions within professions and compare dissimilarity outcomes to actual dissimilarity coefficients between professions.

Another mechanism that may lead to reduced diversity in preferences is third-order status beliefs. It is important to note that we have only measured stated first-order preferences. If status is indeed an important factor in workplace selection, then we would expect third-order status beliefs to be important in the real world, and that people would pay attention to other people's preferences when forming their own. Depending on how this mechanism is implemented, potential employees would be expected to align their preferences, resulting in less diversity in preferences, and a loss of the least common preference rankings. Experiments with feedback on other people's preferences suggest that such convergence does take place (Author, in prep.). We might thus expect third-order status beliefs to increase segregation, since this would then bring us closer to a situation where only the most common preference rankings are represented in the population, that is, closer to the IM common ¾, IM common 2/3, or, at the extreme, IM average scenarios in the model.

This is, then, assuming that third-order status beliefs would represent the most common first-order preferences, which have the highest chance of spreading based on frequencies. An alternative would be that they differ, and that third-order beliefs are built on less popular preferences, as demonstrated in a model by Centola et al. (2005). This suggests that also norms for diversity could spread through a third-order belief that this is indeed the norm (Author, in prep.). Third-order beliefs could thus both increase segregation, by making potential employees converge on the most popular preferences, and be a viable tool for counteracting it (see also Breed and Ktsanes, 1961).

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External Validity and Generalization

A standard and important methodological critique directed against survey studies concerns external validity: would the results hold if the questions and the options of response were framed somewhat differently? Previous research has shown for instance that attitudes toward affirmative action and how they relate to other policies differ depending on how the meaning of affirmative action is framed (Kinder and Sanders 1990). As mentioned above, our analytical strategy for dealing with this issue has been to perform two different surveys (Study 1 and Study 2) to enable variation in contextual framing and in how subtle ethno-racial cues are presented. The results are by and large the same in the two studies, although as expected somewhat weaker in Study 2 where there is more "noise".

Another methodological critique concerns the representativity of the sample in relation to the larger US population: to what extent can we generalize our results? As described in the descriptive section, our sample is not randomly sampled, and it is not demographically representative of the US population. However, based on what we know about the respondents' characteristics and how they in correlate with different attitudes, in general or in our analysis, our sample is likely to constitute a conservative test of negative attitudes toward workplace diversity. We found that being young is associated with more positive ethno-racial attitudes (see also Firebaugh and Davis 1989; Kinder and Sanders 1990), and so is higher education (Jackman and Muha 1984; Farley et al. 1994; Wodtke 2012). Unemployment is believed to enhance negative attitudes toward out-groups (e.g. Olzak 1992), but since the sample is both more employed and more unemployed than the average population (which includes also retired people), they are likely to cancel each other out. However, men are overrepresented in the sample, and as found in this study as well as elsewhere (e.g. Johnson and Marini 1998), men had somewhat more negative attitudes toward diversity. We do not know the respondents' area of residence within the US, but urban residents are generally

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overrepresented among MTurk respondents (Huff and Tingley 2015). Thus, all variables except for gender point in the direction of diversity preferences. All in all, the study sample is likely to be positively skewed toward diversity compared to the larger population.

Further Studies

Our finding that moderate but widespread preferences among European Americans for being in the ethno-racial majority can generate segregation, speaks to several research fields. Most obviously, it has relevance to labor market sociology/economy, by shifting the focus from employer discrimination as a mediator of workplace segregation to include also the role of the employees. Despite the potential importance of this issue, we have found very little research addressing it. Our study is thus one of the few studies addressing this topic (but see the Swedish study by Bygren 2004). Future research could, for one, expand on our findings by studying the relationship between preferences and tenure at workplaces with different demographic compositions. Our empirical case has been the US, but the mechanisms suggested to underlie this phenomenon, a reluctance to be the ethno-racial group that is in the numerical minority and status facets of jobs, are universal in nature as practically all societies are characterized by ethnic or ethno-racial hierarchical systems (e.g., Wimmer 2013). Our results thus have relevance to researchers interested in workplace segregation or the labor market inequality more generally across contexts.

Workplaces are also a good arena for studying ethno-racial preferences and resulting segregation in general. Not only is workplace segregation particularly understudied, but workplace compositions also influence who is your everyday interaction partner. The field has been primarily concerned with residential (e.g. Saporito and Lareau 1999; Spaiser et al. 2016) and school segregation (e.g. Aldén, Hammarstedt and Neuman 2015; Card, Maas and Rothstein 2008). While neighbors rarely interact, and school choices are often not made by

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the students themselves, your colleagues are both partly an effect of your own choice and influence everyday interactions. In analogy to these areas that are mainly concerned with the role of tenants rather than landlords and students and their parents rather than admissions made by the school, we looked at preferences among employees rather than employers.

Through our study, we call for an additional focus on the mechanisms creating and maintaining workplace segregation, and show that we also need to consider the role of ethno-racial biases among employees, since their preferences are at least not desegregating, and have a large potential of increasing segregation.

References

Aldén, Lina, Mats Hammarstedt, and Emma Neuman. 2015. "Ethnic Segregation, Tipping Behavior, and Native Residential Mobility." *International Migration Review* 49(1):36-69.

Allport, Gordon. 1979 [1954]. *The Nature of Prejudice*. New York: Basic Books.

Bastanfard, Azam, Melika Nik, and Mohammad Dehshibi. 2007. "Iranian Face Database with Age, Pose and Expression." IEEE Int. Conf. on Machine Vision: 50-55.

Beutel, Ann, and Margaret Marini. 1995. "Gender and Values." *American Sociological Review* 60(3):436-48.

Breed, Warren, and Thomas Ktsanes. 1961. "Pluralistic Ignorance in the Process of Opinion Formation." Public Opinion Quarterly 25(3):382–92.

Browne, Irene, and Joya Misra. 2003. "The Intersection of Gender and Race in the Labor Market." *Annual Review of Sociology* 29:487–513.

Bygren, Magnus. 2004. "Being Different in the Workplace: Job Mobility into Other Workplaces and Shifts into Unemployment." *European Sociological Review* 20(3):199-219.

Cary, Lorene. 1991. *Black Ice*. New York: Alfred A. Knopf.

Casler, Krista, Lydia Bickel, and Elizabeth Hackett. 2013. "Separate but Equal? A Comparison of Participants and Data Gathered via Amazon's Mturk, Social Media, and Face-to-Face Behavioral Testing." *Computers in Human Behavior* 29(6):2156-60.

Centola, Damon, Juan Carlos González-Avella, Víctor M. Eguíluz, and Maxi San Miguel. 2007. "Homophily, Cultural Drift, and the Co-Evolution of Cultural Groups." *Journal of Conflict Resolution* 51(6): 905–929.

Cross, Susan, and Laura Madson. 1997. "Models of the self: Self-construals and gender." *Psychological Bulletin* 122(1):5-37.

Daniel, William. 1968. *Racial Discrimination in England*. Middlesex: Penguin Books.

Dehshibi, Mohammad, and Azam Bastanfard. 2010. "A New Algorithm for Age Recognition from Facial Images." *Signal Processing* 90(8):2431–44.

Ellemers, Naomi, Russell Spears, and Bertjan Doosje. 2002. "Self and Social Identity." *Annual Review of Psychology* 53:161-86.

Farley, Reynolds, Charlotte Steeh, Maria Krysan, Tara Jackson, and Keith Reeves. 1994. "Stereotypes and Segregation - Neighborhoods in the Detroit Area." *American Journal of Sociology* 100(3):750-80.

Feliciano, Cynthia, Belina Robnett, and Golna Komaie. 2009. "Gendered Racial Exclusion Among White Internet Daters." *Social Science Research* 38(1):41-56.

Firebaugh, Glenn, and Kenneth Davis. 1988. "Trends in Antiblack Prejudice, 1972-1984 - Region and Cohort Effects." *American Journal of Sociology* 94(2):251-72.

Funcke, Alexander. Draft. "Behavery: Providing Human and Artificial Behavior for Experiments." URL: http://www.behavery.com/static/docs/pdf/behavery_wp.pdf. Accessed at 24 Aug 2015.

34

Huber, Peter. 1967. "The Behavior of Maximum Likelihood Estimates under Nonstandard Conditions." *Proceedings of the Fifth Berkeley Symposium on Mathematical Statistics and Probability*: 221–33.

Hughes, Michael, and Steven Tuch. 2003. "Gender differences in whites' racial attitudes: Are women's attitudes really more favorable?" *Social Psychology Quarterly* 66(4):384-401.

Huff, Connor and Dustin Tingley. 2015. "Who are these people? Evaluating the demographic characteristics and political preferences of MTurk survey respondents." *Research and Politics*: 1-12.

Jackman, Mary, and Michael Muha. 1984. "Education and Intergroup Attitudes - Moral Enlightenment, Superficial Democratic Commitment, or Ideological Refinement." *American Sociological Review* 49(6):751-69.

Johnson, Monica, and Margaret Marini. 1998. "Bridging the racial divide in the United States: The effect of gender." *Social Psychology Quarterly* 61(3):247-58.

Kanter, Rosabeth Moss. 1993 [1977]. Men and women of the corporation. 2nd ed. New York: Basic Books.

Kinder, Donald, and Lynn Sanders. 1990. "Mimicking Political Debate With Survey Questions - The Case Of White Opinion On Affirmative-Action For Blacks." *Social Cognition* 8(1):73-103.

Kmec, Julie. 2003. "Minority Job Concentration and Wages." *Social Problems* 50(1):38-59.

- 2007. Ties that Bind? Race and Networks in Job Turnover. *Social Problems* 54(4):483-503.

Krueger, Norris, and Carsrud, Alan. (1993). "Entrepreneurial intentions: Applying the theory of planned behaviour." *Entrepreneurship & Regional Development* 5(4):315 –330.

Lacy, Karen. 2004. "Black Spaces, Black Places: Strategic Assimilation and Identity Construction in Middle-Class Suburbia." *Ethnic and Racial Studies* 27(6):908-30.

35

Langner, Oliver, Ron Dotsch, Gijsbert Bijlstra, Daniel Wigboldus, Skyler Hawk and Ad van Knippenberg. 2010. "Presentation and Validation of the Radboud Faces Database." *Cognition & Emotion* 24(8):1377–88.

Lee Jennifer, and Frank Bean. 2007. "Reinventing the Color Line: Immigration and America's New Racial/Ethnic Divide." *Social Forces* 86(2):561–86.

Lincoln, James, and Jon Miller. 1979. "Work and Friendship Ties in Organizations: A Comparative Analysis of Relational Networks". *Administrative Science Quarterly* 24(2):181-99.

Lundqvist, Daniel, Anders Flykt, and Arne Öhman. 1998. The Karolinska Directed Emotional Faces - KDEF, CD ROM from Department of Clinical Neuroscience, Psychology section, Karolinska Institutet, ISBN 91-630-7164-9.

Minear, Meredith, and Denise Park. 2004. "A Lifespan Database of Adult Facial Stimuli." *Behavior Research Methods, Instruments, & Computers* 36(4):630-33.

Mueller, Charles, Ashley Finley, Roderick Iverson, and James Price. 1999. "The Effects of Group Racial Composition on Job Satisfaction, Organizational Commitment, and Career Commitment - The Case of Teachers." *Work and Occupations* 26(2):187-219.

Olzak, Susan.1992. *The Dynamics of Ethnic Competition and Conflict*. Palo Alto: Stanford University Press.

Ozbilgin, Mustafa, Alexandra Beauregard, Ahu Tatli, and Myrtle Bell. 2011. "Work-Life, Diversity and Intersectionality: A Critical Review and Research Agenda." *International Journal of Management Reviews* 13(2): 177-98.

Pager, Devah, Bruce Western, and Bart Bonikowski. 2009. "Discrimination in a Low-Wage Labor Market: A Field Experiment." *American Sociological Review* 74(5):777-99.

Paolacci, Gabriele, Jesse Chandler, and Panagiotis Ipeirotis. 2010. "Running Experiments on Amazon Mechanical Turk." *Judgment and Decision Making* 5(5):411-19.

Ridgeway, Cecilia. 1991. "The Social Construction of Status Value - Gender and Other Nominal Characteristics." *Social Forces* 70(2):367-386.

Ridgeway, Cecilia, Elizabeth Boyle, Kathy Kuipers, and Dawn Robinson. 1998. "How Do Status Beliefs Develop? The Role of Resources and Interactional Experience." *American Sociological Review* 63(3):331-350.

Ridgeway, Cecilia, and Tamar Kricheli-Katz. 2013. "Intersecting Cultural Beliefs in Social Relations: Gender, Race and Class Binds and Freedoms." *Gender and Society* 27(3): 294-318.

Rubin, Mark, and Miles Hewstone. 1998. "Social Identity Theory's self-esteem hypothesis: a review and some suggestions for clarification." *Personality and Social Psychology Review* 2(1):40-62.

Saporito, Salvatore, and Annette Lareau. 1999. "School selection as a process: The multiple dimensions of race in framing educational choice." *Social Problems* 46(3):418-39.

Schelling, Thomas. 1969. "Models of Segregation." *American Economic Review* 59(2):488-493.

- 1971. "Dynamic Models of Segregation." *Journal of Mathematical Sociology* 2:143-186.

Sorensen, Jesper. 2004. "The organizational demography of racial employment segregation."*American Journal of Sociology*, 110(3):626–671.

Spaiser, Viktoria, Peter Hedstrom, Shyam Ranganathan, Kim Jansson, Monica Nordvik, and David Sumpter. 2016. "Identifying Complex Dynamics in Social Systems: A New Methodological Approach Applied to Study School Segregation." *Sociological Methods and Research*: 1-33. DOI: 10.1177/0049124116626174

Stainback, Kevin, and Matthew Irvin. 2012. "Workplace Racial Composition, Perceived Discrimination, and Organizational Attachment." *Social Science Research* 41(3):657-70.

Stainback, Kevin, and Donald Tomaskovic-Devey. 2012. *Documenting Desegregation: Racial and Gender Segregation in Private Sector Employment Since the Civil Rights Act*. New York: Russell Sage.

Tajfel, Henry, and John Turner. 1979. "An Integrative Theory of Intergroup Conflict." Pp. 33-47 in *The Social Psychology of Intergroup Relations*, edited by W. G. Austin and S. Worchel. Monterey: Brooks-Cole.

Teixeira, Ruy and John Halpin. 2013. Building an All-In Nation – A View from the American Public. Report by Center for American Progress, Washington DC.

Tilly, Charles. 1998. *Durable Inequality*. Los Angeles: University of California Press.

Tsui, Anne, and Charles Oreilly. 1989. "Beyond Simple Demographic Effects - The Importance of Relational Demography in Superior-Subordinate Dyads." *Academy of Management Journal* 32(2):402-23.

Tsui, Anne, Terri Egan, and Charles Oreilly. 1992. "Being Different - Relational Demography and Organizational Attachment." *Administrative Science Quarterly* 37(4):549-79.

United States Census Bureau 2011. "Overview of Race and Hispanic Origin: 2010." *U.S. Department of Commerce Economics and Statistics Administration*.

White, Halbert. 1982. "Maximum Likelihood Estimation of Misspecified Models." *Econometrica* 50(1): 1–25.

Wimmer, Andreas. 2013. *Ethnic Boundary Making. Institutions, Power and Networks.* Oxford University Press: Oxford.

Wodtke, Geoffrey. 2012. "The impact of Education on Intergroup Attitudes: A Multiracial Analysis." *Social Psychology Quarterly* 75(1): 80-106.

Wong, Cara. 2007. "Little" and "Big" Pictures in Our Heads Race, Local Context, and Innumeracy About Racial Groups in the United States." *Public Opinion Quarterly* 71(3): 392-412.

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Åslund, Olof, and Oskar Nordström Skans 2010. "Will I See You at Work? Ethnic Workplace

Segregation in Sweden 1985-2002". *Industrial and Labor Relations Review*. 63(3):471-

493.

Tables

Table 1. Average frequencies of four groups in the preferred composition of colleagues among participants in the majority group.

	Men	*Women*	
Majority	29.8	29.3	*59.1*
Minority	19.2	21.7	*40.9*
	49.1	*50.9*	*100*

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Table 2. Linear regression model of proportion of minorities (in percent) among all respondents in the allocation task, with respect to respondent variables.

Variables	Model 1			Model 2		
	Coef.	Z	p	Coef.	Z	p
	45.42	24.23	<0.001	45.09	23.34	<0.001
Group (minority)	8.22	6.92	<0.001	8.22	6.85	<0.001
Sex (male)	-2.98	-2.92	0.004	-2.80	-2.73	0.007
Minority experience (yes)	3.71	3.68	<0.001	3.60	3.56	<0.001
Age (years)	-0.13	-2.79	0.005	-0.12	-2.58	0.010
Foreign-born parent				-0.09	-0.08	0.935

Table 3. Coefficients for ordered logistic regression models corrected for correlated clustered observations with Huber–White sandwich estimator.[a]

Variables	Model 1			Model 2		
	Coef.	Z	p	Coef.	Z	p
Intercepts						
y>=2	-0.07	-0.32	0.75	0.23	0.95	0.34
y>=3	-1.54	-6.60	<0.001	-1.26	-5.02	<0.001
Order of presentation						
first						
second	0.27	1.35	0.18	0.29	1.42	0.16
third	0.96	4.73	<0.001	1.01	4.92	<0.001
Presentation texts						
1						
2	0.34	1.34	0.18	0.37	1.44	0.15
3	0.46	1.89	0.06	0.52	2.11	0.03
4	-0.02	-0.09	0.93	-0.03	-0.13	0.90
5	-0.13	-0.53	0.60	-0.16	-0.65	0.51
6	0.28	1.07	0.28	0.34	1.29	0.20
Treatments						
low diversity	-0.12	-0.60	0.55	0.40	1.43	0.15
medium diversity						
high diversity	0.54	2.57	0.01	0.60	1.84	0.07
Sex						
female						
male				0.31	1.36	0.17
Treatments * Sex						
low diversity * male				-0.90	-2.32	0.02
high diversity * male				-0.10	-0.23	0.82

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[a] The dependent variable is rankings from 1 to 3, where 1 is the most preferred and 3 the least preferred company.

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Table 4. Average resulting dissimilarity index in percent from 100 simulations.[a]

	n=5[b], C=1.1[c]	n=5, C=1.5	n=5, C=∞	n=20, C=1.1	n=20, C=1.5	n=20, C=∞	n=50, C=1.1	n=50, C=1.5	n=50, C=∞
SD control[d]	6	6	6	13	13	13	21	20	21
SD all[e]	6	6	6	14	15	15	26	26	27
IM control[f]	6	5	6	12	12	12	19	19	19
IM all[g]	4	4	5	7	8	16	20	25	29
IM common 2/3[h]	30	31	39	37	40	41	47	34	38
IM common 3/4[i]	5	29	32	28	40	41	41	30	33
IM average[j]	31	37	46	42	54	56	50	58	59

[a] Each simulation was run with N=1,000 agents and T=1,000,000 time steps, and n companies with capacity for different populations P.

[b] Number of companies.

[c] The capacity for each company is C*N/n.

[d] Survey data distributions with indifferent agents.

[e] Survey data distributions using preference rankings from both majority and minority participants.

[f] Indifferent minorities. The ratio of minorities is set to 1/3 in all IM cases, and they are randomly allocated to companies. In the control case, also majority agents are indifferent.

[g] Includes all majority preferences from the survey.

[h] Only the 2/3 most common preferences (among majority respondents) are included.

[i] Only the 3/4 most common preferences (among majority respondents) are included.

[j] All majority agents have the preference ranking 42068, the average ranking in the survey.

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Appendix A: Stated Preferences Survey

Instructions

Some people feel more comfortable with, or enjoy being around, some categories of people more than others. In the cases below, we ask you to consider your preferences in different situations when the only information you have about people is their ethnicity/race and their gender.

Feelings about potential colleagues

Below we list six ethnic/racial identities. What is your general feeling toward working with a [man|woman] identifying himself with one of these for each of the groups?

	Negative	Slightly negative	Neutral	Slightly positive	Positive
African American/Black/Caribbean/African					
Asian/Pacific Islander					
European American					
Hispanic/Latino					
Middle Eastern/North African					
Native American/Other					

Choose your preferred colleagues for your ideal workplace

Imagine that you are starting a new job, and that you could choose your future workmates, but the only information you have about them is their ethnicity/race and their gender. Based on this information, who would you choose from the groups below? By

1

minority group we refer to the groups listed in the previous question. Type the proportional share of people you would like to have as colleagues from each of the groups. Make sure that the total adds up to 100.

European American men:

European American women:

Minority group men:

Minority group women:

Total: [summed automatically]

Choose your preferred company

Now imagine that you are applying for jobs. There are five companies that match your qualifications and they match your requirements equally well. Each company has eight employees, and the only thing you know about them is their ethnic/racial identity. We ask you to rank the companies according to your preferences for working there. Make sure that you select each company exactly once in the ranking below. The companies are the following:

X: 8 European Americans, 0 Minority group members

Y: 6 European Americans, 2 Minority group members

Z: 4 European Americans, 4 Minority group members

W: 2 European Americans, 6 Minority group members

V: 0 European Americans, 8 Minority group members

2

3

Appendix B: Company Presentations Survey

Survey

Introduction

You will be asked to evaluate business presentations from three mobile phone operators. After the last presentation, we will ask you to rank them according to the degree that you would be willing to work at these companies.

Once you have read all the presentations you will be able to read them again, if needed.

[Company Y, Z and W are presented in random order. An example presentation is given below.]

Company Y

Telecommunications is an industry where new opportunities constantly arise. For us to succeed as a business, we must manage to meet these changes, and recruit employees who enjoy working in a constantly changing environment. Our ambition is to make Y people's first choice for broadband and telephony.

We believe that having skilled employees has been the key to our success. We care about who you are and at Y you can grow. What constantly drives our business forward is our unique corporate culture based on our values – openness, knowledge and flexibility. Despite our size, our decision paths are short and you as an employee have many opportunities to influence the decisions.

Let your ambition build your career - start working at Y! We are recruiting right now in our local offices.

4

Our employees

[Photo] **Beatriz Núñez**
Analysis

[Photo] **James Davis**
Sales

[Photo] **Michael Wilson**
Analysis

[Photo] **Jason Martin**
Communications

[Photo] **Hamed Al-Fayed**
Technology

[Photo] **Tiffany Lee**
HR

[Photo] **Erin Anderson**
Accounts

[Photo] **Amanda Young**
Administration

Ranking companies

Now we ask you to rank the companies according to how much you would consider working for them. 1 is the highest ranking and 3 is the lowest. Imagine that the qualifications you have are wanted in this business (even if your actual qualifications are usually not asked for in this type of business).

Your ranking: [Companies are listed in the same order as they were presented.]

Y   1   2   3

Z   1   2   3

W   1   2   3

Would it be all right with you if the company you ranked as number one contacted you about job opportunities in the future?

 Yes   No

[Here all the companies are presented again, in the same layout, all on the same page, in font size 6px, and photos in size 25px * 33 px.]

[Link to read the presentations again, if needed.]

5

Presentation Texts

1

Company * is one of the nation's fastest growing mobile phone operators. We are now looking for several dedicated employees. Within our company, everyone is working towards the same goal: customer satisfaction. Some of us do it as customer service agents, vendors or as software engineers. Others work with marketing, business intelligence, product development, human resources, risk management, etc.

We aim to stimulate creativity by maintaining a culture where our employees are rewarded for their ideas and for how they contribute to our success. We encourage all of our employees in their professional development.

Find a job with us at * – we offer a world of opportunities for the right persons - whether you want to pursue careers horizontally or vertically!

2

As a major international telecom operator, we know that we live in a world where we constantly have to meet new requirements from our customers. It is a challenge for us as a company and for you as an individual. As a large company, we can offer the right person unlimited career opportunities. We offer a large playing field where your ideas are valued and rewarded – a fast-paced, varied job that is anything but boring.

We know that what really makes us different is our incredible staff: from our energetic sellers and committed human resources experts to sharp IT professionals – all with the same high level of ambition and the attitude that anything is possible. It is thanks to them that we have grown – and we continue to grow. At the moment, we are looking for new employees to our local units!

6

Do you want to work at a really exciting and challenging workplace? We are expanding our local offices!

3

* is one of the nation's leading mobile phone operators. In order to maintain our position at the front in telecom, we are working with an active and coaching leadership. With us, you will develop in your profession and have many pathways to choose from within the company. We know the importance of thinking long-term and of investing in the largest and most valuable asset of our business – our employees.

We believe that in order to enjoy working with us, you are a person who is committed, outgoing and sociable. You also have the ability to see solutions where others might see problems and you are comfortable working with others to implement these solutions.

4

Telecommunications is an industry where new opportunities constantly arise. For us to succeed as a business, we must manage to meet these changes, and recruit employees who enjoy working in a constantly changing environment. Our ambition is to make * people's first choice for broadband and telephony.

We believe that having skilled employees has been the key to our success. We care about who you are and at * you can grow. What constantly drives our business forward is our unique corporate culture based on our values – openness, knowledge and flexibility. Despite our size, our decision paths are short and you as an employee have many opportunities to influence the decisions.

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Let your ambition build your career - start working at *! We are recruiting right now in our local offices.

5

Want to work at a workplace where there are high ambitions and many opportunities to develop professionally? Our local teams are looking for new employees!

* is one of the continent's fastest growing telecom companies. We are always looking for the best employees. We know that highly skilled employees who are happy with their job are very important for how our customers perceive us. With shared values, direct leadership, individual responsibility and challenging work tasks, we offer an attractive workplace whether you work in sales, as a project manager, accountant manager, programmer, or at any of the other professional positions within our organization. At an arena characterized by high performance, you will work with talented and experienced colleagues to make an impression wherever you work in the organization.

6

* is one of the leading mobile operators with almost 3,000 employees in 12 markets, all working to provide our customers with world class services.

Working at * is challenging, exciting and fun. As an international and rapidly growing telecom company in an ever changing industry, our success lies in the fact that we draw on our employees' ideas and creativity. We do our utmost to make sure that your aspirations and goals can be unified with our corporate goals.

We like to see that our co-workers make their own decisions, and this freedom requires guidance. It is there in our vision and our values, which lead us in every step we take, and which is the core of our corporate culture.

Our values: * We believe in quality * We believe in innovation * We have a passionate commitment * We always want to get better

Names Used

European American men

First names: Michael, Christopher, Jason, Andrew, James, Matthew, Joshua, Robert, John, Joseph, Jeremy, Eric

Last names: Johnson, Brown, Davis, Wilson, Taylor, Thomas, White, Martin, Robinson, Lewis, Walker, Hall

European American women

First names: Tiffany, Brittany, Amanda, Sarah, Heather, Nicole, Amy, Erin, Megan, Amber, Kelly, Emily

Last names: Smith, Williams, Jones, Miller, Moore, Anderson, Jackson, Harris, Thompson, Clark, Lee, Young

Middle Eastern men

First names: Reza, Kamal, Abdallah, Abdelaziz, Abdelhakim, Hassan, Hamid, Ali, Hamed, Akbar

Last names: Hussein, Abdullah, Ibrahim, Asad, Said, Wahid, Shahbaz, Naseer, Noor, Al-Fayed

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Middle Eastern women

First names: Fatemah, Nasrin, Halima, Aïcha, Fatima, Zahra, Zinab, Batol, Sograh, Kobra

Last names: Ahmad, Hashem, Rahman, Ghanem, Khadem, Masoud, Karim, Taleb, Morad, Moghaddam

Hispanic men

First names: Pedro, Carlos, José, Eduardo, Mauricio, Diego, Santiago, Fernando, Marcos, Gustavo

Last names: Rodríguez Vásquez, García Ortiz, Martínez Pérez, González Blanco, Romero Sánchez, Espinoza, Ramírez, Benítez, Navarro, Castillo

Hispanic women

First names: Daniela, Juliana, Beatriz, Carla, Paula, Raquel, Natalia, Laura, Mariana, Gabriela

Last names: Fernández Pérez, Castro Domínguez, Rojas López, Castro Vargas, Álvarez Gómez, Morales, Torres, Núñez, Gímenez, Sepulvéda

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Appendix C: Respondents

First Study

There were 1,100 respondents in the first study. Our analysis is limited to those 1,038 who were born in the US. There were 785 European Americans and 244 respondents identifying as one of the minorities, divided into 65 "Asian", 55 "Hispanic", 46 "African American", 13 "Other", 7 "Middle Eastern", 58 mixed and 9 unknown. Our analysis deals mainly with European Americans and minorities, divided into men and women, so below we present some descriptive statistics on the respondents' background divided into these four groups.

	EA women	EA men	Minority women	Minority men
N	321	462	91	153
Native-born parents	90%	94%	49%	32%
Age				
median	31	29	29	28
mean	34.1	32.1	31.6	29.8
s.d.	11.6	10.6	9.6	8.2
Work experience (years)				
median	11	9	8	7
mean	13.9	11.9	10.7	9.0
s.d.	10.5	10.3	8.4	8.0
Worked with mostly minorities1	43%	45%	56%	61%
Work status				

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[1] "Have you ever worked at a workplace where a majority of your colleagues were of an ethnic/racial minority or immigrants?"

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working	67%	76%	69%	73%
unemployed	14%	9%	14%	9%
studying	7%	10%	8%	13%
other	12%	5%	9%	5%
Education				
some high school	7%	7%	3%	3%
some college, no degree	29%	34%	33%	38%
associate's degree	10%	10%	12%	12%
bachelor's degree	41%	38%	40%	39%
graduate degree	13%	12%	11%	7%

Second Study

There were 355 respondents in the second study. Our analysis is limited to those 340 who were born in the US. There were 257 European Americans and 83 respondents identifying as one of the minorities. Our analysis deals mainly with European Americans, divided into men and women, so below we present some descriptive statistics on the respondents' background divided into these two groups.

	EA women	EA men
N	107	150
Native-born parents	95%	93%
Age		
median	33	29
mean	37.0	31.8
s.d.	12.4	9.1
Work experience (years)		

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median	16	10
mean	18.3	13.3
s.d.	11.4	10.8
Work status		
working	69%	75%
unemployed	13%	13%
studying	10%	8%
other	8%	8%
Education		
primary school	4%	5%
secondary school	25%	25%
post-secondary school (associate's degree)	21%	19%
undergraduate degree	39%	43%
master's degree	7%	7%
doctoral degree	2%	1%

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Demographic characteristics for the European American population in the United States

	Women	Men
Mean age	43	42
Work status		
working	55%	69%
unemployed	4%	4%
studying	6%	5%
Education		
primary school and high school with no degree	7%	8%
secondary school graduate	29%	30%
post-secondary school (associate's degree)	31%	28%
undergraduate degree	21%	21%
master's degree	9%	8%
professional degree	1%	2%
doctoral degree	1%	2%

Sources:

http://www.pewsocialtrends.org/2012/05/17/explaining-why-minority-births-now-outnumber-white-births/ Accessed on August 28, 2015

http://www.census.gov/hhes/school/data/cps/2013/tables.html

Accessed on August 28, 2015

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http://www.census.gov/hhes/socdemo/education/data/cps/2014/tables.html

Accessed on August 28, 2015

http://www.bls.gov/news.release/empsit.t02.htm
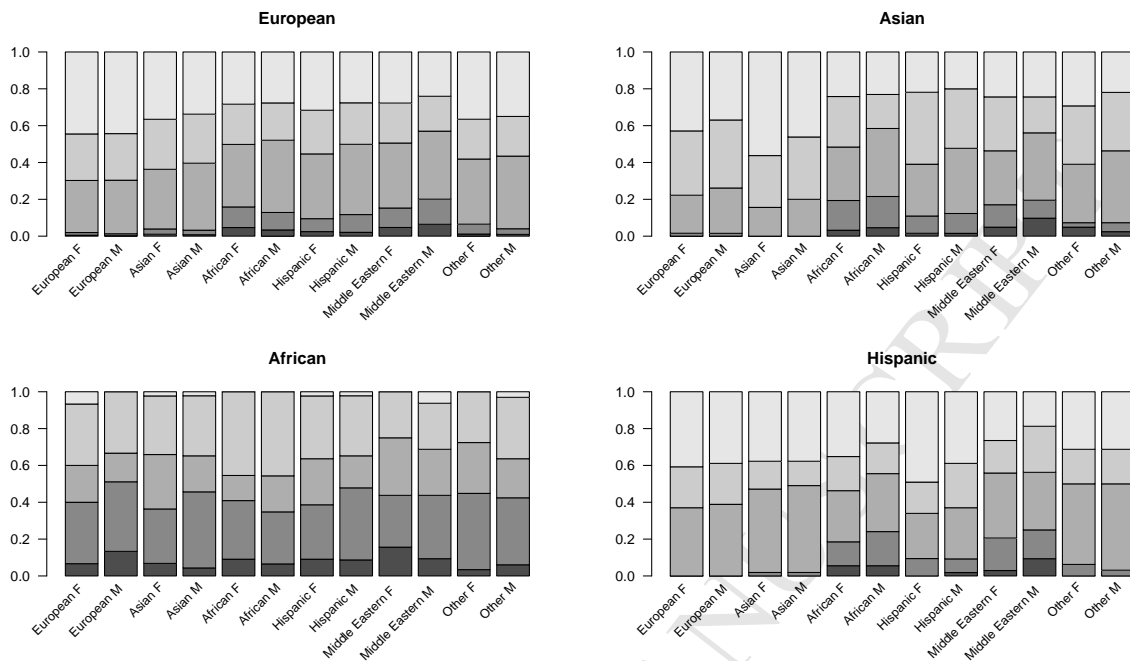
Accessed on August 28, 2015

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Figures

Figure 1. Attitudes among participants in the four largest ethnic/racial groups, one for each panel, toward each gender within six ethnic/racial groups, on the bottom axis. The participants were asked to rate their feelings toward potential colleagues in each group, among the items negative (1), slightly negative (2), neutral (3), slightly positive (4) and positive (5). Bars represent proportion of participants choosing values 1–5 from bottom to top, and from dark gray to light gray.
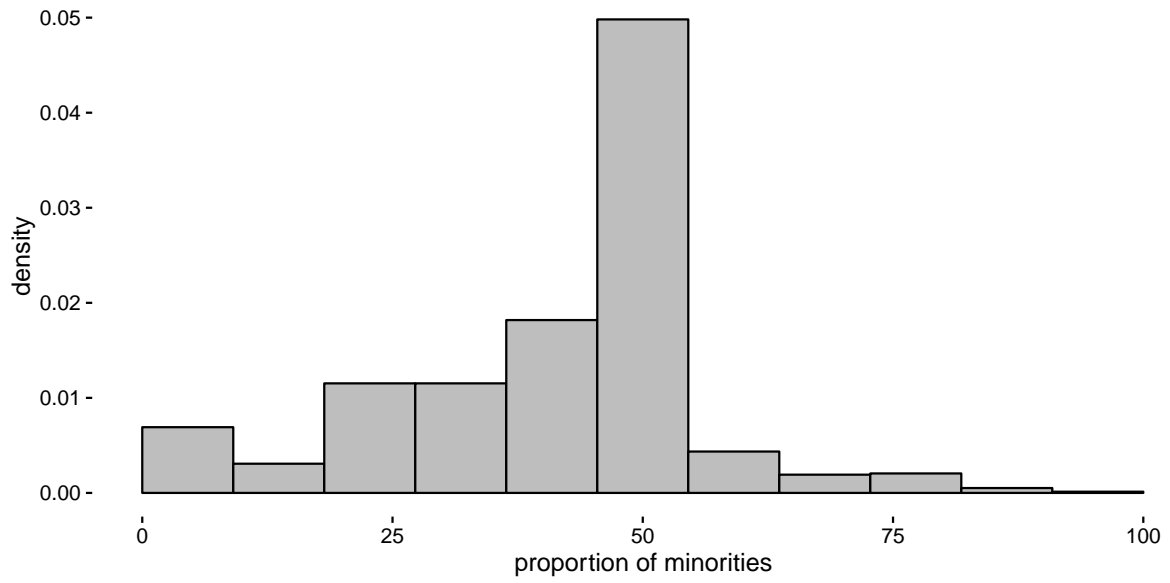
Figure 2. Distribution of the proportions of minorities selected among European American respondents in the allocation task.
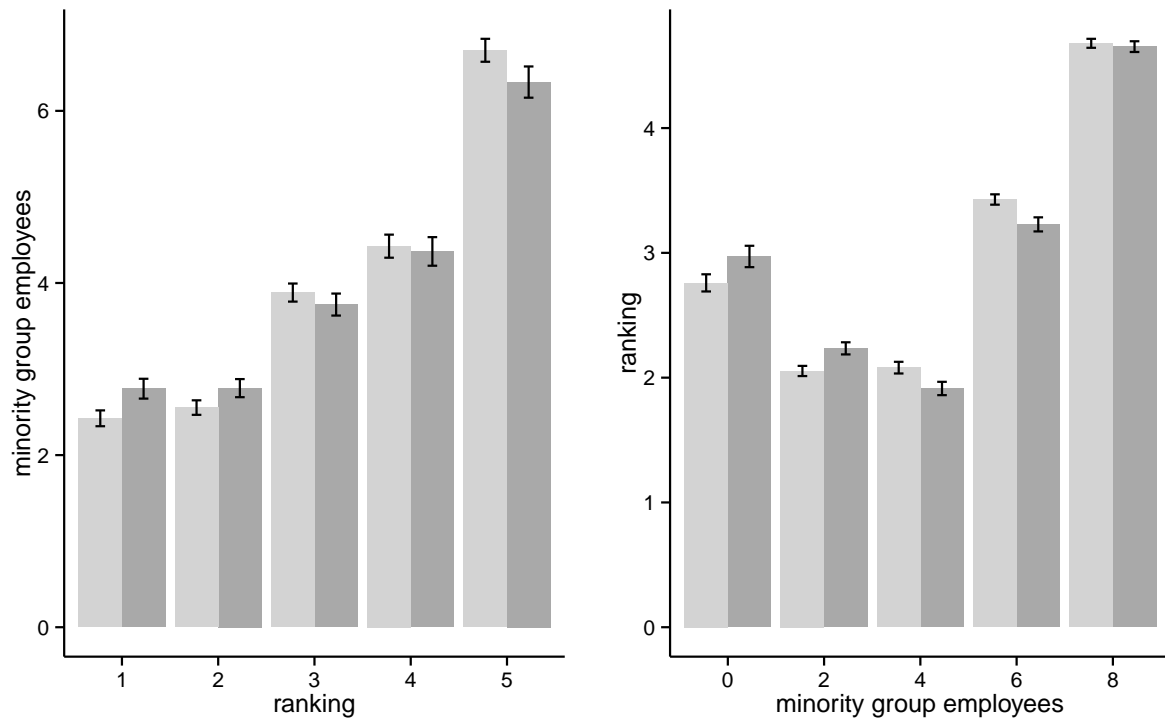
Figure 3. Average rankings of companies among European American respondents, with standard error bars, for male (light gray) and female (dark gray) participants. The left panel shows the mean number of minority members in the companies that were given different rankings. The right panel shows the mean rankings for the five companies.