

Race at Work: A Field Experiment of Discrimination in Low-Wage Labor Markets¹

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ABSTRACT

Racial progress over the past four decades has lead some researchers and policy makers to proclaim the problem of discrimination solved. But the debates about discrimination have been obscured by a lack of reliable evidence. In this study, we adopt an experimental audit approach to formally test patterns of discrimination in the low-wage labor market of New York City. By using matched teams of individuals to apply for real entry-level jobs, it becomes possible to directly measure the extent to which race/ethnicity, in the absence of other disqualifying characteristics, reduce employment opportunities among equally qualified applicants. We find that whites and Latinos are systemically favored over black job seekers. Indeed, the effect of discrimination is so large that white job seekers just released from prison do no worse than blacks without criminal records. Relying on both quantitative and qualitative data from our testers' experiences, this study presents striking evidence of the continuing significance of race in shaping the employment opportunities of low-wage workers.

Despite a booming U.S. labor market through the late 1990s, racial differences in employment remain among the most enduring economic inequalities. While unemployment rates declined for all groups in the 1990s, young black men remained twice as likely to be unemployed relative to whites of their age. Racial inequality in total joblessness—including those who exited the labor market altogether—increased among young men during this period (Holzer and Offner 2001). Although many researchers have studied racial inequality in employment, its causes remain widely contested.

One line of research emphasizes the influence of racial bias and discrimination (Roscigno et al., 2007; Darity & Mason, 1998). Despite notable racial progress since the Civil Rights Movement, stagnating wages and persistent joblessness in the 1980s and 90s led to a renewed interest in the possible role of employer prejudice and discrimination. A series of studies relying on survey research and in-depth interviews finds evidence that firms are reluctant to hire young minority men—especially African Americans—because they are seen as unreliable, dishonest, or lacking in social or cognitive skills (Waldinger and Lichter 2003; Moss and Tilly 2001; Holzer 1996; Kirschenman & Neckerman, 1991; Wilson 1996, chap. 5). The strong negative attitudes expressed by employers point to one possible source of minority employment problems. At the same time, however, research relying on employer self-reports leaves uncertain the degree to which employer attitudes are reflected in actual hiring decisions (Pager & Quillian, 2005). Indeed, Moss and Tilly (2001) report the puzzling finding that “businesses where a plurality of managers complained about black motivation are more likely to hire black men” (p.151). In fact, across a series of analyses, the authors find that employers who overtly criticize the hard skills or interaction skills of black workers are between two and

four times more likely to hire a black worker (p.151-152).² The stated preferences of employers, then, leave uncertain the degree to which negative attitudes about blacks translate into active forms of discrimination.

Indeed, other research focusing on the *outcomes* of employment decisions finds less reason for concern. A series of influential studies investigating the racial gap in wages finds that, after adequate controls for human capital differences across groups, there remains little evidence of employer discrimination. Derek Neal and William Johnson (1996), for example, analyze the National Longitudinal Survey of Youth to estimate wage differences between white, black, and Hispanic young men. They find that two thirds of the black-white gap in wages in 1990-1991 can be explained by race differences in cognitive test scores measured 11 years earlier; test scores fully explain wage differences between whites and Hispanics. This and similar studies have reinforced the view that the employment problems of young minority men are mostly due to the skill or other individual deficiencies, rather than any direct effect of discrimination (Neal and Johnson 1996; Farkas and Vicknair 1996; O'Neill, 1990). Economist James Heckman (1998) puts the point most clearly, writing that “most of the disparity in earnings between blacks and whites in the labor market of the 1990s is due to differences in skills they bring to the market, and not to discrimination within the labor market...” He goes on to describe labor market discrimination as “the problem of an earlier era” (Heckman, 1998:101-102).

Does employer discrimination continue to play an important role in shaping the labor market status of minority workers? Definitive answers are elusive because discrimination is

² These analyses control for firm size, starting wage, the percent black in the relevant portion of the metropolitan area, and the business' average distance from black people in the area (p.151).

hard to measure. Without observing actual hiring decisions, it is difficult to assess exactly how and under what conditions race shapes employer behavior. We address this issue directly with an experimental field methodology that allows direct observation of employer hiring decisions. By presenting equally qualified applicants who differ only by race or ethnicity, we can observe the degree to which racial considerations shape real hiring decisions. Further, we move beyond the traditional quantitative estimates generated by the audit approach by investigating the *processes* by which discrimination occurs. By examining the interactions between job seekers and employers, we can gain important insights into *how* race colors employers' perceptions of job candidate quality and desirability. By investigating the various dimensions of discrimination, we can better identify the range of decisions that together results in limited opportunity for minority candidates. Together these measures offer a unique view into the hiring processes that may contribute to persistent racial inequality in employment.

Statistical Discrimination, Stereotypes, and the Persistence of Race

Economic theories of discrimination predict that competitive markets will drive discriminatory employers out of business (Becker, 1967). Taste discrimination—the preference for one racial group over another—is economically costly because prejudice leads employers to over-pay for majority workers. Over time, then, discrimination based on racial animus or in-group preference should decline as economic forces pressure firms toward equal treatment.

Not all forms of discrimination, however, are thought to be as responsive to market pressures. Statistical discrimination—the attribution of group-level characteristics to individual applicants—may be more likely to persist under conditions of uncertainty and incomplete information. Accurate group-level estimates of difficult-to-observe productivity

characteristics can provide useful information in the screening of individual applicants (Aigner & Cain, 1977). In this case, while illegal, statistical discrimination may represent a rational and efficient strategy for employers. Of course, this argument assumes that employers' estimates of group-level attributes are accurate, allowing for decisions about individual applicants to be correct *on average*. But what happens when employers' estimates of group-level attributes are inaccurate or outdated? Under perfect competition, inaccurate attributions should be eliminated, as market actors discover their practices to be suboptimal and modify their expectations accordingly (Oettinger, 1996). Factors such as occupational segregation, imperfect information flows, and negative feedback effects, however, can obscure changes in worker characteristics and preserve employer perceptions (Tomaskovic-Devey & Skaggs, 1999; Whatley, 1990; Arrow, 1998; Loury, 2002).³ Estimates of group-level characteristics, then, will depend on a range of influences which in some cases may delay or inhibit accurate updating.

Similar to the group level attributions relevant for statistical discrimination, stereotypes represent a set of associations or beliefs about a group which act in part as guides for individual assessments.⁴ When we encounter a stranger, we take note of their age, gender, and race, for example, often before learning anything specific about them as individuals. Each of these

³ Economist Kenneth Arrow (1998) argues, "Each employer has a very limited range of experience, and so prior beliefs can remain relatively undisturbed. Indeed, to the extent that discrimination takes the form of segregation, then there will in fact be little experimentation to find out abilities.... The very fact of segregation will reinforce beliefs in racial differences" (p.97). Glenn Loury (2002) provides an elegant discussion of "the logic of self-confirming stereotypes" in which he articulates the negative feedback loop caused by statistical discrimination, whereby prior negative expectations lead to the emergence of real differences in job-relevant attributes, with the perceived link between race and productivity ultimately becoming realized (pp.26-33).

⁴ Economic theories of statistical discrimination typically assume estimates of group characteristics to be accurate, whereas psychological theories of stereotypes tend to view assumptions about group characteristics as inaccurate or based on "a faulty and inflexible generalization" (Allport, 1955; but see Lee et al., 1995). Both theories, however, can be consistent with attempts at rational decision-making in which assessments of individuals are shaped in part by assumptions about the group to which that individual belongs.

characteristics provides clues that help us to form an immediate assessment of the unknown person before we begin the more time-consuming task of acquiring distinguishing information. When an individual seems to neatly fit into a coherent stereotypical category—for example, a young black male—a wealth of inferences about that individual become automatically available (Armour, 2000).

Social psychological research indicates that stereotypes can display a stubborn resistance to change, as individuals unconsciously resist the integration of counterstereotypic information through biases in the gathering, processing, and recall of information (Fiske, 1998; Bodenhausen, 1988; Trope & Thomson, 1997). Particularly in evaluating characteristics with some degree of ambiguity—such as the “soft skills” emphasized in many low-wage service jobs—stereotypes can filter information in ways that preserve expectations (Dovidio & Gaertner, 2000; Darley & Gross, 1983).⁵

Statistical discrimination or stereotypes may play a particularly important role in low wage labor markets. The screening process for low-wage jobs is brief, often consisting of a short application form and a cursory interview, leaving little time for the recognition of individuating information. Likewise, hard skill requirements (e.g., education, work experience, specific skills) are typically minimal for jobs of this kind, leaving much room for interpretation of applicant quality according to fuzzier or more subjective criteria. Under these conditions,

⁵ For example, Darley and Gross (1983) asked subjects to rate the academic ability of a young girl shown taking an achievement test. Subjects were led to believe that the girl came from either a high or a low socioeconomic background. Though all subjects were shown identical videotapes, those who believed the girl came from a higher socioeconomic class rated her as having significantly higher ability than those who believed the girl was from a lower socioeconomic class. Both groups cited specific elements of her behavior during the test as “evidence” for her ability level. The expected association between social class and ability led to differential coding and processing of information concerning performance.

the application of perceived group characteristics to individual applicants offers an easy shortcut to more intensive review.

Previous research finds that employers view black workers as less skilled and less personable than whites (Holzer, 1996; Moss & Tilly, 2001). According to one employer cited by Moss & Tilly (2001), “[Blacks] come in usually with very little skills and very little training. They really don’t have anything to offer, other than just being a body, a person” (p.100). Kirschenman and Neckerman (1991, 227) report the widespread perception among Chicago employers “that black workers were unreliable or had a poor work ethic.” Because many of the qualities valued by employers for low wage jobs are difficult to evaluate from a written application or brief meeting, generalized negative perceptions of minority workers may be more difficult for individual minority applicants to disconfirm. These negative expectations, paired with a cursory review process, can lead to situations in which individual minority applicants become viewed as unsuitable for particular employers and/or job types, or alternatively where minority candidates must out-perform equally qualified whites to overcome initial expectations (see Biernat and Kobrynowicz, 1997; Yarkin et al., 1982).

The Changing Landscape of Low Wage Labor Markets

While the vast majority of research on racial inequality in the labor market has focused on black-white differences, employers’ attitudes toward racial minorities show substantial variation across groups. Capturing this variation is important, as contemporary low-wage labor markets are characterized by increasing heterogeneity of the urban minority work force, with low-skill African American workers now much more likely to compete with other minority groups—low-skill Latino workers, in particular. Waldinger and Lichter (2003) found that their

sample of Los Angeles employers viewed Latino workers as more pliant and more reliable than African Americans. The researchers related the perceived docility of Latino workers to immigration status, whereby being an outsider to American society gave Latino workers fewer claims to equal treatment. Kirschenman and Neckerman (1991, 210) echo this idea, finding that Chicago employers favor Latino workers over blacks, but also favor non-native Mexicans over Puerto Rican-born U.S. citizens. In both field settings, Los Angeles and Chicago, whites were viewed by employers as the most desirable workers, standing at the top of the racial hierarchy. Latinos occupied the middle ground, while blacks were the most disfavored, with young black men, last of all.

Race and Criminal Stigma

Quite unlike perceptions of Latinos as submissive and easy to manage, African Americans are more often viewed with trepidation. Reporting on his interviews with Chicago employers, Wilson (1996) finds that black men are suspected of having criminal records, instilling fear in customers, of being “belligerent and dangerous,” and of taking drugs. Other employer interviews suggest that black men are not perceived as literally criminal, but as excessively assertive. Thus Moss and Tilly (1999) report that employers see black workers as “having a chip on their shoulder.” Waldinger and Lichter (2003) also report that Los Angeles employers view black workers as being more interpersonally aggressive than immigrant workers. More than just unreliable or lazy, there is evidence that employers view young black men as threatening, confrontational, and criminal.

In part, racial ascriptions of criminality are likely related to a realistic understanding of the high levels of crime and incarceration among young black men. Pettit and Western (2004)

describe the mass imprisonment of young black men in which nearly a third of those without college education will go to prison by their mid-thirties. The social fact of mass imprisonment is further dramatized in popular culture, which tends to depict criminal episodes in a heavily racialized context. Media research shows that, even relative to their distribution among arrestees, blacks are disproportionately portrayed as criminal by local television news coverage (Dixon & Linz, 2000). In political campaigns, voters' fears of street crime and violence have been stoked by images of young black men (Mendelberg 2001; Beckett 1997).

Perceptions of the dangerousness of young black men indicate a prejudice in which the stigma of criminality is projected beyond those individuals directly involved in crime. Pager's (2003) research in a Milwaukee audit study, for example, compares the magnitude of racial and criminal stigma among matched pairs of job seekers. Fielding teams of black and teams of white job applicants (in which one member of each team was randomly assigned a criminal record), she found that a black applicant with no criminal background experiences job prospects similar to those of a white felon. That blackness confers roughly the same degree of stigma as a felony conviction underscores the significance of race in the eyes of Milwaukee employers. At the same time, because the Milwaukee study sent blacks and whites to apply for different jobs, cross-racial comparisons may be confounded with employer effects which differ for the two groups. The comparisons of race and criminality thus remain tentative. We follow-up the Milwaukee study here by sending blacks and whites to apply for the same jobs, yielding a sharper test of the stigmatic equivalence of race and criminal background.

Methods for Studying Labor Market Discrimination

Racial discrimination in the labor market is typically studied by comparing the wages of whites and minorities. In this approach, the difference in wages is estimated while statistically controlling for relevant human capital characteristics. Estimates from a variety of social surveys suggests that the black-white difference in hourly wages among men, controlling for schooling, work experience, and other indicators of human capital varies between about 10 and 20 percent (e.g., Cancio et al 1996; Neal and Johnson 1996; Darity and Meyers 1998). This residual method, in which discrimination is defined as the unexplained race difference in wages, is highly sensitive to the measurement of human capital. Where race differences in human capital are incompletely observed, the effect of discrimination may be over-estimated (e.g., Neal and Johnson 1996; Farkas and Vicknair 1996). From the perspective of this research, standard studies over-estimate racial discrimination because cognitive differences between blacks and whites are inadequately controlled.

Residual estimates of discrimination infer employer behavior from data on workers' wages. Field experiments, by contrast, offer a more direct approach to the measurement of discrimination. This approach, referred to as an audit methodology, involves the use of matched teams of job applicants—called testers—who apply to real job openings and record responses from employers. In studies of racial discrimination, black and white testers are assigned equivalent resumes and are matched on a variety of characteristics like age, education, physical appearance, and interpersonal skills. Because black and white testers are sent to the same firms, and testers are matched on a wide variety of characteristics, much of the unexplained variation that confounds residual estimates of discrimination is experimentally controlled.

In part because of taxing logistical requirements, the use of in-person audit studies of employment remains rare, with the most recent studies of racial discrimination in employment conducted in the early 1990s (Cross et al. 1990; Turner et al. 1991; Bendick et al., 1991; Bendick et al. 1994).⁶ Moreover, the typical emphasis on a single comparison group leaves several significant features of contemporary urban labor markets unexplored. The Milwaukee study, discussed earlier, represents one important starting point for this project (Pager 2003), including both race and criminal background as key variables in an audit study of low wage labor markets. The primary purpose of this study, titled “The Mark of a Criminal Record,” was to examine the within-race effect of a criminal record, emphasizing the role of the criminal justice system as an increasingly important institution of stratification. Though race emerged as an important theme in the study’s findings, the topic of racial discrimination was not a central focus of the paper, nor was the design of the study ideally suited to measuring discrimination (because black and white testers did not apply to the same employers). Our study, conducted in 2004, extends this earlier research in several important ways. First, this study focuses more directly on the question of racial discrimination, both in conceptualization and design. This emphasis allows us to situate our research within ongoing debates about discrimination, and to provide rigorous empirical data with which to adjudicate our claims. Further, we move beyond standard two-race models of discrimination by including matched black, white, and Latino job seekers, reflecting the racial heterogeneity of large urban labor markets. To our knowledge, this is the first study of its kind to simultaneously examine the

⁶ For a summary of the results of earlier audit studies, see Heckman and Siegelman, 1993; Pager, 1997. Less taxing are correspondence studies, which rely on resumes are sent by mail rather than in-person applications (see below for a discussion of a recent correspondence test by Bertrand & Mullainathan, 2005). Audit studies have been used more often for investigations of housing discrimination, in which the requirements of matching and supervision are likewise less stringent (e.g., Yinger, 1995).

employment experiences of three racial/ethnic groups. Second, to help calibrate the magnitude of racial preferences, we compare applicants affected by varying forms of stigma; specifically, we compare minority applicants to white applicants just released from prison. Where the Milwaukee study attempted this comparison across teams, the present analysis provides a more direct test by comparing the outcomes of minority and ex-offender applicants who visited the same employers. Finally, we extend our analysis from the quantitative evidence of differential treatment to a rich set of qualitative data allowing for an exploration of the *process* of discrimination. Drawing from the extensive field notes taken by testers which describe their interactions with employers, we provide a unique window into the range of employer responses that characterize discrimination in contemporary low wage labor markets.

Research Design and Methods

The New York City Hiring Discrimination Study sent matched teams of testers to apply for 341 real entry-level jobs throughout New York City over nine months in 2004. The testers were well-spoken, clean-shaven young men, aged 22 to 26. Most were college-educated, between 5 feet 10 inches and 6 feet in height, recruited in and around New York City. They were matched on the basis of their verbal skills, interactional styles (level of eye-contact, demeanor, and verbosity), and physical attractiveness. Testers were assigned fictitious resumes indicating identical educational attainment, and comparable quality of high school, work experience (quantity and kind), and neighborhood of residence. Resumes were prepared in different fonts and formats and randomly varied across testers, with each resume used by testers from each race group. Testers presented themselves as high school graduates with steady work experience in entry-level jobs. Finally, the testers passed through a common

training program to ensure uniform behavior in job interviews. While in the field, the testers dressed similarly and communicated with teammates by cell phone to anticipate unusual interview situations.

To study employers' treatment of whites compared to blacks and Latinos, we fielded two teams of three testers. The first team investigates racial queues within low-wage labor markets, with a black, Latino, and white tester each applying for the same jobs within a 24 hour period. To help ensure comparability, the Latino testers spoke in unaccented English, were U.S. citizens of Puerto Rican descent, and like the other testers, claimed no Spanish language ability. This first team tests a standard racial hierarchy, with the white tester serving as a benchmark against which to measure variation in racial and ethnic discrimination. To calibrate the magnitude of racial stigma, the second team compares black and Latino testers to a white tester with a criminal record. The criminal record was typically disclosed in answer to the standard question on employment applications, "Have you ever been convicted of a crime? If yes, please explain." When asked, testers were instructed to reveal that they had recently been released from prison after serving 18 months for a drug felony (possession with intent to distribute, cocaine). In addition, following Pager (2003), the white tester's criminal record was additionally signaled on the resume by listing work experience at a state prison, and by listing a parole officer as a reference.⁷

For both teams, employers were sampled from job listings for entry-level positions, defined as jobs requiring no previous experience and no education greater than high school. Job listings were randomly drawn each week from the classified sections of *The New York*

⁷ Results from Pager (2003) suggest that providing information about a criminal record to employers who do not request the information does little to affect hiring decisions. Those employers who request the information are those most likely to use it.

Times, The Daily News, The New York Post, The Village Voice, and Craigslist. The broad range of job listings allows for comprehensive coverage of the entry-level labor market in New York. From the available population of job listings, we took a simple random sample of advertisements each week. Testers in each team applied to each job within a 24-hour period, randomly varying the order of the applicants.

Our dependent variable recorded any positive response in which a tester was either offered a job or called back for a second interview. Callbacks were recorded by voicemail boxes set up for each tester. For employer i ($i=1, \dots, N$) and tester t ($t=W, B, \text{ or } L$ for white, blacks and Latinos), a positive response, y_{it} , is a binary variable that scores 1 for a job offer or callback, and 0 otherwise. We define the level of differential treatment as the ratio in positive response rates for each comparison, say $r_{WB} = \bar{y}_W / \bar{y}_B$. Under the null hypothesis of equal treatment, $r_{WB}=1$, the number of positive responses received by each racial group is equal. For data on matched pairs, several statistical tests have been proposed that use within-pair comparisons to account for the correlation of observations from the same pair (e.g., Heckman and Seigelman 1993; Agresti 1990). In our case, where three testers are sent to the same employer, we have a matched triplet and information from all three testers should ideally contribute to an inference about a contrast between any two. Ghosh, Chen, Ghosh and Agresti (2000) suggest that matched pairs can be fit with a hierarchical logistic regression with a random effect for each pair.

We generalize their approach to our matched triplets, fitting a random effect for each employer. If the probability of a positive response is given by $E(y_{it})=p_{it}$, the hierarchical model is written,

$$\text{Log} \left(\frac{p_{it}}{1-p_{it}} \right) = \alpha_i + \beta B_{it} + \gamma L_{it},$$

where B_{it} is a dummy variable for blacks, L_{it} is a dummy variable for Latinos, and the random effects for employers, α_i , is given a normal distribution. The employer effects, α_i , induce a correlation among observations from the same employers and reduce standard errors as in the usual matched-pair inference. The models are estimated with Markov Chain Monte Carlo methods. Intervals for the mean differences (d_{WB} , d_{WL} , and d_{BL}) are constructed by taking random draws from the posterior predictive distribution of y_{it} . Alternative methods that adjust for clustering by employer yield similar results to those reported below.

The Problems of Matching

The quality of audit results depends strongly on the comparability of the testers. Because race cannot be experimentally assigned, researchers must rely on effective selection and matching to construct audit pairs that represent comparable candidates with respect to all relevant characteristics—something that, according to critics, leaves substantial room for bias.

Heckman and Seigelman (1993), for example, have argued that researchers know little about the hard-to-observe characteristics highly prized by employers. If testers are poorly matched, evidence of discrimination may be merely an artifact of idiosyncratic tester characteristics.

Bertrand and Mullainathan (2005) remove tester effects in a “correspondence test” which sent resumes to employers with common white and African American names. Their design allows the random assignment of resume characteristics to white- and black-sounding names, largely removing concerns about unobserved characteristics. Sending matched resumes in Boston and Chicago, Bertrand, and Mullainathan (2005) find that those with white names

received callbacks from employers 9.7 percent of the time, a significant difference from the 6.5 percent callback rate for black names. Studies of this kind provide some reassurance that results from the body of audit research are not driven by tester effects alone.

Because we rely on in-person audits for our study of low-wage labor markets, the effective matching of testers becomes a key concern.⁸ Instead of the usual summertime recruitment of college students, we matched 10 testers from over three hundred applicants from all over greater New York.⁹ Successful applicants were subject to two lengthy screening interviews and a written test, a far more probing job selection process than the testers encountered in their fieldwork.¹⁰ Each tester passed through a standard training period, was required to dress uniformly, and was subject to periodic spot checks for quality control.

Despite these measures, uncontrolled tester effects remain a threat to inferences about discrimination. We assess the sensitivity of our results to testers in four ways. First, each tester may have a unique effect, but the average effect of the testers may be zero. In this case, the observations from each tester will be correlated and standard errors that ignore this clustering will tend to be too small. We allow for this possibility by fitting an additional random effect for each tester in our hierarchical logistic regression.¹¹ Second, each tester may have a unique

⁸ In-person audits allow for the inclusion of a wide range of entry-level job types (which often require in-person applications); they provide a clear method for signaling race (through the physical presentation of job applicants), without concerns over the class-notations of racially distinctive names (e.g., Fryer & Levitt, 2004); and they provide the opportunity to gather both quantitative and qualitative data, with information on whether or not the applicant receives the job as well as how he is treated during the interview process.

⁹ Note: These 300 applicants had already been pre-screened for appropriate age, race, ethnicity, and gender.

¹⁰ Indeed, as an employer him/herself, the researcher must identify subtle cues about applicants that indicate their ability to perform. Whether or not these cues are explicit, conscious, or measurable, they are present in a researcher's evaluation of tester candidates as they are for employers' evaluations of entry-level job applicants. Like employers, researchers are affected by both objective and subjective/subconscious indicators of applicant quality in their selection and matching of testers in ways that should ultimately improve the nuanced calibration of test partners.

¹¹ Additional models (not shown here) test for fixed effects of several individual testers, finding no significant differences across testers within each race group.

effect, but these effects may not average to zero. To assess the sensitivity of our results to each tester we perform a type of cross-validation in which the treatment effect is recalculated for a reduced data set, sequentially omitting those employers associated with each individual tester. Confidence intervals below are based on models including employer and tester random effects. These results are compared to cross-validation treatment effects based on subsets of the data in which individual testers are sequentially omitted. Third, we recalculate our key results for each unique combination of testers matched in teams over the course of the fieldwork (Appendix B). These results, though sensitive to small sample sizes for some combinations, tend to support the consistency of effects across a number of tester comparisons.

As a final investigation of tester effects, we consider the possibility that that the expectations or behaviors of testers may influence the audit results in nonrandom ways. For example, if a black tester expects to be treated poorly by employers, he may appear more withdrawn, nervous, or defensive in interactions. The nature of the interaction may then create a self-fulfilling prophecy, in which the tester experiences poor outcomes, but for reasons unrelated to his race (Steele & Aronsen, 1995). We can assess the relevance of this concern by analyzing the degree to which interaction between testers and employers is associated with widening racial disparities. Roughly half of all tests were completed with little if any contact with employers, in which case the internal disposition of the tester is unlikely to exert much of an effect. Strong evidence of discrimination revealed in the absence of personal contact would suggest that factors other than testers' own enacted expectations are at work. Overall we find no evidence that testers' interpersonal style or expectations are associated with increasing discrimination; if anything, personal contact appears to weaken the effect of race, suggesting

that the performance of the testers worked to minimize rather than exaggerate our measures of racial bias (See Appendix C).

The problem of imperfect matching among testers is a well-understood vulnerability of audit experiments, and one to which we have devoted considerable attention. Ironically, however, the achievement of perfect matches can itself produce distortions in the hiring process. Because audit partners are matched on all characteristics that are most directly relevant to hiring decisions (e.g., education, work experience, physical appearance, etc.), employers may be forced to privilege relatively minor characteristics simply out of necessity of breaking the tie. “By taking out the common components that are most easily measured, differences in hiring rates as monitored by audits arise from the idiosyncratic factors, and not the main factors, that drive actual labor markets” (Heckman, 1998: 111). If employers care only marginally about race, but are confronted with applicants equal on all other dimensions, this single characteristic may take on greater significance in that particular hiring decision than is true under normal circumstances when evaluating real applicants who differ according to multiple dimensions.

The design of our study, which focuses on the early stages of the hiring process, avoids situations in which employers must choose only a single applicant. By using “callbacks” as one of our key dependent variables, we include cases which represent an employer’s first pass at applicant screening.¹² Indeed, employers typically interview an average of eight applicants for each entry-level job they fill (see Pager, 2003). If race represents only a minor concern for employers, we would expect all members of our audit team to make it through the first cut. To

¹² Positive responses recorded in this study were fairly evenly split among callbacks and job offers. Employers who made offers on-the-spot were typically those hiring more than one applicant, thus similarly avoiding a situation in which a forced-choice becomes necessary. In fact, rates of job offers were more evenly distributed by race relative to callbacks (see Tables A1 and A2).

the extent that race figures prominently even in these early rounds of review, we can infer that this characteristic has been invoked as more than a mere tie-breaker. In these cases, the evidence of race-based decision-making is quite strong.

Experimental Results

The primary results from the audit study focus on the proportion of applications submitted by testers which elicited either a callback or job offer from employers, by race of the applicant.

Our first team assesses the effects of race discrimination by comparing the outcomes of equally qualified white, Latino, and black applicants. Positive response rates for each race-ethnicity group are reported in Figure 1a. In applications to 171 employers, the white tester received a callback or job offer 31.0 percent of the time, compared to a positive response rate of 25.2 percent for Latinos and 15.2 percent for blacks. These results show a clear racial hierarchy, with whites in the lead, followed by Latinos, and blacks trailing behind.

Figure 1a. Positive responses by race and ethnicity

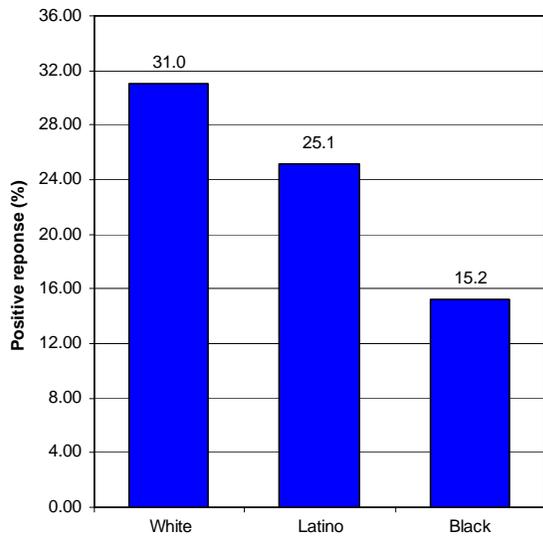
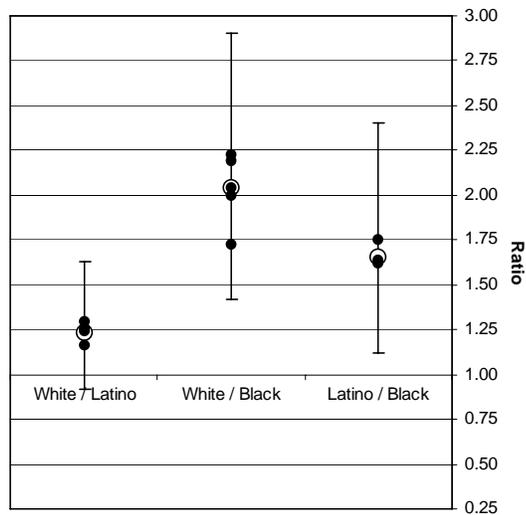


Figure 1b. Ratios of positive responses by race and ethnicity



Note: Hollow circles in Figure 1b indicate point estimates of the ratio. Solid circles indicate ratios obtained by sequentially dropping testers from the analysis. 95% confidence intervals were estimated from a logistic hierarchical regression with employer and tester random effects. Number of employers = 171.

Figure 1.b shows the contrasts between the three race groups. Once we adjust for employer and tester effects, the confidence interval for the white-Hispanic ratio of 1.23 includes one.¹³ By contrast, the white-black ratio of 2.04 is substantively large and statistically significant. The positive response rate for blacks is also significantly lower than the rate for Latinos. The points on the figure show the cross-validation results obtained by sequentially dropping employers associated with each tester. In each case, all ratios remain consistently greater than one, indicating that employers treat blacks less positively regardless of which testers are applying for jobs. Overall, these results indicate that white and Latino job applicants are significantly preferred by employers relative to equally qualified blacks. The findings suggest that a black

¹³ Note, however, that in a model pooling the cases from the two teams, with a dummy variable identifying team and criminal background, the white-Latino gap becomes statistically significant.

applicant would have to search twice as long as an equally qualified white applicant before receiving a callback or job offer from an employer.

The results from this first comparison indicate the strong racial preferences of employers; but the magnitude of this preference remains somewhat abstract. To calibrate the effects of race against another stigmatized category, the ex-offender, we repeated the experiment, this time assigning a criminal record to the white tester. Figure 2 shows the percentage of positive responses—job offers or callbacks—received by each tester.¹⁴ In this experiment, whites with criminal records obtained positive responses in 17.2 percent of job applications, compared to 15.4 for Latinos, and 13.0 percent for blacks. The racial advantage experienced by white testers narrows substantially in this comparison, and yet still the white applicant with a criminal record does just as well if not better than his minority counterparts with no criminal background.

¹⁴ Note that the overall rate of positive responses is lower for all testers relative to the results presented in Figure 1. This is likely due to the staggered fielding of teams and resulting differences in the composition of employers audited across the two periods of time.

Figure 2a. Positive responses by race, ethnicity, and criminal record

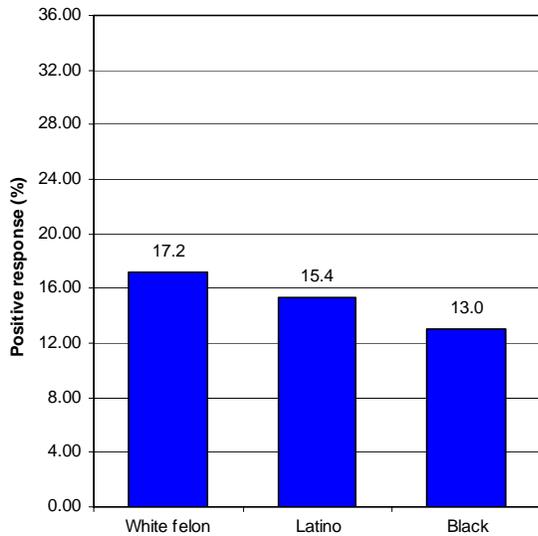
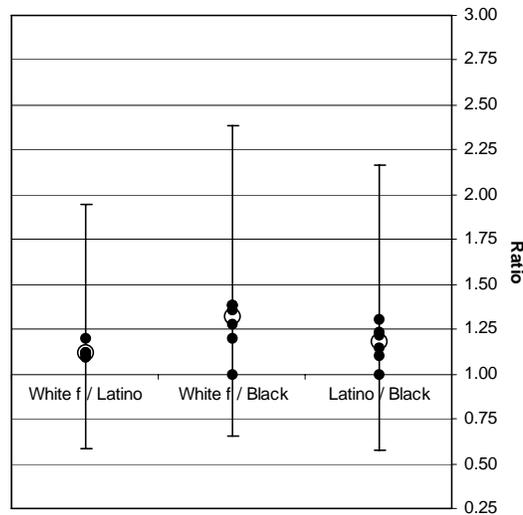


Figure 2b. Ratios of positive responses by race, ethnicity, and criminal record



Note: Hollow circles in Figure 2b indicate point estimates of the ratio. Solid circles indicate ratios obtained by sequentially dropping testers from the analysis. 95% confidence intervals were estimated from a logistic hierarchical regression with employer and tester random effects. Number of employers = 169.

Figure 2b shows that the white-Latino ratio is close to one and the confidence interval overlaps one by a large margin. The white-black ratio is now a statistically insignificant 1.32, compared to a significant ratio of 2.04 when the white tester had a clean record. As in the previous experiment, Latinos were preferred to blacks, but in this case the difference is not significant. As before, the cross-validation treatment effects, obtained by dropping employers associated with one particular tester, are all close to one. These results indicate that, regardless of which testers were sent into the field, employers differentiated little among the three applicant groups.

The comparison of a white felon to black and Latino applicants with clean backgrounds provides a vivid calibration of the effects of race on hiring decisions. While ex-offenders are disadvantaged in the labor market relative to applicants with no criminal background, the stigma of a felony conviction appears no greater than that of minority status. According to

these results, New York employers view minority applicants as essentially equivalent to whites just out of prison.

Race at Work: An Examination of Interactions between Applicants and Employers

The strong evidence of hiring discrimination from the field experiment provides a clear measure of the continuing significance of race in employer decision-making. These numbers, however, tell us little about the process by which race comes to matter. Fortunately, the in-person design of the experiment allows us to further supplement the experimental findings with qualitative evidence from testers' field notes reporting their interactions in job interviews. These detailed narrative reports provide a unique window into employers' deliberations and shed light on the circumstances under which racial considerations come into play.

For insight into the process of discrimination at work, we look to the subset of cases in which testers had sufficient interaction with employers for content coding. Of the 46 cases of differential treatment overall, roughly half were conducted with at least some contact with the person in charge of hiring, allowing us to look for clues and insights into the employers' responses to each candidate. Consistent with the notion that contemporary forms of discrimination are largely subtle and covert, many cases contain little that would lead us to anticipate the differential treatment that followed. Of those that do, however, we observe certain consistent patterns in employers' responses. It is to these patterns that we turn our attention in the following discussion. Of course, in moving away from the experimental design, we should be careful to interpret the results from these exploratory analyses as hypotheses for further investigation.

In the following discussion, we identify three categories of discriminatory behavior observed in the testers' interactions with employers: categorical exclusion, shifting standards, and race-coded job channeling. The first category of behavior, categorical exclusion, is characterized by an immediate or automatic rejection of the black (or minority) candidate(s) in favor of the white applicant. Occurring early in the application process, these decisions involve little negotiated interaction, but rather appear to reflect a fairly rigid application of the employers' racial preferences or beliefs. A second category of behavior, referred to here as shifting standards, reflects a more dynamic process of decision-making. Here we observe cases in which employers' evaluations of applicants appear actively shaped or constructed through a racial lens, with similar qualifications or deficits taking on varying relevance depending on the race of their bearer. Finally, a third category of behavior moves beyond the hiring decision to a focus on job placement. Race-based job channeling represents a process by which minority applicants are steered toward particular job types, often those characterized by greater physical demands and reduced customer contact.

By observing the interactions that characterize each of these behavior types, we gain a rare glimpse into the processes by which discrimination takes place. At the same time, we emphasize that this discussion is intended as a descriptive exercise, rather than a formal causal analysis. Indeed, the categories we identify are not mutually exclusive; some of the same processes may be operating simultaneously, with employers' shifting evaluations of applicant skills leading to differential patterns of job channeling, or assumptions about the appropriate race of the incumbent of a particular position leading to forms of categorical exclusion. Likewise, we note that this typology cannot account for all of the differential treatment we observe—indeed, at least half were made on the basis of no personal contact between applicant

and employer, leaving the nature of the decision entirely unobserved. With these caveats in mind, we nevertheless view the analysis as providing a unique contribution to the study of racial discrimination, revealing mechanisms at work that observational research can rarely identify.

Categorical Exclusion

In the majority of job applications, contact between testers and employers was limited. Even where testers reported a formal interview or brief exchange, interactions that betrayed a clear racial preference were rare. Nevertheless, a close comparison of test partners' experiences reveal several cases in which race appears to be the sole or primary criterion for an employer's decision. In these instances, there appears little negotiation or deliberation over the selection decision. Rather, the employer's decision seems to reflect some preexisting judgment regarding the adequacy or desirability of a minority candidate. The uncompromising nature of the employer's decision can be characterized as a form of categorical exclusion.

In one case, for example, Zuri, an African American tester, reports his experience applying for a job as a warehouse worker: "*The original woman who had herded us in told us that when we finished filling out the application we could leave because "there's no interview today, guys!" ...When I made it across the street to the bus stop ...the woman who had collected our completed applications pointed in the direction of Simon, Josue and myself [the three test partners] motioning for us to return. All three of us went over.... She looked at me and told me she "needed to speak to these two" and that I could go back.*" Zuri returned to the bus stop, while his white and Latino test partners were both asked to come back at 5pm that day to start work. Simon, the white tester, reports, "*She said she told the other people that we*

needed to sign something—that that’s why she called us over—so as not to let them know she was hiring us. She seemed pretty concerned with not letting anyone else know.”

In this context, with no interview and virtually no direct contact with the employer, we observe a decision that appears based on little other than race. The job is a manual position for which Zuri is at least as able, and yet he is readily passed over in favor of his white and Latino counterparts.

This case is unusual in that the three testers were rarely present at a given location at the same time. More often, evidence of differential treatment was found only after comparing the testers’ reports side by side. But here too we observed several hiring decisions in which race appeared to be the sole or primary source of differentiation. In one case, for example, the three testers inquired about a sales position at a retail clothing store. Joe, one of our African American testers, reports: “[The employer] *said the position was just filled and that she would be calling people in for an interview if the person doesn’t work out.*” Josue, his Latino test partner, was told something very similar: “*She informed me that the position was already filled, but did not know if the hired employee would work out. She told me to leave my resume with her.*” By contrast, when Simon, their white test partner, applied last, his experience is notably different: “*...I asked what the hiring process was—if they’re taking applications now, interviewing, etc. She looked at my application. ‘You can start immediately?’ Yes. ‘Can you start tomorrow?’ Yes. ‘10 a.m.’ She was very friendly and introduced me to another woman (white, 28) at the cash register who will be training me.*”

A similar case arose a few weeks later at an electronics store. Joe, the African American tester, was allowed to complete an application but was told that his references would have to be checked before he could be interviewed. Meanwhile, Simon and Josue, his white

and Latino partners, applied shortly thereafter and were interviewed on the spot. Joe's references were never called, while Simon received a callback two days later offering him the job.

When evaluated individually, these interactions would not have raised any particular concern. And yet, side by side, we see minority applicants encounter barriers not present for the white applicant, with employers citing excuses for putting off the black or minority candidate (e.g., “the job has already been filled”; or “we’d have to check your references before we can proceed”), which in the white applicant’s case appear not apply. To be sure, certain cases may capture random error—perhaps the position became available between the testers’ visits, leading to the employer’s differential response. And yet, the consistency of the pattern in these data suggest that random error is unlikely to be a dominant factor. Indeed, of the 171 tests conducted by the first team (no criminal background), white testers were singled out for callbacks or job offers 15 times, whereas there was only a single case in which a black tester received a positive response when his white or Latino partner did not.¹⁵

These cases of categorical exclusion, while measured in just a small proportion of the audits, reveal one extreme form of discrimination in which racial considerations appear relatively fixed and unyielding. Before black (or minority) candidates have the chance to demonstrate their qualifications, in these cases they are weeded out on the basis of a single categorical distinction.¹⁶

¹⁵ There were an additional 13 cases in which both white and Latino testers received positive responses, and 7 in which the Latino tester alone was selected (see Appendix B). The large asymmetry in response rates by race provides further evidence that employers’ decisions represent more than mere random error.

¹⁶ A number of additional cases of differential treatment at the initial stage of review are not included here. At least half of the tests were completed with very little or no contact with the employer. In those cases where a white tester received a callback but his black partner did not, it is unclear whether this response represents

Shifting Standards

Evidence of categorical exclusion represents one important manifestation of discrimination. These cases reveal little about the underlying motivation that drives employers' decisions, but demonstrate the sometimes rigid barriers facing minority job seekers. In these cases, black/minority applicants are discouraged or dismissed at the outset of the employment process, leaving little opportunity for a more nuanced review.

But making it past this initial point of contact was not the only hurdle facing minority applicants. Indeed, among those who recorded more extensive interaction with employers, we observe a complex set of racial dynamics at work. On the one hand, personal contact with employers was associated with significantly improved outcomes for all testers and a narrowing of the racial gap (see Appendix C). The interpersonal skills of the testers seemed to reduce the influence of racial bias, or at very least not to exacerbate it. And yet, even in the context of this more personalized review, we see evidence of subtle bias in the evaluation of applicant qualifications. In particular, a number of cases reveal how the "objective" qualifications of testers appear to be re-interpreted through the lens of race. Though testers' resumes were matched on education and work experience, employers at times appeared to weigh qualifications differently depending on the race of the applicant. In the following interactions, we see evidence that the same deficiencies of skill or experience appear to be more disqualifying for the minority job seekers.

In one case, Joe, an African American tester, was not allowed to apply for a sales position as a result of his lacking direct experience. He reports: "When [the employer] called

categorical exclusion (based on brief in-person contact), shifting standards (based on a review of the completed applications), random error, or something else.

me she handed me back my resume and told me they didn't have any positions to offer me...She said... I needed a couple years of experience." The employer voices similar concerns with Kevin, Joe's white partner. Kevin writes: "[The employer] looked at my resume and said, 'There is absolutely nothing here that qualifies you for this position.'" And yet, despite the employer's concerns, Kevin was then offered the sales job and asked to come back the next morning. In interactions with both testers the employer clearly expresses his concern over the applicants' lack of relevant work experience. In the case of the white applicant, however, this the lack of experience does not end up representing grounds for disqualification, whereas the black applicant is readily dismissed.

In another case, Josue, a Latino tester, applied for a job as a line cook at a mid-level Manhattan restaurant. He reports: "[The employer] then asked me if I had any prior kitchen or cooking experience. I told him that I did not really have any, but that I worked alongside cooks at [my prior job as a server]. He then asked me if I had any 'knife' experience and I told him no... He told me he would give me a try and wanted to know if I was available this coming Sunday at 2 p.m." Simon, his white test partner, was also invited to come back for a trial period. By contrast, Joe, the black tester found, "they are only looking for experienced line cooks." Joe continued, "I started to try and convince him to give me a chance but he cut me off and said I didn't qualify." Though none of the testers had direct experience with kitchen work, the white and Latino applicants were viewed as viable prospects, while the black applicant was rejected because he lacked experience.

In other cases, real skill or experience differences were perceived among applicants despite the fact that the testers' resumes were designed to convey identical qualifications. In one case, for example, the testers applied for a job at a moving company. Joe, the African

American applicant, spoke with the employer about his prior experience at a delivery company. Nevertheless, “[the employer] told me that he couldn’t use me because he is looking for someone with moving experience.” Josue, his Latino partner, presented his experience as a stocker at a delivery company and reports a similar reaction: “He then told me that since I have no experience... there is nothing he could do for me.” Simon, their white test partner, presented his identical qualifications to which the employer responds more favorably: “‘To be honest, we’re looking for someone with specific moving experience. But because you’ve worked for [a storage company], that has a little to do with moving.’ He wanted me to come in tomorrow between 10 and 11 for an interview.” The employer is consistent in his preference for workers with relevant prior experience, but he is willing to apply a more flexible, inclusive standard in evaluating the experience of the white applicant than in the case of the minority applicants. The shifting standards used by employers, offering more latitude to marginally skilled white applicants than similarly qualified minorities, suggests that even the evaluation of “objective” information can be affected by underlying racial considerations.

Even in cases where the white tester presented himself as a felon, we see some evidence that this applicant was afforded the benefit of the doubt in ways that his minority counterparts were not. In applying at an auto dealership, for example, the three testers had substantially different experiences. Joe, the black tester, was informed at the outset that the only available positions were for those with direct auto sales experience. When Josue, his Latino partner, applied, the lack of direct auto sales experience was less of a problem. Josue reports: “*He asked me if I had any customer service experience and I said not really.... He then told me that he wanted to get rid of a few bad apples who were not performing well. He asked me when I could start....*” Josue was told to wait for a call back on Monday. When the

employer interviewed Keith, their white ex-felon test partner, he was first given a stern lecture regarding his criminal background. The employer warned, “*I have no problem with your conviction, it doesn’t bother me. But if I find out money is missing or you’re not clean or not showing up on time I have no problem ending the relationship.*” And yet, despite the employer’s concerns, Keith was offered the job on the spot. The benefit of the doubt conferred by whiteness persists here even in the context of a white applicant just released from prison. Concerns about relevant work experience, and concerns over possible problem behaviors associated with a criminal background are set aside as the employer selects the white felon applicant but not the similarly qualified black or Hispanic applicants with no criminal background.¹⁷

Testers’ reports of their interactions with employers offer clues about hiring decisions in low-wage labor markets. A pattern in these interactions, when compared side by side, is the use of double standards—seeking higher qualifications from blacks than non-blacks, or viewing whites as more qualified than minorities presenting equivalent resumes. Recent research emphasizes employers’ use of race as a proxy for difficult-to-observe productivity characteristics (Moss and Tilly 1999; Waldinger and Lichter 2003). Where we have detailed field notes on job interviews, the interactions we observe suggest that employers also use race in interpreting and weighting observable skill characteristics. Standards appeared to shift as employers evaluated the qualifications of various applicants differently depending on their race or ethnicity (see also Biernat and Kobrynowicz, 1997; Yarkin et al., 1982).

¹⁷ A second, almost identical interaction was recorded about a visit to dry cleaning company. Zuri and Josue, the black and Latino testers, were each interviewed and then told to wait for a callback. Simon, the white tester, received a lecture similar to the one reported by Keith. The employer told him, “See, I don’t have a problem with the conviction, making a mistake. But I do have a problem with people not on time. With people coming to work under the influence. With stealing...” A few days later Simon received a callback from the employer, while the other two testers never heard back.

Race Coded Job Channeling

The first two categories of differential treatment focus on the decision to hire. Beyond this binary decision, employers also face decisions about where to place a worker within the organizational hierarchy. Here, at the point of job placement, we observe a third category of differential treatment. In our review of the testers' experiences, we noticed that applicants were at times encouraged to apply for jobs different than the ones initially advertised or different than the ones about which they had inquired. In many cases, these instances of channeling reveal a race-coding of job types, whereby employers prefer whites for certain positions and minorities for others. For example, in one case, Zuri, a black tester, applied for a sales position at a lighting store. A sign on the glass in front of the store indicated, "Salesperson Wanted." Zuri describes the following interaction: "When she asked what position I was looking for I said I was open, but that since they were looking for a salesperson I would be interested in that. She smiled, put her head in her hand and her elbow on the table and said, 'I need a stock boy. Can you do stock boy?'" Zuri's white and Hispanic test partners, by contrast, were each able to apply for the advertised sales position.

In another case, our fieldnotes record the experience of Josue, one of our Hispanic testers, in an audit of a retail clothing company. Josue described the various "young white 20-something women running the place." One of the women interviews him and asks about past work experience. She asks him what job he's applying for—"I told her 'sales associate,'" Josue replied, presenting a resume on which the most recent job listed was as a sales assistant at a sporting goods store. "She then told me that there was a stock position and asked if I would be interested in that." Josue ended up getting the stocker job, and was asked to start the next day.

In yet another case, Joe, an African American tester, applied for a job at a Japanese restaurant. He reports: “I told her I was there to apply for the waiter position and she told me that there were no server positions. I told her it was advertised in the paper, and she said there must have been a mistake. She said all she had available was a bus-boy position. I told her since there was no waiter position, I would apply for the bus boy.” Meanwhile later that day, Kevin, his white test partner, was hired for the server position on the spot.

In many cases, these instances of channeling are coded as “positive responses” in the initial analyses. Indeed, our key concern is about access to employment of any kind. But this general focus masks another form of the racial bias at work. A more systematic analysis of the testers’ experiences suggests that decisions about job placement, like hiring more generally, often follow a racial logic. We coded all instances of job channeling across both our teams and counted 53 cases (compared to 172 positive responses). By comparing the original job title to the suggested job type, these 53 cases were then categorized as downward channeling, upward channeling, lateral channeling, or unknown. Downward channeling is defined as (1) a move from a job involving contact with customers to a job without, say from server to busboy; (2) a move from a white collar position to a manual position, say from sales to stocker; or (3) a move in which hierarchy is clear, say from supervisor to line worker. Upward channeling is defined as a move in the opposite direction. We focus on these two types of channeling for our current analysis. After eliminating cases in which all testers within a team were similarly channeled, we have 23 additional cases of differential treatment unrecorded by our initial measurement of job offers and callbacks (Table 1).

Like hiring criteria, job placement is also patterned by race. Black applicants were channeled into lower positions in 9 cases, Latinos were channeled down in 5 cases, whereas

whites experienced downward channeling in only 1 case. Many of these cases were restaurant jobs in which the tester applied for a position as server but was steered to a job as busboy or dishwasher. Almost all were cases in which the original position required extensive customer contact while the suggested position did not (e.g., salesperson to stocker). Sometimes, testers were guided into lower positions because their resumes indicated limited work experience, but racial differences in channeling suggest insufficient work experience was more penalizing for minorities than whites. The one case of downward channeling among white applicants involved a tester presenting a criminal background.

Table 1. Job Channeling by Race

original job title	suggested job
Blacks channeled down	
Server	Busser (324)
Counter person	Dishwasher/porter (102)
Server	Busboy (189)
Assistant manager	Entry fast food position (258)
Server	Busboy/runner (269)
Retail sales	Maintenance (399)
Counter person	Delivery (176)
Sales	Stockboy (831)
Sales	Not specified ^(a)
Hispanics channeled down	
Server	Runner (199)
Sales	Stock (2)
Steam cleaning	Exterminator (79)
Counter person	Delivery (176)
Sales	Stock person (503)
Whites channeled down	
Server	Busboy (192)
Hispanics channeled up	
Carwash attendant	Manager (1058)
Warehouse worker	Computer/office (1001)
Whites channeled up	
Line Cook	Waistaff (254)
Mover	Office / Telesales (784)
Dishwasher	Waistaff (858)
Driver	Auto detailing (948)
Kitchen job	“Front of the house” job (5)
Receptionist	Company supervisor (347)

(a) employer told tester “sales might not be right for you...”

Note: numbers in parentheses refer to employer ID codes.

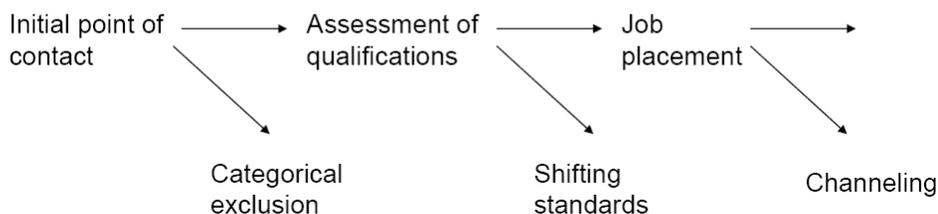
In fact, whites were more often channeled up than down. In at least six cases, white testers were encouraged to apply for jobs that were of a higher-level or required more customer contact than the initial position they inquired about. In one case, the white tester was even encouraged to apply for a supervisory position, despite limited work experience. The white tester, Kevin, reports, “[The employer] then asked me if I had any experience in construction. I told him I did not. He asked if I would be okay working with people that have thick accents like his. I told him that was fine. He then told me that he wanted me to be his new company supervisor.”

Employers thus appear to have strong views about what kind of person is appropriate for what kind of job, either based on their own assumptions of worker competence, or assumptions about what their clients expect/prefer in the appearance of those serving them. Consistent with the testers’ field notes, employers appear to apply more stringent hiring criteria to minority workers, preferring whites for jobs requiring greater skill or responsibility. In addition, minorities are disproportionately channeled out of customer service positions, consistent with other research in which employers view minority applicants as lacking communication skills or as otherwise discomfiting for customers. Though our testers presented highly effective styles of interpersonal communication, the cursory review process for these jobs often seems to leave group membership more salient than any individuating characteristics. In addition to whether or not the tester gets the job then, the type of job also reveals a racialization of employment decisions.

Together, the three types of differential treatment we observe in these data provide vivid illustration of some of the ways in which employers enact their racial preferences in the hiring

process. We see little evidence of outward hostility or racial animus in these interactions, but rather more subtle forms of discouragement or rejection. At multiple points in the hiring process, black (minority) applicants face additional hurdles or barriers that reduce their chances of employment and affect the quality of jobs for which they are considered. The processes identified in the preceding discussion are schematically illustrated in Figure 3. At each of the three decision points, we see pathways deflected by various forms of racial bias.¹⁸ Subtle differences in employers’ responses—often imperceptible to the applicants themselves— together produce a pattern of outcomes systematically affected by race.

Figure 3. Discrimination at Three Decision Points



Complementing the quantitative indicators of differential treatment, these qualitative observations provide a rare window into the *processes* by which discrimination occurs. The three categories of differential treatment observed in these data point to the range of

¹⁸ To be sure, our study captures only a few of the many pathways in the employment process potentially affected by racial bias. Beyond our window of observation, the pathways of this diagram would presumably continue along later points in the employment process, including wage setting decisions, training opportunities, promotion, and termination decisions. This research represents one incremental contribution to understanding—and documenting—the ways in which race matters in contemporary low wage labor markets.

experiences that constitute discrimination in the employment process. In a small number of cases, minority testers were disqualified early on in decisions that appear to reflect fairly rigid preferences of employers. These instances of categorical exclusion represent one of the most extreme forms of discrimination, wherein minority applicants have little opportunity to overcome employers' potential concerns. By contrast, a larger number of interactions suggest a more complicated set of negotiations at play. In evaluating applicant qualifications, minority applicants, and black men in particular, appear to be held to a higher standard than their white counterparts, disqualified more readily or hired more reluctantly than their white partners with identical skills and experience. Further, racialized assessments of applicant quality and "fit" affect not only the decision to hire, but also decisions about job placement, with minority applicants more often channeled into positions involving less skill and/or less customer contact than otherwise similar whites. Together, these experiences illustrate the ways in which racial disadvantage is dynamically constructed and reinforced, with the assessment of applicant qualifications and suitability subject to interpretation and bias. While by no means an exhaustive catalogue of discrimination experiences, the fact that these dynamics are observed in naturalistic settings (with little prompting) attests to their relative frequency and regularity.

At the same time, despite the frequency of differential treatment observed in these data, it is important to keep in mind the subtlety with which the majority of these incidents occur. Very few of the episodes of differential treatment we observe were visible to the applicants at the time of their visit. Indeed, testers filled out "feeling thermometers" recording their perception of how they were treated by an employer after each visit. The average rating for blacks showed only a very small decrease for those experiencing differential treatment relative

to those who do not.¹⁹ This small decrease in perceived treatment suggests that employers' preferences and biases were largely concealed in the interview process, with the majority of black applicants unaware that their candidacy was in question. It is only by comparing the experiences of similar applicants side by side that we observe the ways in which race appears to shape employers' evaluations in subtle but systematic ways. In the context of a cursory review process, this subtle form of racial preference can have important implications for structuring opportunity along racial lines.

Discussion

Sending trained testers with equivalent resumes to apply for entry-level jobs revealed a strong racial preference among employers in New York City. We find evidence that employers are twice as likely to prefer white applicants to equally qualified blacks. These results are robust to a variety of tester and experimental effects. The testers' field notes suggested that employers did not obviously view black job applicants as less skilled, as other researchers have found. Instead, employers tended to rule out black applicants by holding them to a higher standard than their white counterparts. Employers were also more likely to steer black workers into lower jobs, and out of jobs involving customer service.

We also found that employers were more open to Latinos than blacks. Latinos received fewer callbacks and job offers than whites with clean records, though the margin was not statistically significant. In both our teams, the positive response rate for Latino applicants was higher than for blacks and in one case the difference was statistically significant. The generality of this result certainly deserves more study. The Puerto Ricans of New York that our

¹⁹ We see an even smaller decrease when we limit cases to those who interacted more extensively with employers.

Latino testers represented are a longstanding community of U.S. citizens. In other local labor markets where markers of citizenship and accent are more prominent sources of difference, evidence of ethnic discrimination may well be stronger. Still, the New York results offer clear evidence of a racial hierarchy in which whites and Latinos are at the top, and blacks follow some distance behind.

The magnitude of the penalty of blackness is underscored in its comparison with the penalty of a criminal record. A black applicant with a clean record fares no better than a white applicant recently released from prison. These results are consistent with Pager's (2003) results from Milwaukee, though the inference is stronger here where whites with criminal records applied for the same jobs as blacks with clean records. A criminal record is indeed a significant barrier to employment; but the stigma of race poses a barrier equally as large.

The findings of discrimination presented here are particularly striking in light of the fact that the testers in this study in many ways represented a best-case scenario for low-wage job seekers. The testers were college educated young men with effective styles of self-presentation. Though posing as high school graduates with more limited skills, these young men stood well above the typical applicant for these low wage jobs. The effects of race among individuals with fewer hard and soft skill advantages may well be larger than what we estimate here.

At the same time, while we find robust evidence of a large racial preference, we should be careful not to interpret these results as showing the level of discrimination actively experienced by minority job seekers in the New York labor market. Our sampling design, based on employers not workers, over-represents small firms relative to their share of employment. Our sample thus includes many restaurants and independent retailers, for whom

hiring is less bureaucratic, and who lack the human resource departments that manage the equal employment opportunity obligations of large firms (Dobbin et al. 1993). Nevertheless, our sampled employers well represent the kinds of low-skill service work that dominates low-wage urban labor markets.

A second limitation on the generalizability of our findings results from our sampling procedures based on classified advertisements. Where our testers applied to a random sample of entry-level jobs advertised in the metropolitan newspapers, real job seekers find jobs in many ways, leading them perhaps to a different distribution of employers. Surveys of job seekers suggest that 25 to 30 percent of non-college jobs are filled by classified ads, with the remainder filled through some combination of network referrals, walk-in applications, and employment agencies (Holzer, 1987). Some argue that the focus on jobs advertised through metropolitan newspapers may understate the extent of discrimination. Firms who wish to discriminate, it is argued, are more likely to advertise job openings through more restrictive channels, such as through referrals, employment agencies, or more selective publications (Fix & Struyk 1993:32; Petersen et al. 2000; Elliott 2000). Others, by contrast, argue that any random sample of employers will overstate the extent of discrimination actually experienced by job seekers. If black applicants can identify and avoid firms that discriminate, the actual incidence of labor market discrimination will be correspondingly reduced (Becker, 1967; Heckman, 1998). Of course, the ability of minority workers to avoid the effects of discrimination by self-selecting into non-discriminatory firms requires that (1) a sufficient number of non-discriminatory employers exist; (2) there are no differences in the quality of jobs offered by employers who do and do not discriminate; and (3) the search costs necessary to locate non-discriminatory employers are trivial. Future research using microdata to track the

search patterns and outcomes of black and white job seekers would provide better leverage on this question. From our data, we can more safely conclude that job searches across a wide range of employers represented by the classified ads of five New York newspapers reveal substantial discrimination. Understanding how job seekers adapt to this reality remains a challenge for future research.

The significant evidence of discrimination found in this study contrasts sharply with recent research showing that racial inequality in wages is largely explained by individual differences in cognitive skill (Farkas and Vicknair 1996; Neal and Johnson 1996). How might the findings from these studies be reconciled with our research? Labor market discrimination can be thought of as having both direct and indirect effects on job seekers. Direct effects represent the kind of differential treatment observed by the audit study, where one applicant is treated differently than another on the basis of race. But the presence of discriminatory employers can have consequences that extend well beyond those applicants that are direct targets.

First, as noted above, the presence of discrimination in the labor market may lead workers to differentially sort across employers, such that minority job seekers queue for jobs offered by employers less likely to discriminate. These dynamics can lead to longer search or wait times for minority job seekers, even if not reflected in ultimate wage offers. Indeed, data from the late 1990s show that the unemployment spells of black men (3.1 months) are about twice as long as for whites (1.6 months) (Gottschalck 2003, 2), suggesting that the primary

effects of discrimination on labor market outcomes may be reflected in employment differentials rather than wages.²⁰

Second, the experience of discrimination may also add to the psychic costs of the job search process. If discrimination discourages all but the most motivated and most able black job seekers, black wage earners would represent an increasingly select group. Through the 1990s, increasing numbers of young black men dropped out of the formal labor market, contributing to an artificial convergence of black and white wages (Western & Pettit, 2005). Without effectively accounting for the processes that precede labor force participation—including discrimination—wage estimates can account for only one incomplete picture of the larger employment process.²¹ Survey data on wages thus represent the outcome of what has already been a complex series of exchanges, with choices and constraints on labor market entry affecting subsequent patterns of wage inequality. In this scenario, discrimination has not been eliminated in the post-civil rights period as some contend, but remains a vital component of a complex pattern of racial inequality in contemporary low wage labor markets.

²⁰ Johnson & Neal (1998), for example, find that, after controlling for cognitive ability and other human capital characteristics, black-white differences in *employment* among young men remain large and statistically significant. The relevance of employment over wages is likely to be true especially for the experiences of young workers in low wage labor markets, for whom the overall level of wage dispersion is low. Later in the life course, as wage dispersion increases and labor force experience cumulates, the racial wage gap becomes more pronounced (e.g., Tomaskovic-Devey et al., 2005). For a historical example, see Whatley (1990), who shows that despite the substantial racial barriers to employment that existed among Northern firms after World War I, blacks and whites experienced remarkably similar wage rates.

²¹ Of course, trends in labor force participation cannot be reduced to any one causal factor. Recent literature has pointed to the relevance of criminal involvement, incarceration, perceived disincentives to work (e.g., child support enforcement), and discrimination (Holzer & Offner, 2001; Freeman, 1987; Western & Pettit, 2005; Sunstein, 1991).

Appendix A. Robustness Checks

We examine the robustness of our primary results by examining racial and ethnic contrasts for different subsets of the data (Table A1). Though small numbers in certain cells lead to some instability in estimates, these breakdowns can help to examine the consistency of effects across the full range of the sample. To account for learning or adaptation by the testers we estimate effects for the first and second halves of the experimental period. In each period, whites and Latinos receive significantly more positive responses than blacks, and whites receive slightly more positive responses than Latinos. To examine whether our results depend strongly on any particular area within New York, we separate the experimental effects by location. Over half the audited employers were located in Manhattan. The pattern of black disadvantage was found throughout Manhattan and in the outer boroughs. Finally, we studied whether the tester first sent to an employer was more likely to be successful. The order in which testers were sent was randomized, and the experimental effects are similar regardless of which tester interviewed first. In short, these results indicate a large racial preference among New York employers for white job applicants over black, and smaller preference for whites over Latinos. We also find that Latino job seekers are preferred significantly more than blacks. All these results are robust to tester effects, experimental effects, and appear to be roughly uniform across New York City.

Table A1. Percentage of positive responses and race differences, by date, employer address, and race of first tester

Subsample (N)	White	Latino	Black	Race Differences ^a					
	(W)	(L)	(B)	W/L		W/B		L/B	
Total (171)	31.0	25.1	15.2	1.2	(0.02)	2.0	(0.00)	1.7	(0.00)
<i>Date^b</i>									
Feb 23 - Apr 7 (84)	29.8	23.8	9.5	1.3	(0.08)	3.1	(0.00)	2.5	(0.00)
Apr 8 - Jul 16 (84)	33.3	27.4	21.4	1.2	(0.04)	1.6	(0.00)	1.3	(0.05)
<i>Location^c</i>									
Below 34th St. (56)	23.2	21.4	12.5	1.1	(0.31)	1.9	(0.00)	1.7	(0.03)
34 th St. - 72nd St. (46)	30.4	21.7	17.4	1.4	(0.02)	1.8	(0.00)	1.3	(0.15)
Above 72nd St. (18)	33.3	22.2	5.6	1.5	(0.00)	6.0	(0.00)	4.0	(0.00)
Other (50)	40.0	34.0	20.0	1.2	(0.12)	2.0	(0.00)	1.7	(0.00)
<i>Race of first tester</i>									
White (68)	27.9	23.5	10.3	1.2	(0.11)	2.7	(0.00)	2.3	(0.00)
Black (45)	40.0	31.1	20.0	1.3	(0.06)	2.0	(0.00)	1.6	(0.01)
Hispanic (53)	28.3	22.6	18.9	1.3	(0.09)	1.5	(0.00)	1.2	(0.15)
<i>Type of positive response^d</i>									
Callback (171)	12.9	9.9	2.9	1.3	(0.10)	4.4	(0.00)	3.4	(0.00)
Job offer (171)	21.1	17.0	12.9	1.2	(0.02)	1.6	(0.00)	1.3	(0.02)

^a Numbers in parentheses are bootstrap p-values for a one-sided test of whether the ratio is less than or equal to one.

^b Changes over time capture several possible effects: learning or adaptation by testers, compositional changes in the types of employers brought into the sample at different points, and changes in the business cycle.

^c Street addresses are for Manhattan.

^d Because some testers received both a job offer and a subsequent callback, the sum of these two columns may be greater than the total listed above (in which a positive response is calculated by the presence of a callback or job offer)

These robustness checks also support the finding that employers did not distinguish strongly between whites with criminal records and minority job seekers (Table A2). When the audit study is divided into two periods from March into mid-April, and from mid-April to early August, we find that treatment effects over the entire study are close to zero. Treatment effects are close to zero all throughout New York City, although there is some evidence of a preference for whites with criminal records outside of Manhattan. Still, standard errors for treatment effects in the outer boroughs imply little certainty in the direction of employer preference. Finally, we obtain the same result of zero treatment effects regardless of which tester is sent first to apply for the job. In sum, the finding of uniform treatment of whites with criminal records and minorities with clean records is supported over the whole of the experimental period, throughout New York City, and regardless of which tester first makes contact with the employer.

Table A2. Percentage of positive responses and race differences, by date, employer address, and race of first tester. The white tester is assigned a criminal record.

Subsample (N)	White felon (Wf)	Latino (L)	Black (B)	Race Differences ^a					
				Wf/L		Wf/B		L/B	
Total (169)	17.2	15.4	13.0	1.1	(0.25)	1.3	(0.08)	1.2	(0.17)
<i>Date^b</i>									
Mar 2 - Apr 13 (83)	16.9	13.3	10.8	1.3	(0.16)	1.6	(0.06)	1.2	(0.21)
Apr 14 - Aug 6 (82)	17.1	17.1	15.9	1.0	(0.43)	1.1	(0.35)	1.1	(0.34)
<i>Location^c</i>									
Below 34th St. (51)	9.8	7.8	3.9	1.3	(0.30)	2.5	(0.05)	2.0	(0.00)
34th St. - 72nd St. (46)	13.0	17.4	13.0	0.8	(0.74)	1.0	(0.42)	1.3	(0.14)
Above 72nd St. (7)	0.0	0.0	0.0	-	-	-	-	-	-
Other (62)	29.0	21.0	21.0	1.4	(0.08)	1.4	(0.09)	1.0	(0.46)
<i>Race of first tester</i>									
White (53)	20.8	18.9	13.2	1.1	(0.34)	1.6	(0.13)	1.4	(0.15)
Black (59)	18.6	15.3	15.3	1.2	(0.20)	1.2	(0.15)	1.0	(0.39)
Hispanic (52)	11.5	11.5	11.5	1.0	(0.44)	1.0	(0.42)	1.0	(0.41)
<i>Type of positive response^d</i>									
Callback (169)	11.2	9.5	5.3	1.2	(0.23)	2.1	(0.01)	1.8	(0.02)
Job offer (169)	5.9	6.5	7.7	0.9	(0.58)	0.8	(0.77)	0.8	(0.65)

^aNumbers in parentheses are bootstrap p-values for a one-sided test of whether the ratio is less than or equal to one.

^bChanges over time capture several possible effects: learning or adaptation by testers, compositional changes in the types of employers brought into the sample at different points, and changes in the business cycle.

^cStreet addresses are for Manhattan.

^dBecause some testers received both a job offer and a subsequent callback, the sum of these two columns may be greater than the total listed above (in which a positive response is calculated by the presence of a callback or job offer)

Appendix B. Results by Tester Teams.

In the course of fielding two three-person teams of testers we used ten different testers: two Latinos, four African Americans, and four whites. In each three-person team consisting of a white, black, and Latino, the ten testers were combined into 6 different unique combinations. Before pooling the data across combinations of testers, Heckman and Seigelman (1993) recommend testing for the homogeneity of responses across combinations. The columns below represent mutually exclusive outcomes; overall response rates by race can be calculated by summing all columns in which a given race group is represented. A chi-square test within each team fails to reject the null hypothesis of homogeneity across combinations. With this evidence of homogeneity, we report treatment effects pooled across testers. Table B reports the detailed experimental results for each unique combination of testers.

Table B. Detailed Experimental Results, by Unique Combination of Testers^a

Group	Who Gets a Positive Response (%):								
	All	None	W + L	W + B	L + B	W	L	B	N
<i>White without criminal record (Posterior predictive probability of χ^2 statistic: 0.054)^b</i>									
1	11	69.2	4.4	3.3	0	7.7	4.4	0	91
2	7.5	67.9	11.3	0	0	9.4	3.8	0	53
3	36.4	18.2	0	0	0	18.2	18.2	9.1	11
4	33.3	33.3	33.3	0	0	0	0	0	6
5	28.6	57.1	14.3	0	0	0	0	0	7
6	0	66.7	0	0	0	33.3	0	0	3
Total	12.9	63.7	7.6	1.8	0	8.8	4.7	0.6	171
<i>White with criminal record (Posterior predictive probability of χ^2 statistic: 0.588)</i>									
1	3.7	75.3	2.5	2.5	1.2	7.4	4.9	2.5	81
2	4.9	56.1	2.4	2.4	7.3	14.6	7.3	4.9	41
3	2.8	77.8	8.3	2.8	2.8	2.8	0	2.8	36
4	0	60	0	0	20	0	20	0	5
5	0	75	0	0	0	0	0	25	4
6	0	100	0	0	0	0	0	0	2
Total	3.6	71	3.6	2.4	3.6	7.7	4.7	3.6	169

Note: W = white; L = Latino; B = black

^aColumns of “Who Gets a Positive Response” represent mutually exclusive categories (i.e., rows sum to 100%). Note that in the first experiment (white without criminal record), there was only a single case (group 3) in which a black tester received a callback when neither of his test partners received one.

^bThe chi-square test is undefined with marginal counts of zero. We calculate a posterior predictive p-value by simulating counts under independence for nonzero cells.

Appendix C. The Effect of Personal Contact.

Working at odds with first impressions, one-on-one contact can provide the opportunity to supply personal information that is inconsistent with stereotyped expectations or statistical generalizations. Through the course of interaction, personalizing information can be passed on, slowly replacing assumptions based on group membership with more nuanced information specific to that individual (Fiske & Neuberg, 1990). Many of the applications in this study were completed with little or no contact with the employer, but roughly half of all cases gave testers the opportunity to have an extended conversation or interview with the employer.²² By comparing the outcomes of tests by level of interaction, we can gain some insight into the degree to which employers respond to personal characteristics at odds with conventional racial stereotypes.

Because the decision to interview a minority candidate may itself be endogenous to the employer's likelihood of hiring that candidate—as employers who are more open to hiring blacks may be more likely both to interview blacks and to hire them—we examine the effects of personal contact among the subset of employers who interviewed all or none of the three applicants. In this case, we observe no selection in the decision to interview, only the outcome of those interviews.²³ Several noteworthy patterns emerge from the results presented in Table C1. First, we see that personal contact is associated with far higher rates of positive response across all applicant groups: When the three testers had no more than cursory contact with the employer, positive response rates for white, Latino, and black testers were 10.9%, 6.5%, and 0%, respectively. By contrast, when testers had the opportunity to interact more extensively with the employer, positive response rates were 52%, 42%, and 29%. While some of this increase in response rates is likely due to compositional differences (e.g., employers who conduct interviews on the spot may be experiencing greater labor demand than those who do not), at least some of this effect can be attributable to the positive impression made by testers in their interactions with employers. Indeed, the appealing characteristics of these testers ranks them well above the typical applicant for these low-wage jobs.

²² In all cases, the “employer” refers to the person in charge of hiring for the job in question. Personal contact here refers specifically to an extended conversation or interview with the person in charge of hiring.

²³ Similar results are obtained when effects of personal contact are analyzed according to individual rather than team experiences.

Table C1 Race Differences in Positive Responses (%) by Level of Personal Contact (a)

Subsample	White	Latino	Black	Race Differences			N
	(<i>W</i>)	(<i>L</i>)	(<i>B</i>)	<i>W/L</i>	<i>W/B</i>	<i>L/B</i>	
Total	31.0	25.2	15.2	1.2	2.0	1.7	171
No personal contact(b)	10.9	6.5	0.0	1.7	>10	>6	46
Personal contact	52.3	46.2	29.2	1.1	1.8	1.6	65

Subsample	White felon	Latino	Black	Race Differences			N
	(<i>Wf</i>)	(<i>L</i>)	(<i>B</i>)	<i>Wf/L</i>	<i>Wf/B</i>	<i>L/B</i>	
Total	17.2	15.4	13.0	1.1	1.3	1.2	169
No personal contact	8.0	8.0	4.0	1.0	2.0	2.0	75
Personal contact	35.9	28.2	30.8	1.3	1.2	0.9	39

(a) Analyses of “personal contact” include only those cases in which all tester partners experienced personal contact; those in the “no personal contact” analyses include those cases in which none of the tester partners experienced personal contact. This exclusion avoids any confounding effect of employers’ racial preferences as reflected in the decision to interview.

(b) Because the response rate for blacks in this subsample is zero, ratios in which blacks are in the denominator are undefined. For the purposes of this analysis, we represent this ratio as greater than the value of the numerator over one.

A further important pattern suggested by these results is that racial disparities in response rates appear smaller for the group experiencing personal contact. When black testers experienced no more than a cursory exchange with employers, their chance of a callback was virtually zero; by contrast, with personal contact, black testers’ positive response rates increase steadily and become more similar to those of whites. Looking to the columns on the right side of Table C1, we observe the ratio of positive response rates across each racial comparison (ratios, rather than differences, take account of the very different baseline response rates across subsamples). Looking to the white-black ratios for the tests with and without personal contact, we see some interesting variation. Indeed, though the white-black ratio of 10.9 to 0 cannot be specified (because the denominator is zero), the contrast suggests a tremendous racial advantage for whites. By contrast, this same ratio is substantially smaller (1.8) among testers who had the opportunity to interact with employers.²⁴ Though by no means conclusive, this

²⁴ In fact, of the 26 positive responses received by black testers in this team over the course of the study, only one was elicited in the absence of personal contact. In this particular case not all members of the team registered personal contact and thus it is not included in the estimates for Table C1. By contrast, more than

association is consistent with the notion that the in-person presentation of appealing characteristics increases hiring rates and reduces racial differentiation. Among testers who had little opportunity to interact with employers, by contrast, more superficial indicators appear to carry greater weight.²⁵

20 percent of positive responses for whites (and 16 percent for Latinos) were registered in the absence of personal contact.

²⁵ Of course, personal contact will not always serve in an individual's favor. For young men with poor interpersonal skills, employers' negative stereotypes may be reinforced. Our comparison presents a best-case scenario, demonstrating that appealing interpersonal characteristics can in part off-set the stigma of race.

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