The Strength of Whites' Ties: How Employers Reward the Referrals of Black and White Jobseekers

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Sociologists commonly point to jobseekers' racially segregated networks and employers' discriminatory behavior to explain racial inequality in employment. Network scholars argue that, given segregated networks and black and white employees' unequal position in the labor market, employers' reliance on employee referrals reproduces black disadvantage. Scholars of discrimination focus instead on employers' unequal treatment of equally qualified black and white jobseekers. Drawing on an original experiment with a sample of white individuals with hiring responsibilities, I seek to bridge these literatures by examining whether respondents' racial prejudice affects how they reward employee referrals of black and white applicants from black and white employees. I use a measure of implicit prejudice that is resistant to social desirability and that can capture biases among people who genuinely believe they are unbiased. Whether evaluated by low-prejudiced or high-prejudiced respondents, white applicants benefit greatly from same-race referrals. In contrast, black applicants do not benefit from same-race referrals, even when they are evaluated by low-prejudiced respondents. In fact, black applicants *only* benefit from having a referral when two conditions are met: the referring employee is white and they are evaluated by a relatively low-prejudiced respondent. These findings suggest that in addition to their disadvantage in *access* to employee referrals, black jobseekers suffer from a disadvantage in *returns* to these referrals.

To explain racial inequality in employment, sociologists routinely point to jobseekers' racially segregated networks and employers' discriminatory behavior. Network scholars argue that, given segregated networks and black and white

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employees' unequal positions in the labor market, employers' reliance on employee referrals reproduces black disadvantage (e.g., Lin 2001; Trimble and Kmec 2011). Scholars of discrimination focus instead on employers' unequal treatment of equally qualified black and white applicants (e.g., Gaddis 2015; Pager, Western, and Bonikowski 2009). This discriminatory behavior is commonly attributed to employers' racial prejudice—that is, to their negative feelings or beliefs about blacks relative to whites (Quillian 2006, 300–301).

In this paper, I bridge these literatures by examining whether employers' racial prejudice affects how they reward the referrals of black and white applicants from black and white employees. While convincing evidence shows that employers respond differently to black and white applicants *without* referrals (Quillian et al. 2017), we largely do not know how employers respond to black and white *referred* applicants. Further, black and white applicants generally rely on same-race job contacts (Stainback 2008), but it is unclear whether employers similarly reward the recommendations of their black and white employees. These omissions are important: approximately half of US workers find employment through personal contacts, and these contacts usually work at the hiring firm (Granovetter [1974] 1995; Mouw 2002).

While employers' racial prejudice is expected to decrease their likelihood of hiring non-referred black applicants, it is unclear whether it should increase or decrease black applicants' payoff to referrals. I draw on the social cognition literature on implicit prejudice and stereotypes, and on research on referral hiring, to develop competing predictions (e.g., Fernandez, Castilla, and Moore 2000; Fiske 1998; Hamilton, Sherman, and Ruvolo 1990). On the one hand, employee referrals could benefit black applicants by reducing employers' reliance on negative stereotypes. If an employer believes referrals are credible signals of applicant quality, she may give a referred black applicant a chance even if she is generally doubtful about blacks' work ethic. On the other hand, black applicants may be disadvantaged if prejudiced employers do not perceive their referrals as credible, or do not trust recommendations from black employees.

To test these predictions, I conducted an original two-wave study with a sample of white individuals with hiring responsibilities in their workplaces (hereafter, hiring agents). In the first wave, I used the Implicit Association Test (IAT) to measure hiring agents' implicit anti-black prejudice (Greenwald, McGhee, and Schwartz 1998). In the second wave, the hiring agents evaluated pairs of equally qualified same-race job applicants. One applicant in each pair had a referral from either a black or white employee; the other had no referral. I found that in the most common real-life scenarios—black applicants referred by black employees, and white applicants referred by white employees—black applicants' referrals were significantly discounted relative to white applicants' referrals. In fact, black applicants *only* benefited from having a referral when two conditions were met: (1) the referring employee was white; and (2) they were evaluated by a less-prejudiced hiring agent.

Network research emphasizes black jobseekers' *social capital* disadvantage: black jobseekers have access to lower-status, less-influential ties than white male jobseekers and their contacts are less likely to speak to employers on their behalf

(McDonald 2011; Smith 2000). By integrating employers' racial bias into this account, I find that black jobseekers also face a *return* disadvantage: white employers are often less willing to reward the equivalent referrals of black jobseekers than white jobseekers. This limits black jobseekers' ability to benefit from a key network resource: referrers' influence over employers' decision-making.

Unequal Social Capital and Disparate Impact

Social capital theory (SCT) posits that individuals with better social capital achieve better outcomes, all else being equal (Lin 2001; Portes 1998). Following Lin (2001, 25), I conceptualize social capital as accessed and mobilized resources embedded in social networks. In the labor market, jobseekers derive two primary resources from their networks: information and influence (Trimble and Kmec 2011). For instance, job contacts can tell jobseekers about job openings and can exert influence on jobseekers' behalf by recommending them to hiring agents. Since high-status individuals are expected to be knowledgeable about employment opportunities and influential in the workplace, SCT further posits that high-status contacts are especially valuable to jobseekers (Lin 2001, 61).

Following SCT, network scholars argue that black jobseekers' disadvantage in *access* to social resources contributes to their labor market disadvantage (e.g., McDonald and Day 2010; Trimble and Kmec 2011). Given racially segregated networks, jobseekers largely rely on same-race job contacts (Brown, Setren, and Topa 2016; Son and Lin 2012; Stainback 2008); for example, 86 percent of black and white workers who found their latest job through a personal contact in Boston, Los Angeles, and Atlanta used a same-race contact (Mouw 2002). Since black employees have lower-status jobs than white employees, segregated networks are expected to lead to unequal access to high-status contacts for black and white jobseekers (Lin 2001). Indeed, compared to white men, blacks have lower-status networks and less-influential job contacts (McDonald 2011; Smith 2000).

Network scholarship also points to black jobseekers' difficulty *mobilizing* their job contacts' resources (e.g., Royster 2003; Smith 2005). Indeed, simply because a jobseeker's friend could vouch for him does not mean that the friend will do so (Smith 2005). For example, Royster (2003) documented that while black and white vocational students had access to the same white teachers, the teachers only referred white students to employers they knew. Further, black jobseekers may be disadvantaged by black employees' fear that recommending their job-seeking ties could damage their workplace reputation (Smith 2005). Overall, blacks' contacts are less likely to speak to employers on their behalf than the contacts of white men (McDonald 2011).

Employer Prejudice and Disparate Treatment

Instead of highlighting black and white jobseekers' unequal social capital, discrimination scholars emphasize employers' unequal treatment of equally qualified black and white jobseekers. Indeed, a meta-analysis of experimental field

studies finds that white applicants receive 36 percent more callbacks than equally qualified black applicants (Quillian et al. 2017). While field experiments generally cannot examine employers' motives, scholarship in psychology, sociology, and economics points to the importance of *implicit prejudice* in driving employer discrimination (e.g., Jost et al. 2009; Reskin 2000; Rooth 2010). I conceptualize prejudice as representing a negative affective (e.g., dislike) and/or cognitive (e.g., stereotypes) response to others based on their group membership, relative to the response to members of other groups (see Dovidio and Gaertner 2010; Quillian 2006, 300). This response can be activated implicitly—without effort, intention, or awareness (Quillian 2006). Thus, an employer may have a negative "gut" feeling about an applicant, and doubts about his work ethic, without being aware that these responses are due to the applicant's race. Moreover, once activated, stereotypes can bias individuals' interpretation of ambiguous evidence in stereotype-confirming ways (Hamilton, Sherman, and Ruvolo 1990). For example, whites with greater implicit anti-black prejudice were quicker to perceive anger in ambiguously hostile black faces than less-prejudiced whites (Hugenberg and Bodenhausen 2003). Since these responses can influence hiring decisions (Rooth 2010), more implicitly prejudiced employers are expected to penalize non-referred black applicants, relative to non-referred white applicants, more than less-prejudiced employers.

Theorizing Returns to Referrals

Returns to Referrals

The strong evidence of employer discrimination suggests that even if white and black jobseekers accessed and mobilized equivalent social resources, employers may not equivalently reward their resources. In this paper, I focus on racial variation in the returns to having a recommendation from a current employee. By "return," I mean the difference in how employers respond to applicants with and without employee referrals, all else being equal. Specifically, I examine whether white employers' implicit anti-black prejudice affects how they reward black and white applicants' referrals from black and white employees.

To be clear, network scholars have recognized that employers may differentially reward black and white jobseekers' referrals (e.g., Fernandez and Greenberg 2013, 94; McDonald 2011, 329; Son and Lin 2012, 603). Most prominently, in his theoretical account of social capital inequality, Lin (2001, 101–2) argues that groups with equivalent access to social resources may differentially benefit from those resources if they differ in their ability to mobilize their resources, or if employers respond differently to their mobilized resources. Yet, while black and white jobseekers' differential access to, and mobilization of, social resources has been well studied (e.g., Royster 2003; Smith 2000), employers' differential response to mobilized social resources has yet to be systematically examined or theorized.

How do Employers Interpret Referrals?

To theorize the effect of employer prejudice on returns to referrals, it is instructive to consider whether employers interpret employee referrals as credible, positive signals of applicant quality. A large body of theoretical and empirical research on referral hiring suggests that employers interpret referrals as credible (see Fernandez and Greenberg 2013, 85). Indeed, employees are likely motivated to recommend well-qualified applicants to protect their workplace reputation and are well positioned to identify appropriate applicants given their familiarity with both the job and their job-seeking friends (Marin 2012; Rees 1966; Smith 2005). Yet, employers may also be skeptical of employees' recommendations: employees may be motivated to help their job-seeking friends even if they have doubts or limited information about their friends' workplace suitability (Kim and Fernandez 2017; Smith 2005). Thus, in hypothesizing returns to referrals, I consider two possibilities: employers may interpret referrals as highly credible, or as more ambiguous, signals of applicant quality.

Employer Prejudice and Applicant Race

How might employer prejudice affect returns to referrals for black and white applicants? If employers interpret referrals as highly credible, then I would expect referrals to reduce employers' reliance on group-based stereotypes by providing positive *individuating* information about applicants (Fiske 1998, 386). Indeed, the social cognition literature on stereotyping suggests that when evaluators encounter information about an individual that is credible and clearly contradicts the group stereotype, they rely less on the stereotype in evaluating the individual (Macrae, Shepherd, and Milne 1992). Thus, an employer may expect a referred black applicant to be hardworking, even if she is generally doubtful about blacks' work ethic. Since more-prejudiced employers activate more negative stereotypes about black workers than less-prejudiced employers, referrals should be especially helpful to black jobseekers evaluated by more-prejudiced employers. This suggests:

> Hypothesis 1a: More-prejudiced employers reward black applicants' referrals *more* than white applicants' referrals, relative to less-prejudiced employers.

If, in contrast, employers interpret referrals as more ambiguous signals of applicant quality, I would expect more-prejudiced employers to discount black applicants' referrals more than less-prejudiced employers. Recall that activated stereotypes can bias individuals' interpretation of ambiguous evidence (Hamilton, Sherman, and Ruvolo 1990). Consequently, an employer with negative expectations about an applicant's work ethic may be skeptical of a referral attesting to the applicant's positive attributes, perhaps reasoning that the referring employee must have felt obligated to help a friend in need. This implies:

Hypothesis 1b: More-prejudiced employers reward black applicants' referrals *less* than white applicants' referrals, relative to less-prejudiced employers.

Employer Prejudice and Referrer Race

In terms of referrer race, I expect more-prejudiced employers to discount recommendations from black employees, relative to white employees, more than less-prejudiced employers.[1] Indeed, I expect more-prejudiced employers to perceive black employees as less trustworthy and less capable of determining applicants' job suitability than less-prejudiced employers. Consistent with this expectation, Stanley and colleagues (2011) found that more implicitly prejudiced individuals trust blacks less, relative to whites, than less-prejudiced individuals. This suggests:

Hypothesis 2: More-prejudiced employers reward referrals from black employees less than referrals from white employees, relative to less-prejudiced employers.

I expect referral ambiguity to affect the strength (i.e., a stronger effect if employers interpret referrals as more ambiguous), but not the direction, of the hypothesized employer prejudice effect.[2]

Methodological Limitations of Previous Empirical Research

Despite an extensive literature on referrals in the labor market, the designs of previous empirical studies do not allow careful examination of racial variation in returns to referrals. *Jobseeker studies* compare the employment outcomes of workers who obtained their jobs with and without job contacts, or with different types of job contacts (e.g., black versus white contact) (e.g., Kmec and Trimble 2009; Stainback 2008). Although findings are mixed, several studies suggest that black jobseekers experience poor payoffs to job contacts (for a review, see McDonald et al. [2013]). Yet, jobseeker studies cannot (and do not seek to) isolate how employers reward referrals. Consider the finding that jobseekers who use female contacts obtain lower-paying jobs than jobseekers who use male contacts (Smith 2000). This finding *may* imply that employers reward men's recommendations more than women's recommendations. However, the pay difference could also reflect differences in the jobseekers who rely on male and female contacts, the jobs male and female contacts provide information about, or the job-finding assistance offered by male and female contacts.

In contrast to jobseeker studies, *firm studies* compare the outcomes of applicants with and without referrals. These studies generally find that referred applicants are more likely to be offered a job than non-referred applicants, even after controlling for observed differences (e.g., Brown, Setren, and Topa 2016; Burks et al. 2015; Fernandez, Castilla, and Moore 2000; Petersen, Saporta, and Seidel 2000). Yet, no firm study examines whether employers differentially reward

referrals from black and white employees, or measures employer prejudice. Further, only two studies, with dissimilar findings, assess the effect of applicant race on returns to referrals. The first study found no effect of referrals on hiring likelihood for *any* racial group and no evidence of discrimination against non-referred black applicants—two anomalous results (Fernandez and Fernandez-Mateo 2006). The second study found that both black and white applicants received job offers at higher rates if they were referred, and that blacks' hiring disadvantage among non-referred applicants disappeared among referred applicants (Fernandez and Greenberg 2013). While this suggests that black applicants benefited more than white applicants from referrals, the interaction between applicant race and referral status was insignificant. Further, one hiring agent evaluated most (87 percent) applicants, limiting generalizability.

Moreover, firm studies are unable to establish the causal effect of referrals on employers' hiring decisions: referred and non-referred applicants may differ in ways unobservable to the analyst (Fernandez, Castilla, and Moore 2000). The unobserved referred/non-referred difference could vary systematically with applicant race, making it difficult to establish whether employers differentially reward black and white applicants' referrals. For instance, if employees are more reluctant to recommend black applicants than white applicants, referred black applicants may be a more selective group than referred white applicants.

As I detail below, I address these methodological concerns by using an experimental approach: referred and non-referred applicants, and black and white applicants, had equivalent (and randomly assigned) résumés and applied to the same job opening. Black and white referrers had the same position and wrote identical recommendation letters. Consequently, I am able to establish the causal effect of referrals on hiring agents' evaluations of applicants.

The Study

I conducted a two-wave survey experiment with 226 white, non-Hispanic workers with hiring responsibilities in their workplaces.[3] In the first wave, conducted between June 7, 2014, and August 16, 2014, I measured respondents' implicit prejudice and demographic characteristics. In the second wave, conducted between September 8, 2014, and November 3, 2014, respondents evaluated the job applicants. The two-wave approach improves upon the great majority of IAT studies, which measure implicit prejudice and behavior during the same session, potentially biasing the estimated associations between the IAT score and the measured behavior (see Fazio and Olson 2003). For example, in studies where the IAT is administered immediately prior to the measured behavior, taking the IAT may make respondents aware of their racial bias, affecting their subsequent behavior.

A limitation of relying on a survey experiment is that I do not observe hiring agents' real-world hiring decisions. Nevertheless, conducting a survey experiment, rather than a field experiment, has several advantages. First, it provides much greater experimental control, permitting me to link hiring agents' prejudice to

their applicant evaluations. In contrast, the outcome in field experiments—whether an application receives a positive response—is the result of an unobserved, often complex, hiring process. In addition to the prejudice of a single hiring agent, this outcome may be affected by the prejudice of other hiring agents involved in the decision-making process, group dynamics among hiring agents, and the composition of the applicant pool. Second, a survey experiment allows me to examine mechanisms underlying racial variation in returns to referrals, such as differences in the perceived credibility of referrals. Third, since I did not consider it feasible or ethical to manipulate real employees' race or recommendation letters, a survey experiment seemed more suitable than a field experiment.[4]

Recruiting Participants

I recruited participants through Amazon's Mechanical Turk (MTurk), an online platform for recruiting and paying individuals to perform tasks. MTurk has become a popular recruitment tool for experimental research in the social sciences, including in sociology (e.g., Hahl, Zuckerman, and Kim 2017; Munsch 2016).[5] While respondents self-select into participating in MTurk studies, treatment effects estimated with MTurk samples are similar to those estimated with national population-based samples (Mullinix et al. 2015; Weinberg, Freese, and McElhattan 2014). Further, MTurk respondents provide high-quality data (e.g., Weinberg, Freese, and McElhattan 2014); for instance, relative to population-based samples and to college students surveyed in university laboratories, they pass attention checks at equal or higher rates (Hauser and Schwarz 2016; Mullinix et al. 2015; Weinberg, Freese, and McElhattan 2014). Finally, administering the survey online reduces social desirability, important for a study interested in race (Chang and Krosnick 2009).

For the initial survey, I recruited 8,462 individuals. Study participants were told they would be asked about their attitudes and basic demographics. Following the survey, I sent invitations to 1,009 qualified individuals to participate in an applicant evaluation study. The invitation did not mention the title or content of the original survey. Qualified individuals lived in the United States, identified as white and non-Hispanic, and had hiring responsibilities in their current workplace.[6] Of these, 727 individuals responded: 228 were randomly assigned to the experiment; the remainder were assigned to a separate study.[7] To prevent respondents from drawing a connection between the IAT and the applicant evaluation task, I waited a minimum of 60 days before contacting them.[8]

Table 1 presents descriptive statistics about the study participants. While not a probability sample of white hiring agents, the sample is more representative than most employment-focused survey and lab experiments, which rely on student or convenience samples (e.g., Blommaert, van Tubergen, and Coenders 2012; Munsch 2016).[9] Two-thirds of the participants are supervisors, a fifth work in firms with 500 or more employees, most are college graduates, and somewhat more than half (57 percent) are women.[10]

Table 1. Characteristics of Respondents ($N = 226$)

% white, non-Hispanic	100.0
% hiring responsibility	100.0
% working full-time	77.4
% supervisor	67.3
% self-employed	13.3
% female	56.6
% foreign-born	4.0
(Mean, SD) Years of age	(36.6, 11.1)
(Mean, SD) Years of education	(15.6, 1.8)
Anti-black prejudice (Implicit Association Test *D*-score)	
% None ($D < 0.15$)	20.4
% Slight ($0.15 \leq D < 0.35$)	14.5
% Moderate ($.35 \leq D < 0.65$)	35.8
% Strong ($D \geq 0.65$)	29.4
Individual earnings	
% Under $20,000	16.4
% $20,000 to $34,999	20.4
% $35,000 to $49,999	23.0
% $50,000 to $74,999	27.0
% $75,000 to $99,999	7.1
% $100,000 or above	6.2
Region	
% Northeast	20.8
% Midwest	26.6
% South	38.1
% West	14.6
Establishment size	
% Under 25	46.0
% 25–99	22.1
% 100–499	12.4
% 500 or more	19.5

Note: There were 221 respondents for the IAT.

Applicant Evaluation Task: Experimental Design

Study participants evaluated two equally qualified job applicants—fictitious, but presented as real—for the position of Assistant Store Manager in the Boston store of a leading national retail company.[11] To reduce personal and social

desirability bias, each respondent evaluated two same-race applicants: white or black.[12] One of the two applicants had a referral from a black or white employee; the other had no referral. Thus, participants were randomly assigned to one of four experimental conditions: (1) black applicants, black referrer; (2) black applicants, white referrer; (3) white applicants, black referrer; or (4) white applicants, white referrer. Overall, the design consisted of three between-subjects factors (applicant race, referrer race, and respondent prejudice) and one within-subjects factor (referral status). I varied referral status within subject, as within-subject comparisons are more efficient than between-subjects comparisons (Cohen 1988). For details on the job position, résumés, and employee referral form, see Appendix A.

Applicant Evaluation Task: Procedure

Participants were first introduced to the applicant evaluation task and told the retail company sought their opinion because it was interested in using the "wisdom of crowds" to improve its hiring practices. To increase task orientation (see Correll, Benard, and Paik 2007), participants were also told their input would be incorporated with other information the company collected and could affect actual hiring decisions. Participants then read a brief job description, the résumé of the first applicant, and an employee referral form for the first applicant (if applicable). I counterbalanced whether participants first saw the referred or non-referred applicant by experimental condition. After evaluating the first applicant, participants reviewed the second applicant's résumé and employee referral form (if applicable), evaluated the second applicant, and compared the two. Participants then answered questions designed to gauge suspicions about the experimental setup and the success of the manipulation. Finally, participants were debriefed and asked for permission to use their data.[13]

Race Manipulation

I indicated applicant and referrer race by using racially distinct names in the résumé and employee referral forms (see Bertrand and Mullainathan 2004). The distinctly white names I used were Charlie, Greg, and Jake, and the distinctly black names were Jermaine, Lamar, and Terrell. To select suitable names, I pretested 18 names used in previous studies (e.g., Bertrand and Mullainathan 2004; Gaddis 2015). From this pretest, I chose names that successfully signaled the intended race while minimizing perceived class differences among the white and black names (see Appendix B for details). Applicants and referrers were randomly assigned to names that matched the experimental condition.

The post-experiment manipulation checks indicate that the names successfully signaled race. Respondents correctly identified applicants' race at high rates: 88 (91) percent for black (white) applicants. Additionally, 77 (87) percent of respondents correctly identified black (white) referrers' race. As I rely on male names to indicate race, a scope condition of this study is that it is limited to male referrers and applicants. While field experiments suggest that racial

discrimination is similar for men and women (Quillian et al. 2017), it is unclear whether gender affects racial variation in returns to referrals.

Dependent Variables

The primary dependent variable in this study is the *return to employee referral*, operationalized as the within-respondent difference in the evaluation score of the referred applicant and the non-referred applicant. The evaluation score is a composite of four items that assess respondents' view of applicants' job suitability.

For each applicant, respondents (1) reported whether they recommend the company interview him (five-point scale from "Do not recommend" to "Very strongly recommend"); (2) estimated the likelihood of promotion if hired (seven-point scale from "Extremely unlikely" to "Extremely likely"); and (3) suggested a salary in case of hire (six-point scale from "$35,000–$39,999" to "$60,000–$65,000"). Additionally, after evaluating both applicants, respondents chose *one* applicant to recommend for an interview, and indicated how strongly they felt about their choice (five-point scale from "Not at all strongly" to "Extremely strongly"). I combined the last two questions into (4) a 10-point "strength of choice" index. A score of 10 (one) indicates that the applicant was (was not) chosen and the respondent feels extremely strongly about this choice.

I used exploratory factor analysis to construct the evaluation score from these four variables. As the variables are ordinal, I used a polychoric correlation matrix. The analysis strongly suggests that the four variables belong to the same factor: the retained factor has an eigenvalue of 2.2 and is the only positive factor, and the minimum factor loading is 0.58. A positive return to employee referral indicates that the referred applicant has a higher evaluation score than the non-referred applicant. I standardized the evaluation score to have a mean of zero and a standard deviation of one. Results are robust to using the individual variables instead of the composite evaluation score (see Appendix C).

Anti-black Prejudice

While implicit prejudice is commonly discussed in sociological studies of labor market inequality (e.g., Pager, Western, and Bonikowski 2009; Reskin 2000; Stainback 2008), it is rarely measured (for an exception, see Blommaert, van Tubergen, and Coenders [2012]). I used the race Implicit Association Test (IAT) to measure respondents' implicit anti-black prejudice (Greenwald, McGhee, and Schwartz 1998).[14] The IAT is the most widely used measure of implicit prejudice, and displays good internal consistency and construct validity (for an overview of the IAT's psychometric properties, see Lane et al. [2007]).[15]

The IAT measures the strength of associations between categories by capturing response times in a categorization task. The version I used measures the strength of the association between the racial categories "African American" and "Caucasian," and the evaluative categories "Positive" and "Negative." Respondents were told to rapidly sort positive (e.g., "happy," "wonderful") and

negative (e.g., "awful," "terrible") words, and images of racially distinctive black and white faces, into one of two category pairings. Each respondent sorted the words and images into stereotype-consistent category pairings (i.e., African American/Negative and Caucasian/Positive) and stereotype-inconsistent category pairings (i.e., African American/Positive and Caucasian/Negative). The logic is that the faster the responses to category pairings, the stronger these categories are associated in respondents' minds. Consequently, faster responses to the stereotype-consistent pairings than to the stereotype-inconsistent pairings indicate implicit anti-black prejudice.

I scored the test using the recommended *D* algorithm, in which the difference in response times between the stereotype-consistent and stereotype-inconsistent pairings is divided by their pooled standard deviation (Greenwald, Nosek, and Banaji 2003). To assess the strength of implicit anti-black prejudice, researchers use the following cutoffs: no prejudice ($D < 0.15$), slight prejudice ($0.15 \leq D < 0.35$), moderate prejudice ($0.35 \leq D < 0.65$), and strong prejudice ($D \geq 0.65$).[16] In the study sample, *D* scores ranged from −0.64 to 1.4 ($M = 0.46$, $SD = 0.35$). Thus, while the average respondent exhibited moderate prejudice and the great majority of the sample (80 percent) exhibited at least some prejudice (see table 1), there is considerable variation in the extent of prejudice. For the analyses, I standardized the IAT *D* score to have a mean of zero and a standard deviation of one.

An important advantage of the IAT, as opposed to explicit measures of prejudice, is that it is resistant to personal and social desirability bias (Fazio and Olson 2003). Even subjects asked to fake their response to the race IAT were unable to do so unless explicitly instructed on how to do so (Kim 2003). Further, the IAT can capture biases among people who genuinely believe they are unbiased. This suggests the IAT may better predict employer discrimination than explicit measures of prejudice. Consistent with this expectation, Silva (2017) found that the IAT, but not an explicit measure of prejudice, predicted white hiring agents' relative evaluations of black and white jobseekers. Similarly, two Swedish studies found that the IAT, but not explicit measures, reliably predicted hiring discrimination against Arab-Muslim men and against obese individuals in real workplaces (Agerström and Rooth 2011; Rooth 2010).[17]

Finally, recall that I conceptualized prejudice as having cognitive (e.g., stereotypes) and affective (e.g., dislike) components. Consistent with this conceptualization, respondents' IAT score is significantly correlated with their explicit views of blacks' work ethic and hostility, as well as feelings of dislike or discomfort with blacks relative to whites.[18] This reaffirms prior research that finds robust correlations between implicit and explicit racial attitudes (Nosek et al. 2007).

Control Variables

Since I did not experimentally manipulate respondents' anti-black prejudice, I controlled for respondents' age (years) and gender (1 = male) in analyses that include prejudice as a predictor. Prior research indicates that gender and age predict implicit anti-black prejudice (Nosek et al. 2007). Results are robust to

including additional control variables, including region and education (see Appendix D).

Analytic Approach

To estimate the causal effect of referrals on applicants' evaluation score in each of the four experimental conditions, I used linear regressions of referral status on the evaluation score. Standard errors were clustered at the respondent level, since each respondent evaluated two applicants. I did not include controls, since respondents were randomly assigned to the experimental conditions, and applicants were randomly assigned to referrals.

Then, to examine the effect of respondents' *prejudice* on returns to referrals, I estimated linear regressions of respondents' prejudice, gender, and age on returns to referrals. I estimated these regressions separately for black and white applicants, for black and white employees, and for each of the four experimental conditions. Additionally, to examine whether respondents' prejudice has a differential effect across these characteristics (i.e., applicant race, referrer race, and experimental condition), I estimated single models that include each predictor (prejudice, gender, and age), the characteristic of interest, and the interaction of each predictor with the characteristic. The interactions allow me to test for differences in the coefficients by the characteristic of interest.

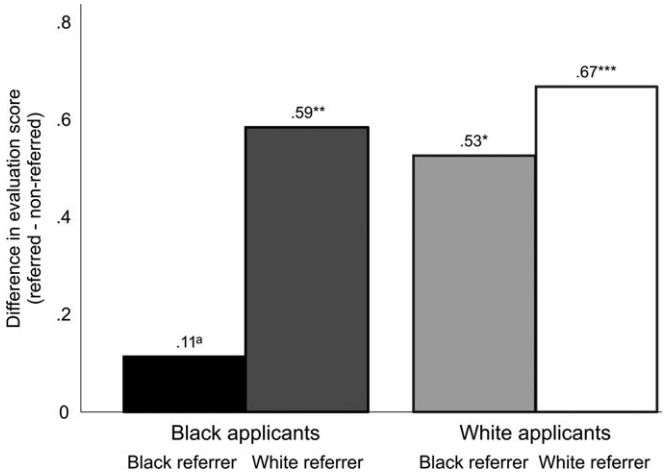
Throughout, I illustrate the substantive effect of respondents' prejudice on returns to referrals by estimating the *predicted* returns to referrals ($\Delta\hat{y}$) of evaluators with the mean age (37 years old) and gender (57 percent women) of the sample, and varying IAT scores. In the text, I focus on the predicted responses of evaluators with an IAT score one standard deviation above ("highly prejudiced") and below ("unprejudiced") the mean. These correspond to unstandardized IAT *D* scores of 0.8 and 0.1, indicating strong anti-black prejudice and no anti-black prejudice, respectively. I use the delta method to calculate the standard error of the predicted responses (Dowd, Greene, and Norton 2014).

Results

Rewards to Referrals, by Experimental Condition

Do hiring agents reward employee referrals? Figure 1 illustrates the mean difference in the evaluation score of referred and non-referred applicants, by experimental condition.[19] In three out of the four experimental conditions, referrals had a large, positive, and statistically significant effect on applicants' evaluation scores. On average, white applicants' evaluation scores increased 0.67 standard deviations if they were referred by white employees ($p < 0.001$), and 0.53 standard deviations if they were referred by black employees ($p < 0.05$). Similarly, black applicants' evaluation score increased an average of 0.59 standard deviations if they were referred by white employees ($p < 0.01$). In contrast, black applicants' evaluation score only increased an insignificant 0.11 standard deviations if they were referred by black employees. While caution is warranted when

Figure 1. Effect of referral status on evaluation score, by experimental condition.



Note: Statistical tests based on linear regressions of referral status on the evaluation store, with standard errors clustered at the respondent level. The evaluation score is standardized. [a]$p < 0.05$; regression coefficient is significantly different from the white applicant/white referrer coefficient (two-tailed tests).*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$ (two-tailed tests).

interpreting statistically insignificant effects as null effects, the substantively small effect size suggests that white hiring agents do not meaningfully reward blacks' same-race referrals. Further, this finding extends to all the individual outcome measures (Appendix C), suggesting that it is not sensitive to how I operationalize respondents' assessment of applicants' job suitability. Thus, while white hiring agents generally rewarded referrals, they did not meaningfully reward blacks' same-race referrals. As actual black jobseekers largely rely on same-race contacts (Mouw 2002), these findings identify an important disadvantage faced by black jobseekers.

Respondent Prejudice and Applicant Race

How does respondents' implicit anti-black prejudice shape returns to referrals? First, I assess whether respondents' prejudice differentially affects returns to employee referrals for black and white applicants. Hypothesis 1a (1b) states that more-prejudiced employers reward black applicants' referrals more (less) than white applicants' referrals, relative to less-prejudiced employers. Table 2 presents results of linear regressions of returns to employee referrals on anti-black prejudice, gender, and age by applicant race. The rightmost column presents the p-value of tests of differences in coefficients by applicant race. Hypothesis 1a (1b) implies that the coefficient for respondents' prejudice should be significantly more positive (negative) for black applicants than for white applicants.

As respondents' anti-black prejudice increased, they rewarded black applicants' referrals *less* ($\beta = -0.3$; $p < 0.05$) and white applicants' referrals *more*

Table 2. Return to Employee Referrals, by Applicant Race (OLS regressions)

	Black applicants	White applicants	*p*-value of difference
Anti-black prejudice	−0.30*	0.26+	0.01
	(0.14)	(0.16)	
Age (years)	0.01	0.01	0.82
	(0.01)	(0.01)	
Male	0.46	−0.45	0.03
	(0.30)	(0.30)	
Constant	0.16	0.75**	
	(0.20)	(0.18)	
Respondents (*N*)	117	104	
R^2	0.05	0.05	

Note: The return to employee referral is the within-respondent difference in the evaluation score of the referred applicant and the non-referred applicant. The left and middle column present OLS coefficients with standard errors in parentheses. These regressions are estimated separately for black and white applicants. The rightmost column presents the *p*-value of tests of difference of each coefficient, by applicant race, estimated using a single model with the three predictors (prejudice, age, gender), applicant race, and the interaction of each predictor with applicant race. The evaluation score and anti-black prejudice measure are standardized. The baseline respondent is a woman of average age and anti-black prejudice for the sample.

$^{+}p < 0.1$; $^{*}p < 0.05$; $^{**}p < 0.01$ (two-tailed tests).

($\beta = 0.26$; $p < .1$). Prejudice differentially affected black and white applicants' returns to referrals ($p < 0.01$). These results support Hypothesis 1b: more-prejudiced respondents discounted the referrals of black applicants, relative to white applicants, more than less-prejudiced respondents.

The predicted returns to referrals indicate that the effect of anti-black prejudice is substantively important. Highly prejudiced evaluators strongly reward white applicants' referrals ($\Delta\hat{y} = 0.83$; $p < 0.001$), but do not reward black applicants' referrals ($\Delta\hat{y} = 0.05$; $p = 0.78$; *p*-value of difference <0.01). In contrast, unprejudiced evaluators insignificantly reward black applicants' referrals more than white applicants' referrals ($\Delta\hat{y} = 0.65$ compared to $\Delta\hat{y} = 0.30$; *p*-value of difference = 0.24).

Respondent Prejudice and Referring Employee Race

How does respondents' prejudice affect how they reward referrals from black and white employees? Hypothesis 2 states that more-prejudiced employers reward referrals from black employees *less* than referrals from white employees, relative to less-prejudiced employers. Table 3 presents results of linear regressions of returns to employee referrals on anti-black prejudice, gender, and age by referrer race. The rightmost column presents the *p*-value of tests of differences in coefficients by referrer race. Hypothesis 2 implies that the coefficient for

Table 3. Return to Employee Referrals, by Referrer Race (OLS regressions)

	Black referrer	White referrer	*p*-value of difference
Anti-black prejudice	0.16	−0.32*	0.03
	(0.14)	(0.15)	
Age (years)	0.00	0.02	0.37
	(0.01)	(0.01)	
Male	−0.65*	0.62*	0.00
	(0.30)	(0.29)	
Constant	0.57**	0.37*	
	(0.20)	(0.18)	
Respondents (*N*)	94	127	
R^2	0.06	0.07	

Note: The return to employee referral is the within-respondent difference in the evaluation score of the referred applicant and the non-referred applicant. The left and middle column present OLS coefficients with standard errors in parentheses. These regressions are estimated separately for black and white referrers. The rightmost column presents the *p*-value of tests of difference of each coefficient, by referrer race, estimated using a single model with the three predictors (prejudice, age, gender), referrer race, and the interaction of each predictor with referrer race. The evaluation score and anti-black prejudice measure are standardized. The baseline respondent is a woman of average age and anti-black prejudice for the sample.

$^{+}p < .1$; $*p < .05$; $**p < .01$ (two-tailed tests).

respondents' prejudice should be significantly more negative for black employees than for white employees.

As respondents' anti-black prejudice increased, they rewarded white employees' recommendations *less* ($\beta = -0.32$; $p < 0.05$) and insignificantly rewarded black employees' recommendations more ($\beta = 0.16$; $p = 0.28$); thus, referrals from black employees were increasingly rewarded relative to those from white employees (*p*-value of difference <0.05). This race difference is in the opposite direction of what I predicted. To be clear, most of the sample rewarded referrals from white employees more than referrals from black employees.[20] However, contrary to Hypothesis 2, white referrers' advantage is most pronounced among the *least*-prejudiced respondents. I investigate this unexpected finding in the next section.

Respondent Prejudice and Experimental Condition

To investigate the unexpected result, I separately estimate the effect of anti-black prejudice on returns to referrals by experimental condition. This lets me assess whether the effect of respondents' prejudice on returns to the referrals from white and black employees is contingent on applicant race. Respondents may evaluate same-race referrals differently than cross-race referrals. Table 4 presents results of linear regressions of returns to employee referrals on anti-black prejudice, gender, and age by experimental condition.

Respondents' prejudice had a very small and statistically insignificant effect on returns to whites' ($\beta = -0.03; p = 0.9$) and blacks' ($\beta = -0.07; p = 0.7$) same-race referrals. In contrast, respondents' prejudice strongly affected returns to cross-race referrals. Relative to less-prejudiced respondents, more-prejudiced respondents rewarded black applicants' cross-race referrals *less* ($\beta = -0.54; p < 0.05$) and white applicants' cross-race referrals *more* ($\beta = 0.56; p < 0.05$).

Figure 2, which illustrates the predicted returns to referrals, demonstrates several striking patterns. First, regardless of their prejudice, evaluators do not reward blacks' same-race referrals (upper-left panel). Even when evaluated by unprejudiced evaluators, black applicants do not meaningfully benefit from same-race referrals ($\Delta\hat{y} = 0.17; p = 0.05$). Second, white applicants benefit from same-race referrals regardless of evaluators' prejudice (lower-right panel). Both unprejudiced ($\Delta\hat{y} = 0.72; p < 0.05$) and highly prejudiced ($\Delta\hat{y} = 0.66; p < 0.05$) evaluators strongly reward whites' same-race referrals. This points to a widely shared

Table 4. Return to Employee Referrals, by Experimental Condition (OLS regressions)

	Black applicants		White applicants	
	Black referrer	White referrer	Black referrer	White referrer
Anti-black prejudice	−0.07[a,b]	−0.54**[b,c,d]	0.56*[a,c,d]	−0.03[a,b]
	(0.19)	(0.21)	(0.22)	(0.23)
Age (years)	0.01	0.01	−0.01	0.03
	(0.02)	(0.02)	(0.02)	(0.02)
Male	−0.49[a]	1.12**[b,c,d]	−0.72+[a]	−0.01[a]
	(0.42)	(0.40)	(0.42)	(0.44)
Constant	0.31	0.00	0.93**	0.68**
	(0.27)	(0.28)	(0.27)	(0.24)
Respondents (*N*)	52	65	42	62
R^2	0.03	0.18	0.22	0.03

Note: The return to employee referral is the within-respondent difference in the evaluation score of the referred applicant and the non-referred applicant. OLS coefficients with standard errors in parentheses. The regressions are estimated separately for each experimental condition. The evaluation score and anti-black prejudice measure are standardized. The baseline respondent is a woman of average age and anti-black prejudice for the sample.

[a] $p < 0.1$; coefficient is significantly different from the black applicant/white referrer coefficient (two-tailed tests).

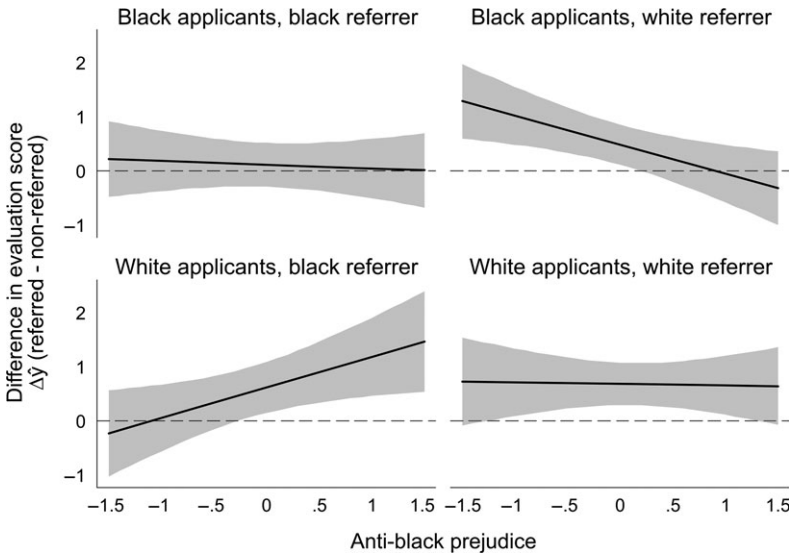
[b] $p < 0.1$; coefficient is significantly different from the white applicant/black referrer coefficient (two-tailed tests).

[c] $p < 0.1$; coefficient is significantly different from the white applicant/white referrer coefficient (two-tailed tests).

[d] $p < 0.1$; coefficient is significantly different from the black applicant/black referrer coefficient (two-tailed tests).

$^{+}p < 0.1$; $^{*}p < 0.05$; $^{**}p < 0.01$ (two-tailed tests).

Figure 2. Effect of evaluators' anti-black prejudice on returns to employee referrals, by experimental condition.



Note: The solid black line is the predicted return to employee referral ($\Delta\hat{y}$) and the shaded region is the 95 percent confidence interval, calculated using the delta method. A zero on the *y*-axis indicates that there is no difference in the predicted evaluation score of the referred and the non-referred applicant. The evaluation score and the anti-black prejudice measure are standardized. Estimates derived from a single model with three predictors (prejudice, age, gender), experimental condition dummies, and the interaction of each predictor with the experimental condition dummies. Age and gender are kept at their mean values in the sample. See table 4.

bias among white evaluators against rewarding blacks' same-race referrals that is *not* accounted for by individual variation in prejudice, and is consistent with widespread skepticism about the credibility of black employees' recommendations on behalf of black applicants.[21]

Third, instead of the widely shared bias that characterizes evaluators' response to same-race referrals, unprejudiced and highly prejudiced evaluators respond differently to cross-race referrals (upper-right and lower-left panels). Given the relative rarity of cross-race referrals, it is perhaps unsurprising that there is less shared agreement about their interpretation. Thus, highly prejudiced evaluators strongly reward white applicants' cross-race referrals ($\Delta\hat{y} = 1.18$; $p < 0.01$), but do not reward black applicants' cross-race referrals ($\Delta\hat{y} = -0.06$; $p = 0.8$; p-value of difference < 0.01). In contrast, unprejudiced evaluators strongly reward black applicants' cross-race referrals ($\Delta\hat{y} = 1.01$; $p < 0.001$), but do not reward white applicants' cross-race referrals ($\Delta\hat{y} = 0.06$; $p = 0.86$; p-value of difference < 0.05). Consequently, black applicants only significantly benefit from having a referral when two conditions are met: (1) the referrer is white; and (2) the evaluator is relatively less prejudiced. In contrast, white applicants overwhelmingly benefit

from same-race referrals, and benefit from cross-race referrals as long as the evaluator is relatively prejudiced. [22]

How can we explain the effect of prejudice on returns to cross-race referrals? The findings suggest that the more positively respondents felt toward a *jobseeker* based on his race, the more likely they were to interpret his cross-race referral as credible. This interpretation relies on the fact that the IAT can be conceptualized as a measure of pro-white bias in addition to anti-black prejudice (DiTomaso 2015): since the IAT is a relative measure, high IAT scores simply imply that respondents have more positive associations with whites than with blacks. Thus, as respondents' pro-white bias (or anti-black prejudice) increased, they rewarded white applicants' cross-race referrals more and black applicants' cross-race referrals less.

Consistent with this interpretation, supplementary analyses indicate that respondents' perception of referred applicant quality largely mediated the effect of respondents' prejudice on returns to cross-race referrals.[23] The more positive associations respondents had with whites (blacks), the more they perceived white (black) applicants with cross-race referrals to be more hardworking and competent than their non-referred counterparts. This suggests that respondents' implicit prejudice influenced their perception of the quality signal provided by cross-race referrals.

Finally, these results help explain why more-prejudiced respondents rewarded referrals from black employees, relative to white employees, more than less-prejudiced respondents. As prejudice had no effect on returns to same-race referrals, the unexpected finding was driven by cross-race referrals. Indeed, while I reported that referrals from white employees were discounted as respondents' anti-black prejudice increased, these results indicate that only white employees' recommendations *on behalf of black applicants* were discounted as respondents' prejudice increased. Similarly, only black employees' recommendations *on behalf of white applicants* were increasingly rewarded as respondents' prejudice increased. Thus, the unexpected finding is due to more-prejudiced respondents rewarding black applicants' cross-race referrals less, and white applicants' cross-race referrals more, than less-prejudiced respondents.

Limitations and Future Research

In interpreting the study findings, several limitations are important to consider. This study focuses exclusively on referring employees' *influence* over hiring agents' decisions. Thus, while I found that black employees' recommendations do not influence white hiring agents' evaluations of black jobseekers, black jobseekers may still obtain useful information (e.g., when to submit a job application) from their same-race contacts. Additionally, I experimentally manipulated referral status, referrer race, and applicant race, but did not manipulate implicit prejudice. Thus, while I improve upon the great majority of IAT studies by measuring implicit prejudice prior to and separately from the evaluation task (see Fazio and Olson 2003), I cannot conclude that implicit prejudice has a *causal* effect on returns to referrals. By directly manipulating implicit prejudice (Todd

et al. 2011), future research could establish the causal effect of implicit prejudice on returns to referrals.

Future research should also test the scope conditions of this study's findings, particularly with respect to blacks' same-race referrals. Four scope conditions seem plausible. First, hiring agents in this study did not have relationships with the referring employees. This is consistent with the screening practices of medium and large firms with professional personnel departments (e.g., Fernandez and Fernandez-Mateo 2006; Fernandez, Castilla, and Moore 2000) but is unlikely to be consistent with small firms' practices. It may be harder for hiring agents to dismiss recommendations of employees they know personally. Second, like most US hiring agents (Smith 2002; Wodtke 2015), hiring agents in this study were white. Given their greater likelihood of hiring black applicants (Stoll, Raphael, and Holzer 2004), black hiring agents may be more likely to reward blacks' same-race referrals. Third, the applicants and referrers were men; and fourth, the job opening was for an assistant store manager. While audit studies suggest that racial discrimination is comparable across occupations and for men and women (Quillian et al. 2017), these factors could possibly affect racial variation in returns to referrals.

While the latter three conditions could be tested with experiments, it seems more prudent to test the first condition with firm data than to attempt to manipulate the strength of the relationship between respondents and hypothetical referrers. Additionally, firm data would allow researchers to assess the extent to which the findings hold in the context of real workplaces. I limited study participation to individuals with hiring responsibilities and told participants they were evaluating real applicants for an existing job opening. Nevertheless, hiring agents' behavior could differ when they evaluate applicants as part of their routine hiring process. Admittedly, finding adequate data will be challenging, as even the best firm studies have limited information about firms' use of referrals (e.g., Brown, Setren, and Topa 2016; Fernandez, Castilla, and Moore 2000; Petersen, Saporta, and Seidel 2000).

Discussion and Conclusion

Instead of focusing on differences in black and white jobseekers' accessed and mobilized network resources, which has been well studied in the literature (e.g., McDonald 2011; Royster 2003), I focus on differences in how employers reward these resources. Drawing on an original experiment with a sample of white hiring agents in the United States, I find that even black applicants who successfully access and mobilize equivalent network resources to whites face a *return disadvantage*. In the most prevalent real-life conditions—black applicants referred by black employees, and white applicants referred by white employees—black applicants' referrals were significantly discounted relative to white applicants' referrals. Indeed, black applicants *only* benefited from having a referral when two conditions were met: the referring employee was white and the hiring agent was relatively low prejudiced. In contrast, white applicants overwhelmingly benefited from their same-race referrals, and benefited from black employees'

recommendations as long as they were evaluated by relatively prejudiced hiring agents. As black jobseekers largely rely on same-race job contacts (Mouw 2002), these findings suggest that black jobseekers are frequently unable to benefit from a key network resource: referrers' influence over hiring agents' decision-making. Thus, this study identifies white employers' differential response to black and white jobseekers' same-race referrals as a contributor to racial inequality in the labor market.

The findings also point to a *widely shared bias* among white hiring agents against rewarding black applicants' same-race referrals. Intriguingly, this bias is not accounted for by individual variation in implicit prejudice: both unprejudiced and highly prejudiced evaluators strongly reward whites' same-race referrals, but do not reward blacks' same-race referrals. Future research should examine the determinants of this bias. For now, I note that white hiring agents—regardless of their prejudice—may use different schemas to interpret black and white jobseekers' same-race referrals. For instance, white hiring agents may use a schema of "in-group loyalty" or "opportunity hoarding" to interpret blacks' (but not whites') same-race referrals. Consequently, they might dismiss blacks' same-race referrals because they believe black employees are willing to recommend their same-race friends even if they have doubts about their friends' workplace suitability.[24] More generally, the findings highlight the value of examining how race shapes people's perception of social relationships (e.g., the relationship between applicants and referrers), in addition to perceptions of individuals.

In contrast to the widely shared bias that characterizes white hiring agents' response to same-race referrals, hiring agents' anti-black prejudice strongly shaped their response to cross-race referrals. Indeed, as respondents' anti-black prejudice (or pro-white bias) increased, they increasingly discounted black applicants' cross-race referrals and increasingly rewarded white applicants' cross-race referrals. Further, respondents' relative perception of referred applicant quality largely mediated the effect of respondents' prejudice on returns to cross-race referrals. Thus, the more positively respondents felt toward a *jobseeker* based on his race, the more likely they were to interpret his cross-race referral as credible. While some approaches to bias focus on widely shared cultural beliefs (e.g., Correll, Benard, and Paik 2007), and others on individual variation in bias (e.g., Stanley et al. 2011), these findings highlight the utility of combining these approaches.

To my knowledge, this is the first study to experimentally establish that hiring agents reward employee referrals. Despite important methodological advances, firm studies have not established the causal effect of employee recommendations on hiring decisions. Fernandez and Galperin (2014) improve upon prior firm studies by focusing on repeat applicants to the same firm: the same applicants were more likely to be interviewed or offered a job when they applied with a referral than without a referral. This alleviates concerns about unobserved, time-invariant differences between non-referred and referred applicants. Yet, as the authors note, it is unclear whether the findings reflect referrers' influence over employers' decision-making or information referring employees provided jobseekers (e.g., which job opening is most appropriate). This is also the first study to examine the role of referrer race and employer prejudice on returns to referrals.

This study has important implications for understanding the causes and consequences of social capital inequality. Social capital scholarship has emphasized black jobseekers' limited access to high-status contacts, who are expected to be more knowledgeable and influential than lower-status contacts (Lin 2001). From this perspective, unequal access to white contacts matters because white employees occupy higher-status positions than black employees, not because contact race is itself consequential (Son and Lin 2012, 602). This study challenges this reasoning: although black and white employees were identical except for their name, white hiring agents only rewarded black applicants' recommendations from white employees. For black jobseekers, the race of their referrer was not simply *associated* with workplace resources but served as a resource *in itself*. This suggests that racially segregated networks contribute to social capital inequality by leading to unequal access to white contacts, in addition to unequal access to high-status contacts. More generally, the findings suggest that categorical attributes (e.g., race) of network ties should play a principal role in theorizing social capital inequality.

This study also has implications for our understanding of social capital *mobilization*. First, while it seems straightforward to assume that jobseekers benefit from referrals, white hiring agents in this study did not meaningfully reward black applicants' same-race referrals. Consequently, black jobseekers' difficulties mobilizing their same-race contacts (McDonald 2011; Smith 2005, 2010) may be less detrimental to their employment outcomes than previously thought. Second, the study may help explain *why* black jobseekers find it difficult to mobilize their same-race contacts. Prior research finds that black employees are reticent to provide recommendations because they worry about damaging their workplace reputation and are distrustful of their job-seeking friends' work ethic (Smith 2005, 2010). This study suggests an additional explanation: black employees may be reticent to provide referrals because they believe their same-race recommendations will be dismissed by skeptical hiring agents.[25]

Ultimately, this study posits that employers' differential response to jobseekers' social resources should be central to the study of social capital inequality. Given employers' racial biases, understanding jobseekers' ability to access and mobilize social resources is not enough; we need to understand how employers *respond* to those resources.

Supplementary Material

Supplementary material is available at *Social Forces* online.

About the Author

Fabiana Silva is an Assistant Professor at the Gerald R. Ford School of Public Policy. Her research interests include labor market stratification; social networks; race, ethnicity, and immigration; and social psychology. Her current research examines the relationship between employers' implicit and explicit racial attitudes and their hiring behavior, mechanisms underlying the

intergenerational transmission of economic status, and frame resonance in the context of the immigrant rights movement.

Notes

1. Relatedly, Kmec and Trimble (2009) speculate that—given employer racial biases—black contacts may be more useful to jobseekers if they do not have direct contact with employers.
2. While I do not hypothesize the three-way interaction between employer prejudice, applicant race, and referrer race, I examine the effect of employer prejudice on returns to referrals for all the applicant race/referrer race combinations (see table 4).
3. I restricted participation to white, non-Hispanic respondents, as I was unable to obtain a sufficient sample of non-white hiring agents, and the effect of anti-black prejudice could differ for non-white respondents. The focus on whites is warranted given their overrepresentation among US hiring agents (Smith 2002; Wodtke 2015).
4. Basbug (2016) is conducting a novel field experiment examining racial variation in returns to firm ties by manipulating the answer to the "How did you learn about this job?" question often available in job applications. This design allows him to examine whether black and white jobseekers differentially benefit from signaling a network connection to the firm in a real-world hiring context but does not allow him to manipulate the race of the firm employee or to examine the effect of having a recommendation from an employee.
5. To initiate surveys using MTurk, researchers post "job listings" using the MTurk interface describing the tasks to be completed and associated compensation. MTurk "workers" can then choose to complete the task. US respondents complete MTurk tasks to earn money, kill time, have fun, and because they find some tasks meaningful (Antin and Shaw 2012). For a good introduction to MTurk as a recruitment tool for social scientific research, see Berinsky, Huber, and Lenz (2012).
6. I consider participants to have hiring responsibilities if they answered yes to the following: "As part of your job, do you make (or help make) decisions regarding whether or not to hire job applicants? Answer yes if you have input in the decision-making process, such as looking at résumés to decide who to interview, or interviewing candidates and making recommendations."
7. I removed one respondent who did not consent to let me use their data, and one respondent who did not evaluate either applicant.
8. Respondents were unable to access the name of the previous study in their MTurk account, because task names only remain available for 45 days.
9. While nationally representative data on hiring agents is unavailable, hiring agents in this study are reasonably similar to a national sample—drawn from the 2014 General Social Survey—of whites with workplace supervisory authority. On average, the study sample is somewhat younger (37 vs. 45 years old); better educated (15.6 vs. 14.8 years of education); less likely to be self-employed (13 vs. 18 percent) and foreign-born (4 vs. 5.6 percent); more likely to be female (57 vs. 44 percent) and earn below $50,000 (60 vs. 46 percent); and similarly represented in the four census regions. Relative to the 2015 population of US workers, as reported by the Census Bureau's Business Dynamics Statistics, the study sample is similarly likely to work in establishments with at least 500 people, but more likely to work in establishments with fewer than 100 people (68 vs. 55 percent).

10. In the study, respondents evaluate referrals from employees they do not know. Thus, a limitation of the sample is that many (46 percent) of the hiring agents work in small establishments where they are likely to know the referring employees. While I found no statistically significant difference in how hiring agents from large and small establishments reward referrals, or on the effect of prejudice on how they reward referrals, the lack of heterogeneous effects should be interpreted with caution given the sample size.
11. I used deception to increase realism and decrease social desirability bias. This is important for studying referrals, since the hypothesized effect is a result of having a real employee risk her reputation by vouching for an applicant, and for a study interested in race. I believe these benefits outweigh the costs of the brief deception.
12. This approach follows previous hiring-focused experiments (Correll, Benard, and Paik 2007; Pedulla 2016), whose participants also compared two same-race and same-gender applicants.
13. Four respondents expressed some suspicion about the study—two before and two after the debrief. I include them in the analyses, but results remain the same if I exclude them.
14. A race IAT is available online at http://www.implicit.harvard.edu.
15. Implicit measures appear to have lower temporal stability than explicit measures. For a thoughtful discussion, see Gawronski et al. (2017).
16. These cutoffs are reported on the Project Implicit website (https://implicit.harvard.edu/implicit/demo/background/raceinfo.html).
17. Since many IAT studies rely on lab experiments, critics have expressed skepticism of the test's ability to predict real hiring decisions (Tetlock and Mitchell 2009); although more research is needed (Carlsson and Agerström 2016), these studies provide compelling evidence of the IAT's predictive validity in real workplaces.
18. Based on questions in the initial survey, I created three scales: (1) stereotypes of hard work/competence; (2) hostility; and (3) affect. The three scales capture the difference in how respondents evaluate blacks and whites on these dimensions. These scales were substantively (r = 0.22,0.28,0.29, respectively) and statistically ($p < 0.001$) significantly correlated with the IAT.
19. I present the mean evaluation scores, by experimental condition and referral status, in Appendix E.
20. The predicted returns to referrals imply that evaluators with anti-black prejudice up to 0.65 standard deviations above the mean reward referrals from white employees more than referrals from black employees.
21. Supplementary analyses indicate that white (but not black) applicants with same-race referrals were perceived as more hardworking ($p < 0.01$), capable ($p < 0.01$), and skilled ($p < 0.05$) than their non-referred counterparts. This suggests that respondents interpret whites' (but not blacks') same-race referrals as credible quality signals.
22. The predicted returns to referrals imply that evaluators with anti-black prejudice up to 0.1 standard deviations above the mean significantly reward black applicants' cross-race referrals; evaluators with prejudice at or above 0.2 standard deviations below the mean significantly reward white applicants' cross-race referrals.
23. To measure perceived applicant quality, respondents indicated on five-point scales (1 = not at all, 5 = extremely) the extent to which they expected applicants to be hardworking, skilled, competent, and disciplined. I constructed the applicant quality scale using exploratory factor analysis; the minimum factor loading was 0.81. The within-respondent difference in the perceived quality of the referred applicant and the non-referred applicant significantly mediated the effect of prejudice on returns to

cross-race referrals, controlling for age and gender: it mediated 92 percent (60 percent) of the effect for black (white) applicants' cross-race referrals. If respondents' assessment of applicant quality simply represented a justification of—rather than a motivation for—their evaluations, applicant quality should similarly mediate the effect of other respondent characteristics on returns to referrals, but this is not the case.

24. Outside the employment context, Wilson and Davis (2018) find that white respondents assert that blacks vote for same-race candidates, rather than for the best candidates, at much higher rates than whites (48 vs. 11 percent, respectively).
25. I thank an anonymous reviewer for this insight.

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