

**Comparative Perspectives on Racial Discrimination in Hiring:
The Rise of Field Experiments**

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ABSTRACT

This article reviews studies of discrimination against racial and ethnic minority groups in hiring in cross-national comparative perspective. The authors focus on field-experimental studies of hiring discrimination: studies that use fictitious applications from members of different racial and ethnic group to apply for actual jobs. There are more than 140 field experimental studies of hiring discrimination against ethno-racial minority groups in 30 countries. These studies show that racial and ethnic discrimination is a pervasive international phenomenon that has hardly declined over time, although levels vary significantly over countries. The comparative perspective from this body of research helps to move beyond micro-models of employer decision-making to better understand the roles of history, social context, institutional rules, and racist ideologies in producing discrimination. Some racial discrimination is driven by correlated conditions like religion, but the clues producing most discrimination on these bases are fundamentally racialized. Studies suggest that institutional rules regarding race and ethnicity in hiring can have an important influence on levels of discrimination. Suggestions for future research on discrimination are discussed.

Introduction

In 1966, a commission on race relations set up by the U.K. Government commissioned a study on racial discrimination in England. The study was initially designed by the research team, led by WW Daniel, to include surveys with immigrants about the discrimination they experienced and interviews with gatekeepers such as employers. But Daniel and his team become concerned that reports of discrimination from immigrants would not be convincing to people who did not already believe discrimination was a problem. To provide a more definitive set of evidence on the state of discrimination in Britain, Daniel hired actors to play job applicants (“testers”) to apply in person for jobs, housing, and insurance at firms their interviewees had identified as discriminating (Daniel 1968; Gaddis 2018).

Daniel’s results confirmed their interviewees’ reports of discrimination. In employment applications, out of 40 tests, 15 White testers received positive replies compared to only one non-White tester. The report had a strong influence on subsequent U.K. Parliamentary discussion, where it contributed significantly to the passage of the 1968 Race Relations Act that first outlawed employment and housing discrimination in the U.K. (Smith 2015).

Jowell and Prescott-Clarke (1970) soon adapted Daniel’s method to be used in by-mail applications with ethnicity signaled by name. Over the next 10 years, field experimental studies of racial and ethnic discrimination in hiring were also conducted in the USA (Jolson 1974, Newman 1978), France (Raveau et al. 1976), and the Netherlands (Bovenkerk 1979). Subsequently, field experiments have expanded to become a basic method in the social science approach to understanding discriminated based on race and ethnicity, with to date more than 140 studies across 30 countries focusing on hiring discrimination alone.

In this review, we describe facts established by this body of studies and their theoretical implications. Existing studies establish that racial and ethnic discrimination is a worldwide phenomenon found in all countries that have conducted field experiments. The magnitude of this discrimination, however, varies significantly over countries and minority groups (Quillian et al. 2019). Discrimination theories have been dominated by micro-theories of employer motives, including taste discrimination, statistical discrimination, and implicit bias. In cross-national comparison, field experiments provide a perspective that is distinctly social, helping to open the door on understanding the roles of history, social context, institutional rules, and racist ideologies in producing discrimination.

Race and Discrimination

Our discussion focuses on discrimination based on race and ethnicity. “Race” refers to putative biological ancestry groupings signaled by phenotypical characteristics believed to be associated with ancestry groups. “Ethnicity”, by contrast, refers to putative ancestry groups associated with cultural characteristics and often less-distinct phenotypical characteristics. We follow Brubaker et al. (2004) in viewing race and ethnic groups as essentially the same because they are based on social categorization as members of racial or ethnic groups rather than “real” differences (see also Omi and Winant 1994). For brevity we use the term “racial” discrimination instead of “racial and ethnic” discrimination below.

In its basic form, which we call direct discrimination, racial discrimination involves differential treatment of individuals or groups on the basis of race (National Research Council 2004). A second form of discrimination involves treatment on the basis of inadequately justified factors other than race that disadvantages a racial group (called “disparate impact” discrimination in the U.S. and “indirect discrimination” in EU antidiscrimination laws). For instance, the use of informal referrals by current employees to screen employment applicants may disadvantage minority applicants who are less likely to have contacts at supervisory levels in organizations (Royster 2005), even if referral advantages are not ostensibly racial. In this review, we focus primarily on direct discrimination because this is the form of discrimination assessed by field experiments.

Importantly, discrimination is driven by *perceived* race or “racial cues” in the context in which discrimination occurs. This may be distinct from “actual” race based on self-categorization. An individual who self-identifies as a member of a minority group but whose appearance is not consistent with that group may tend to be subject to relatively little discrimination. Majors (2020), for instance, describes himself as a Black man with White privilege, because he identifies as Black but looks White.

Finally, discrimination is a behavior, distinct from prejudicial attitudes, stereotypical beliefs, and racial ideologies or racisms – all of which may motivate discrimination. We note that discriminatory behavior can result from individual decisions or formal rules, such as a law forbidding a Black family from buying a house in a White neighborhood (for more on institutional discrimination, see Small and Pager [2020]).

Corresponding to the basis of discrimination in perception, some racial discrimination is motivated by discrimination against identities correlated with race rather than race itself. We refer to these identities as *shadow identities*. Some shadow identities are social class, criminal records, immigration status, or religion. For instance, members of a minority group may be the target of discrimination because they are perceived as likely to be an immigrant because many people in their group are immigrants. This is a common complaint of native-born Asian Americans and of descendants of migrants in Europe. Likewise, an employer who does not want to hire Muslim applicants might discriminate against an Arab applicant because he thinks they are probably Muslim. We characterize discrimination based on shadow identities as racial discrimination because it is driven by racial cues (“perceived race”) and results in differential treatment on the basis of race.

When subject to discrimination, individuals in disadvantaged groups are further disadvantaged. Because discrimination involves judging individuals based on their social categorization into racial groups rather than based on their individual qualities, the principle of equality of opportunity is violated. We take discrimination to be immoral when it violates equality of opportunity in a way that further disadvantages members of disadvantaged groups (Hellman 2008). An empirical literature documents harms resulting from discrimination, such as harming mental and physical health among victims (e.g. Lewis, Cogburn, and Williams 2015).

Theories of Discrimination

Individual-Level Theories

Taste and Statistical Discrimination: This distinction from economics represents two different motivations to discriminate on the part of employers. Hiring discrimination is seen either as the

product of employers' racial prejudice – what Becker (1957) called a 'taste for discrimination' – or employers' uncertainty with regard to the productivity of underrepresented groups, called 'statistical discrimination' (Arrow, 1973; Phelps, 1972). In taste discrimination, dislike or animus against a group drives discrimination. In statistical discrimination, employers are trying to select the "best" employee for the job, broadly referred to as the most "productive" by economists. Employers statistically discriminate by using racial averages to help select the likely "best" employee in the face of uncertainty about future employee performance.

In addition to instrumental behavior by employers, statistical discrimination theory includes the idea of rational expectations: employers' beliefs about the quality of potential employees from different racial and ethnic groups are assumed to be on-average accurate (see Spence 1973). While this rational-information assumption may seem clearly unrealistic to sociologists, it is perhaps less unrealistic if we think employers use information about past employees (especially for employers with many past employees) as a basis of information to draw conclusions about potential new hires. When employers' expectations are rational, then statistical discrimination becomes economically profit-maximizing for firms and economically efficient.

Because of this some discussions of statistical discrimination imply that statistical discrimination is not objectionable. Bertrand and Duflo (2016: 3), for instance, claim that "statistical discrimination is theoretically efficient and hence more easily defensible in ethical terms under the utilitarian argument . . . Moreover, statistical discrimination can also be argued to be 'fair' in that it treats identical people with the same expected productivity (even if not with the same actual productivity) and is not motivated by animus". We disagree with the argument that statistical discrimination based on race is less objectionable than taste discrimination. In statistical discrimination, individuals are still unfairly disadvantaged by race regardless of their individual qualities. Statistical discrimination is no less harmful to victims than a motivation in animus. Furthermore, statistical discrimination creates the possibility for vicious cycles in which discrimination contributes to racial inequalities that then become the basis for further discrimination (e.g. Loury 2002). Finally, taste and statistical discrimination are equally illegal – it is the differential *treatment* based on race that is illegal, regardless of motivation.

Biased Stereotypes: In this perspective, employers may care most about maximizing productivity (hiring the "best" employees) but their decisions are guided by stereotypes that are exaggerated or even entirely incorrect. This perspective is suggested by Allport's (1954) definition of stereotypes as "based on a faulty or inflexible generalization" and much subsequent work in social psychology (see Fiske 1998, McRae and Bodenhausen 2000). Similar perspectives arise from status-based theories (e.g. Ridgeway 2001, Correll and Benard 2006), which describe higher-status individuals (Whites) as more competent in a way that is resistant to contrary information. In both of these perspectives, stereotypes are "sticky" and contrary information is often ignored (Bielby & Baron, 1986; Pager & Karafin, 2009; Tomaskovic-Devey & Skaggs, 1999). Important qualitative work demonstrates that employers use race and ethnic background as proxies of productivity, but that their views of minority applicants often are based on crude stereotypes rather than accurate depiction of group-productivity (Kirschenman & Neckerman, 1991; Midtbøen, 2014; Moss & Tilly, 2001; Shih, 2002; Waldinger & Lichter, 2003).

Homophily and Cultural Matching: A distinct approach emphasizes homophily, or the tendency of individuals to feel more comfortable with persons like themselves. While traditionally discussed in studies of social association (e.g. friendship, see McPherson et al. 2001), Rivera (2012) has proposed a theory of homophily in hiring emphasizing cultural matching between employers and employees. Cultural matching may be a basis for racial or ethnic discrimination since race is a strong basis for

identity and similarity. This emphasizes that employers may want employees who “fit in” to employee teams and with whom they feel socially comfortable, which may contribute to racial discrimination in hiring.

Implicit Attitudes: Finally, a line of work from psychology suggests the potential importance of negative attitudes and beliefs toward minority groups without full awareness of these biases (Bertrand, Chugh, & Mullainathan, 2005; Quillian, 2006, 2008; Reskin, 2008). Often assessed by the Implicit Association Test (Greenwald, McGhee, & Schwartz, 1998), implicit attitudes most strongly affect judgments made quickly, but they may also affect slower, deliberative judgments. Rooth (2010) finds a relationship between negative implicit attitudes and discrimination in hiring in a field experiment in Sweden, yet the evidence on the significance of implicit discrimination is far from conclusive and still debated (Carlsson & Agerström, 2016; Oswald, Mitchell, Blanton, Jaccard, & Tetlock, 2013).

Contextual Theories

A comparative perspective on discrimination brings to the fore contextual theories. We discuss these theories as they fall into three categories: historical, situational, and institutional (see also Quillian et al. 2019).

Historical theories: These perspectives view discrimination in the present as a direct result of historical legacies of racial or ethnic oppression. Such theories emphasize the conditions of initial group contact – the policies, practices, and attitudes developed in an earlier era – that lay a foundation for contemporary group relations. Several studies attempt to look directly at how the racial past (e.g. level of involvement with colonialism or the international slave trade) seems to determine differences in outcomes in the present, including modern levels of discrimination or contemporary racial inequality (e.g. O’Connell 2012). These theories propose a direct correspondence between these historical events and modern-day levels of discrimination.

Situational theories: These perspectives emphasize present-day social and political factors. In these theories, in-group identities and the associated attitudes towards out-groups may be the result of historical processes, but current levels of discrimination will depend heavily on contemporary social forces and events such as current political events and recent economic and demographic conditions. For example, terrorist events carried out by Islamic terrorist groups generated surges in anti-Muslim and anti-immigrant attitudes and discrimination (Hopkins 2010; Jungkunz, Helbling and Schwemmer 2019). Politically, the rise of far-right parties in Europe – and in the US, Donald Trump’s presidency – may exacerbate anti-immigration and racist sentiment, producing more discrimination. Demographically, a well-known situational theory is group threat theory, which proposes that an increase in foreign and non-White populations can trigger feelings of threat among natives and Whites. In turn, this feeling of threat may lead to support for immigration restrictions and spill over into negative views of immigrants and racial minorities (Blumer 1958; Blalock 1967; Quillian 1995; Taylor 2002), support for conservative policy positions (Craig, Rucker, Richeson 2018), and potentially increased discrimination.

Institutional theories: These perspectives emphasize organizational, administrative, and legal practices that influence discrimination. This includes rules governing how race and ethnic differences are formalized and rules governing employment practices and worker protections. These studies “bring organizations back in” to analyses of discrimination. A notable line of research by Dobbin, Kelly, Kalev,

and co-authors explores different measures adopted by firms and their effects on the number of female and minority managers (e.g. Kalev, Kelly, and Dobbin 2006; Dobbin, Kim, and Kalev 2011; Dobbin, Schrage, and Kalev 2015; see also Tomaskovic-Devey et al 2006). They find that certain reforms increase diversity – including those oriented around engaging managers in increasing diversity, reforms that increase transparency in hiring, and those that increase monitoring (see Dobbin, Schrage, and Kalev 2015). Likewise, Castilla (2015) found that providing information to managers about how other managers set pay and levels of disparities had the effect of reducing pay disparities by gender, race, and ethnicity. By contrast, reforms that attempted to reduce discretion through linking promotions to rating and performance systems and diversity training failed to increase diversity, perhaps because managers tend to rebel against these types of initiatives (see Dobbin, Schrage, and Kalev 2015).

Most countries in the world have laws against discrimination based on race or ethnicity; however, enforcement varies widely (Heath, Liebing, and Simon 2013). In the U.S., most anti-discrimination enforcement works through lawsuits. Anti-discrimination agencies like the Equal Opportunity Employment Commission (EEOC) can issue penalties for discrimination, but research suggests the more effective enforcement mechanism is for the EEOC to file lawsuits in collaboration with victims (see Hirsh 2009, Hirsh and Cha 2018). In the U.S., the desire to protect against discrimination lawsuits and affirmative action requirements for federal contractors have led to the institutionalization of practices in large firms to increase corporate diversity (Dobbin 2011). While some of these efforts are lip service, evidence suggests that some of these practices have worked to increase diversity and hiring and promotion (Leonard 1990; Holzer and Neumark 2006; Dobbin, Schrage, and Kalev 2015).

In Western Europe, racial discrimination has been illegal in most countries from the 1970s. In 2000, the European Union adopted a racial equality directive that required all European Union states to require equal treatment and ban racial discrimination (see European Union Agency for Fundamental Rights 2008), and also required some changes in detailed policies and enforcement. Affirmative action is significantly more limited in Europe than the U.S., and large European companies have done less to institutionalize diversity efforts than large U.S. companies have. Still, there has been a variety of plans and programs in Europe incorporating some affirmative action ideas (for good discussions see Heath, Liebing, and Simon [2013], pp. 212-219, and Sabbagh [2011]).

Racism and Discrimination: Theories of racism and of discrimination have largely been separate in the literature. Theories of racism have been developed in the U.S. to reconcile the fact that racial disadvantage persists even though attitudes towards minorities seem to have changed in positive ways during the past decades (Quillian 2006, Pager 2007).

In these perspectives, the dominant racial ideology in Western nations earlier in the century was traditional or old-fashioned racism, grounded in beliefs in non-White biological inferiority and the belief that Whites had racial rights that gave them priority (Schuman, Steeh, Bobo, and Krysan 1997). New racism theories suggest an increasing subtlety of racism, so that apparent change is less than actual change. But the core of modern racist beliefs is no longer biological racism, but instead non-Whites are viewed as inferior because of dysfunctional cultures or because they are viewed as violating moral tenets. There are a number of somewhat different “new racism” theories, including laissez-faire racism (Bobo et al. 1997), colorblind racism (Bonilla-Silva 2006), symbolic racism (McConahay 1983), aversive racism (Gaertner & Dovidio 1986), and racial resentment (Kinder & Sears 1981). Some work extends these perspectives to European contexts (e.g., Beaman 2020).

An important lacunae in the new racism literature are connections with behavioral measures of discrimination. New racism theories imply these beliefs are major causes of contemporary discrimination, but empirical data on “new racism” have focused on attitudes, expressed beliefs, and discourse - in short, on what people say, not what they do. Yet studies on racial matters, especially discrimination, show that there is no straightforward relationship between people’s actions and attitudes (Pager and Quillian 2005, Wulff and Villadsen 2020).

Assessing Discrimination

Comparison of discrimination requires measurement of discrimination. Several methods have been used in social science to measure discrimination, including field experiments, statistical analysis of racial gaps, reports of discrimination from targets, interviews with gatekeepers, and analysis of official reports of discrimination or discrimination lawsuits (National Research Council 2004; Pager and Shepard 2008).

Our focus in this review is the field experimental literature. In field experiments, fictitious applicants from different racial or ethnic groups apply for jobs. Often field experiments use pairs of applicants, with one majority and one minority applicant apply for the same position. Some studies hire people to play applicants for jobs (in-person audit studies), others use resumes with clues (often a name) to suggest race (resume audits or correspondence studies). In both variants, applicants are given resumes that make them similar in job-relevant characteristics so that race and/or ethnicity is the only systematic difference between the native White and minority applicants. As a result, field experiments can confidently determine that it is perceived race rather than other factors which drives the racial gaps in outcomes. The simple persuasiveness of the field experimental method at demonstrating discrimination—in the face of pervasive skepticism by White majorities that discrimination exists and high standards of proof among many social scientists—is a major strength that primarily accounts for its rise in popularity among researchers.

Other methods of assessing discrimination are less definitive but have other strengths. Statistical analysis of observational data has the advantage that it estimates how much of a disparity can be accounted for by discrimination, but because it requires all non-racial causes have been accounted for, it is typically debatable if the remaining residual is only discrimination (National Research Council 2004). In cross-national context, an additional problem is that data on important outcomes like income or employment status that includes race and ethnicity data is often unavailable.

Self-reports from potential targets of discrimination, gathered through surveys or interviews, is another popular method. Self-reports of discrimination provide important information on subjective evaluations. However, self-reports may underestimate discrimination because targets may sometimes not be aware of discrimination that occurs, or may overestimate discrimination because targets may interpret poor treatment as discriminatory when it has another basis. Surveys or in-depth interviews with employers provide insights into employer thinking, but have obvious limitations as measures of discrimination because of strong social desirability bias. Finally, some studies use the frequency of formal complaints or lawsuits alleging discrimination (e.g. Roscigno 2007), but this method only captures discrimination that victims are aware of and is strongly influenced by institutional procedures which vary highly across contexts (National Research Council 2004).

Of course, field experiments have limitations too. First, field experiments are usually not feasible for detecting discrimination in decisions that involve extensive and detailed knowledge or a history of contact with the target, such as internal promotions. Second, issues of external validity are difficult to evaluate for field experiments. Most studies draw a sample of all jobs in one or a few newspapers or job banks that fit criterion set by the study (e.g. all entry-level jobs that do not require specialized experience). It is hard to judge the representativeness relative to a universe of all jobs or all vacancies in a market (even defining the population is not simple). However, a recent study by Auspurg, Schneck, and Thiel (2020) compares results of field experiments of housing discrimination for housing samples drawn from different sources and finds results change little, showing that, at least in this case, field experimental knowledge is not sensitive to sampling method.

Third, field experiments usually focus only on proximate outcomes rather than the final outcomes. In the case of hiring, the large majority of field experiments use the receipt of an invitation for an interview or a request for further information as their main outcome, often called a “callback.” Quillian, Lee, and Oliver (2020) examine the effects of this omission on levels of discrimination in hiring by analyzing data from 12 field experimental studies in eight countries that followed applicants all the way to the job offer outcome. These results show racial discrimination in hiring in field experiments with callback outcomes tends to be significantly underestimated because post-callback discrimination is omitted. Quillian et al. find roughly as much discrimination after the callback as up to the callback: discrimination in hiring from callback outcomes is approximately underestimated by a factor of two.

A fourth critique, proposed by Heckman and Siegelman (1993), is that field experiments finding discrimination could reflect employers wanting employees with expected productivity above a high threshold and knowing that one racial group has greater variability than the other in productivity (assuming group means in productivity are equal). In that case, the estimated probability a group member is above the threshold is higher for the group with greater variability. This can be viewed as a type of statistical discrimination based on group variances in productivity rather than group means. An article by Neumark (2012) shows that with some assumptions there are ways to test for the Heckman/Siegelman scenario from field experimental results. However, because we view this scenario as a form of statistical discrimination and we think statistical discrimination is no less odious or harmful than other forms of discrimination, in our evaluation this critique misses the point.

A fifth critique, specific to resume audits, is that the names most often used to signal race vary in clarity as race signals and also may connote other attributes like class or immigration status (see Gaddis 2017a, 2017b). A common method to cope with this problem is to perform a survey test before the audit asking for connotations of names to be used to be make sure they clearly indicate race and to balance names used across race in other respects. Gaddis (2017a) finds, however, that only 17.5% of resume audits employ name pre-tests.

A final limitation of field experiments is that there is no established way to use the results to understand the extent to which discrimination creates racial disparities. For instance, there is no way to know how much of the racial gap in employment results from discrimination in hiring identified by audit studies. This is because disparities in employment depend not only on discrimination in hiring, but on a variety of other factors, including how applicants search for jobs, how applicants respond to discrimination, and racial disparities in quits and firings.

Despite these limitations, field experiments are superior to other approaches in providing the clearest assessments of direct discrimination in hiring. In the remainder of this review, we focus on the results of the large body of field experiments that have examined racial discrimination in hiring.

The Rise of Field Experiments

Some of the earliest field experiments of discrimination were conducted in the U.S. by scholars in collaboration with activists and community groups during the 1940s and 1950s. These focused on discrimination in housing and in commercial service (Biondi 2003, chapter 4; Cherry and Bendick 2018). The first large-scale field experimental studies of discrimination in hiring that we know of is the Daniel (1968) study in England. Important later milestones were a series of face-to-face audit studies of employment conducted by the Urban Institute in the early 1990s (Cross et al. 1990; Turner et al. 1991) that garnered widespread attention in U.S. social science, and a series of employment audit studies commissioned by the International Labor Organization in Europe and conducted by teams of national researchers from 1995 to 2010 using a design developed by Bovenkerk (1995; see e.g. Zegers de Beijl 1999). Also notable was Pager's (2003) study combining criminal record background with race, an early field experiment to examine how racial discrimination co-varies with other status markers.

In the U.S., the use of resume studies was slow to develop because U.S. researchers had problems signaling race in a naturalistic way on a resume. The study by Bertrand and Mullainathan (2004) pioneered the technique of using distinctive Black names to conduct employment tests via mail, which has become a standard method in later research. Recently, field experiments have increased in prevalence because of the ease of fielding them online. Several computer programs are now available to automate parts of the process of field experimentation for online job applications (Lahey and Beasley 2009).

Recently, a series of partially harmonized resume field experiments were conducted as part of the GEMM study funded by the European Union. The GEMM study is the most comprehensive field experimental investigation of racial and ethnic discrimination to date, as it contains 53 ethnic minority groups and is carried out in six countries: Germany, Norway, Spain, The Netherlands, the U.K. and the U.S. (Lancee et al. 2019).

To provide a systematic review of all field experiments that focus on racial or ethnic discrimination in hiring, we reviewed all studies in languages such as English, French, German, Dutch, Spanish, Portuguese, Swedish, and Norwegian that appeared through the main academic search engines. We examined references in these studies to find additional studies. Finally, we conducted an e-mail survey of experts in 2016 asking for references to non-published field experiments. In total, we have to date located 147 distinct studies of racial or ethnic discrimination in hiring conducted in altogether 30 countries.¹

Counts of field experiments of racial discrimination in hiring by year are shown in table 1. The table shows a steady pattern of increase since the 2001-2005 period, with the most studies in the period

¹ A bibliographic list of these studies is at <https://sites.northwestern.edu/dmap>. Details of the study search are in supplementary materials of Quillian et al. (1999). A variation on classic field experiments of discrimination, not included in our analysis, are a handful of experiments in Europe in which employers hire based on resumes anonymized to avoid disclosing race of the applicant. Results of these studies on minority hiring are highly mixed (Åslund & Skans 2012; Behaghel, Crepon & Le Barbanchon 2014). Some negative results of blind hiring, however, may result from selection of employers into these experiments (Bertrand and Duflo 2016)

2010-2015. The apparent reduction after 2015 might reflect studies that have been conducted but not yet written up.

Table 2 shows the countries in which field experiments have been conducted and the number of studies. The large majority of studies have been in North America, Western Europe, and Australia. The few studies outside of these locations include studies of discrimination against Uighurs in China, Chinese in Malaysia, and indigenous people in Peru.

Seventeen Conclusions from the Cross-National Field Experimental Literature

The field experimental literature provides a rich data source to understand discrimination across a multitude of contexts. Analyses by Zschirnt and Ruedin (2016) and Quillian et al. (2019) have compared many field experiments using formalized methods from the statistical meta-analysis literature – a set of statistical procedures to combine experimental results (see Bornstein et al. 2009). We also discuss results recently from the cross-national GEMM project and a number of individual field experiments.

A problem in comparing field experiments is that the studies are not completely uniform in design. Field experiments vary in the exact occupations they cover, in details of their fictitious applicants, and in the target group they focus on, etc. However, methods are available to manage this problem. First, we can directly investigate if study characteristics seem to matter for discrimination levels studies find by controlling factors in design in meta-regression, a procedure used by Quillian et al. (2019). Second, standard errors can be calculated building in an extra component of uncertainty because of study-level factors, a procedure used by Quillian et al. (2019) and Zschirnt and Ruedin (2016).

Before discussing conclusions from the literature, we draw on our database of results from field experiments to illustrate the prevalence of discrimination. We used counts from each study to compute “discrimination ratios”, or the percentage of callbacks (or positive responses) received by White natives in each study relative to similar members of a minority group (the results expand on those shown in figure 1 of Quillian et al. 2019). High number indicates more discrimination. A ratio of 1.5 indicates that native Whites receive 50% more callbacks than the minority group. The ratio 1.0 indicates no discrimination, that Whites and natives received equal callbacks, while ratios below one indicate “reverse” discrimination against the White majority.

Table 3 shows discrimination ratios for country and target group combinations with at least two studies.² The number indicates the weighted average discrimination ratio over studies. However, as the table shows, there is some variation in discrimination levels, ranging from 1.0 (parity with the White majority for European immigrants in the Netherlands) to 3.07 (MENA groups in Israel), the latter indicating that Jewish Israelis receive more than three times as many callbacks compared to Arab Israelis. Results for a subset of these studies have been analyzed in more detail through bivariate tabulations in Zschirnt and Ruedin (2016) and through multivariate statistical models by Quillian et al. (2019).

² Based on a random-effects meta-regression model with dummy moderators predicting group by country and no other covariates, see Bornstein et al. (2009) chapter 20.

In what follows, we summarize seventeen key conclusions from the cross-national literature of field experiments on racial discrimination in hiring:

1. *Discrimination against Non-Whites is Ubiquitous*: Quillian et al. (2019) find statistically significant discrimination against every non-White group in every country in Europe and North America except where statistical power is low due to few studies.³ Their meta-analysis suggests that the White majority is receiving between 20% and 80% more callbacks than nonwhite groups depending on the group and the country. The results in table 3 suggest this holds true for Australia as well. Overall, Whites receive about 50% more callbacks than non-Whites on average across the 97 field experiments in their analysis. None of the meta-analysis discrimination ratios are below one, giving no evidence for “reverse discrimination” against White natives.

2. *White Minorities Experience Less Discrimination*: Quillian et al. (2019) found evidence of less discrimination against White immigrants and White minority ethnic groups compared to non-White groups in the same country. For White immigrants, discrimination appears to be low in North America, Western Europe, and Australia – this pattern is also apparent in table 3. Results from the GEMM study also show lower discrimination against White minorities (DiStasio and Larsen 2020). We know of no studies of White applicants in majority non-White countries.

3. *Countries Differ Considerably in Discrimination Levels*: Studies comparing countries have focused on Europe and the United States because these are the countries with the largest number of field experimental studies. Zschirnt and Ruedin (2016) group countries together, and find higher discrimination in hiring in Europe than in North America, and lower discrimination in German-speaking countries than the rest of Europe. Quillian et al. (2019) extend this approach by looking at individual countries (rather than groups of countries), at a larger body of field experimental studies, and by examining country differences in models including controls for group and study characteristics. They find substantial differences over countries – in some countries Whites receive 80-100% more job offers than non-Whites, in others only 20-30% more. Country is a stronger predictor than almost any other covariate in their models. The United States has rates similar to the rates of discrimination among the lower-rate European countries. Quillian et al. (2019) found high discrimination in France; Bartkoski et al. (2018: 12) also find the highest discrimination against Muslims in France in their meta-analysis of discrimination against Muslims and Arabs.

Since these meta-analyses studies were published, a set of new field experiments have become available from the GEMM project. There is high consistency between the country levels of discrimination in the Quillian et al. (2019) meta-analysis and the GEMM studies (see Di Stasio et al. 2019 for several GEMM results). The one relatively inconsistent country is Norway, which appears to have higher discrimination in the GEMM results than in the Quillian et al. meta-analysis. This may be because the GEMM study included only private sector employers and discrimination is higher in this sector, whereas the Norwegian studies in the meta-analysis by Quillian et al. (2019) included both private and public employers.

4. *No Change in Discrimination in U.S. or UK over the Last Twenty-Five Years*: By putting field experiments into a time series, it is possible to examine changes over time. Quillian et al. (2017) find

³ A potential objection is that consistent discrimination found in field experiments reflects publication bias: studies that do not find discrimination might be less likely to produce research reports. Tests for publication bias discussed in supplementary materials of Quillian et al. (2017) and Quillian et al. (2019), however, find either no evidence of publication bias or that its effects on estimates is small.

that there has been no change over the last 25 years in discrimination against African-Americans in the United States. Heath and Di Stasio (2019) perform a similar analysis for the U.K. and find little evidence of change in rates of hiring discrimination against minority groups over time. It is fairly common to assume that racial relations are on a trajectory of improvement (Ray & Seamster 2016); these results are a sobering counterpoint to the idea of inevitable declines in discrimination over time.

5. Immigrant Generation Differences in Discrimination are Small: Several analyses find foreign-born and native-born children of immigrants experience fairly similar levels of discrimination. Carlsson (2010), for example, designed a field experiment to compare discrimination against first and second-generation immigrants in Sweden, finding no difference in discrimination. Similarly, the meta-analyses by Zschirnt and Ruedin (2016) and Quillian et al. (2019) found no statistically significant or substantively large difference in discrimination over groups. By contrast, Veit and Thijssen (2020) found that foreign-born applicants are significantly less likely to receive a callback than domestic-born applicants of the same origin using the pooled GEMM dataset. However, the difference is small in size, suggesting that minority status is more important than immigrant status in driving hiring discrimination.

6. Studies Differ about Intersections with Gender: Intersectional frameworks (e.g. Crenshaw 1989) suggest gender and race should intersect to create distinct discrimination outcomes. Sidanius and Pratto (2001) argue that minority men are viewed as more threatening to the dominant group and therefore subject to more discrimination than minority women. In Sweden, Arai et al. (2008) and Bursell (2014) found no difference in discrimination by gender against Arab applicants. In Denmark, Dahl and Krog (2018) found significantly more discrimination against men with Arabic-sounding names contrasted to women. Finally, GEMM results in DiStasio and Larsen (2020) found greater racial discrimination for women than men, but with interactions with minority group and share of females in occupations (see also Bursell 2014).

7. There is Mixed Evidence on Occupation and Education: Most studies do not find large occupational differences in discrimination. The classic study by Bertrand and Mullainathan (2004) found little evidence of discrimination varying over four white-collar occupations or industries, noting the “surprising uniformity” of discrimination. Oreopoulos (2011, table 6) likewise found few differences in outcomes across a range of white-collar occupations. On the other hand, a study of occupations subject to high demand (bottleneck occupations) in the Netherlands found less discrimination for the high-demand occupations (Baert, Cockx, Gheyle and Vandamme 2015). Many individual studies use somewhat uniform sets of occupations – for instance focusing only on white-collar jobs that require a college degree, or only service occupations that require a mix of credentials. The meta-analysis by Quillian et al. (2019) found evidence of somewhat lower racial discrimination on average for studies employing college-educated or more applicants compared to applicants with less education.

8. Larger Employers Discriminate Less: Banerjee, Reitz, and Oreopoulos (2018) in Canada and Wood (2009) in Britain find that larger employers discriminate significantly less against minority applicants than smaller employers. Likewise, Carlsson and Rooth (2007) find more discrimination by employers at workplaces with fewer than 20 employees in Sweden. This may be because larger employers more often follow formalized hiring procedures including diversity management efforts (e.g. Dobbin, Kim, and Kalev 2011).

9. Public Sector Employers Discriminate Less: Studies in Britain, France, and Norway find considerably higher discrimination by private employers than by public employers (Cahuc et al. 2019; Midtbøen

2016; Wood 2009). This may in part more formalized procedures in the public sector – similar to common explanations of the size result discussed above.

10. Cultural Distance Increases Discrimination: In Europe, evidence from several studies suggests that there may be significantly more discrimination against minority group members who are viewed as less “assimilated” to the culture of the White majority in the country. For instance a study by Duguet et al. (2010) finds that native-born applicants (indicated on resume) with French first names and North African last names were subject to significantly less discrimination than those with both North African first and last names. Similarly, Weichselbaumer (2020) finds that ethnically Turkish women applying for jobs in Germany received much lower callback rates if they wear a headscarf in their photo than if they do not (photos are standard in job applications in Germany). Using a regression procedure, Koopmans, Veit, and Yemane (2019) found some evidence that some of the discrimination against Turkish immigrants and Muslims may reflect evaluations of cultural differences from German people. In the U.S., Kang et al. (2016) find that Asian-American and Black applicants who “whitewash” their resumes (either by changing their first name or by removing experience with minority organizations from their CVs) receive significantly more callbacks than applicants who do not, although this finding might also reflect clarity of the race signal or concerns about language proficiency. Overall, these studies provide some support for ideas about cultural homophily in hiring as a basis for racial discrimination.

11. Muslims and Ethnic Groups from Muslim-Majority Countries are Discrimination Targets: Evidence points toward the importance of Islam as a basis of discrimination, especially in Europe. Adida, Laitin, and Valfort (2010), for example, found evidence of higher discrimination against an immigrant from Senegal with signals of Muslim religion than one with Christian signals. Similarly, DiStasio et al. (2019) analyze GEMM data from five countries and found that immigrants who disclosed participation in Muslim organizations on their CV experienced additional discrimination, although the effect was weaker than the effect of origins from Islamic-majority countries. Koopmans, Veit, and Yemane (2019) included both membership in religious organizations on the CV and race based on appearance in a photo in a correspondence study in Germany. They found that both Muslim organizational participation and Black race were negatively associated with callbacks, but effects were slightly larger for Black race. In the U.S. context, Gorsuch and Rho (2017) found that Somali Americans, many of whom are Muslim, experience slightly lower hiring discrimination than African Americans. By contrast, Widner (2011) found high discrimination against Arab-American applicants in a U.S. resume audit, although because the study had a small sample and low callback rate the estimate is highly imprecise. A formal meta-analysis of 26 field and lab experiments against Muslims (with religion signaled) and Arabs (religion not signaled) by Bartkoski et al. (2018) found discrimination against Muslims but more discrimination against Arabs. They also found discrimination against Muslims to be lower in the U.S. than in Europe. A consistent result emerges from these studies: signals of Muslim religion reduce chances of a callback, but the effect is weaker than racial origins from Islamic-majority countries.

12. Criminal Background Is a Disadvantage, Mixed results on Interaction with Race: Eight studies in the U.S. examines criminal background effects together with race. They find strong negative effects on callback of felony convictions (Pager 2003, Pager et al. 2009, Galgano 2009, Mobasserri 2019, Decker et al. 2015). Pager (2003), Pager et al. (2009), and Wells (2013) found an intensifying interaction of race and criminal background, so that callback rates among Black respondents with criminal backgrounds were very low. However, Galgano (2009), Uggen (2014), and Decker (2014) found no such interaction. We know of only one non-U.S. study combining criminal record and race: In the Netherlands, Van den Berg et al. (2020) found a criminal record does not appear to have much effect

on the likelihood of receiving a callback; instead ethnic minority applicants face substantial discrimination regardless of criminal record.

13. Labor Market Tightness has No Effect on Discrimination: Many studies of unemployment find that the absolute gap between White and minority unemployment rate tends to close as overall unemployment rates drop. This has led some to suggest that discrimination declines when labor markets are tight. Evidence from field experiments, however, mostly contradicts this claim. Meta-analyses by both Zschirnt and Ruedin (2016) and Quillian et al. (2019) found no association between unemployment rates and measures of discrimination in audit studies. Vuolo, Uggen, and Lageson (2017) examined if discrimination against African-Americans changed in a field experimental study that was fielded as the country tipped into recession in 2007, and they found no increase in discrimination. On the other hand, Baert, Cockx, Gheyle, Vandamme (2015) found lower discrimination in high-demand occupations in Belgium. Note that racial unemployment gaps could decrease as labor markets tighten without discrimination changing because employers lack applications from well-qualified Whites, resulting in increased hiring of minorities even if the White preference of employers remains unchanged.

14. Evidence on Interactions of Race and Unemployment Scarring is Mixed: Some studies use a field experimental approach to examine whether racial minority status increases the negative consequences of unemployment on the chances of getting a job, known as unemployment scarring. In Norway, Birkelund et al. (2016) found such an additive pattern of discrimination; majority applicants without an unemployment gap in their CVs have the highest call-back rates, while unemployed applicants with Pakistani names have the lowest. In a U.S. study, Pedulla (2018), by contrast, did not find evidence of additive effects of race and unemployment. This field experiment document substantial discrimination against African Americans, but the results show that the penalties of unemployment are weaker for Black applicants than for equally qualified White applicants. These contradictory findings suggest that both the specific target group in question and the geographical context in which field experiments are conducted play a role in whether and how race and employment status interact in shaping labor market opportunities.

15. Evidence suggests Prejudice Plays A Role: Results from at least two studies suggest a role for prejudice or other forms of animus in discrimination. First, Carlsson and Rooth (2012) found greater discrimination against Arab applicants on a field experiment in regions in Sweden with more negative attitudes toward immigrants on a population survey. Second, Pager (2016) found that employers who discriminated in her field experiment were more likely to subsequently go out of business than those that did not, consistent with economic models of taste discrimination. Other evidence suggests information processes in discrimination (see point 17) are more important. However, it is entirely possible that both prejudice and stereotypic or statistical discrimination processes operate together in producing hiring discrimination.

16. Housing Discrimination and Employment Discrimination Patterns are Distinct: There is a parallel body of studies that focus on housing discrimination using field experiments, including at least two international formal meta-analyses of housing discrimination. Patterns are different: housing studies find evidence of declines over the last 25-35 years both internationally (Flage 2018, Auspurg, Schneck, and Hinz 2019) and in the U.S. (Quillian et al. 2020), while studies of employment discrimination find little evidence of change in housing discrimination over this same period (see point 2). Likewise, looking across countries, there is little correlation between countries' levels of employment discrimination and countries' level of housing market discrimination. In Germany, for example, the level of employment

discrimination is comparatively low while housing discrimination is high (e.g. contrasting country estimates from Quillian et al. 2019 with Auspurg, Schneck, and Hinz 2019).

17. Increasing Information about Applicants Can Reduce Discrimination: Employers may rely less on group stereotypes when they have more individual information about employees' characteristics. Several findings from field experiments support this view. First, a U.S. field experiment by Agan and Starr (2018), conducted across a change in policy that prevented employers from checking criminal backgrounds of applicants, finds evidence that when employers cannot ask about past criminal record, racial discrimination increases. This suggests that some employers discount Black applicants because they assume these applicants may have criminal backgrounds in the absence of information from a background check. Second, the German-speaking countries in Europe are distinctive from most other countries for the high level of information provided on initial applications. Germany also has a low-level of discrimination in hiring perhaps because of this distinct practice (Quillian et al. 2019; Zschirnt and Ruedin 2016). Correspondingly, Kaas and Manger (2016) find no discrimination in a field experimental study in Germany when reference letters for applicants include positive information about the applicants. Third, in the housing literature, studies have coded the amount of information presented in the application, and find less discrimination when more non-racial information is solicited up-front from renters (Auspurg, Schneck, and Hinz 2019). On the other hand, Thijssen, Lancee, Veit, and Yemane (2019) randomly assigned some resumes to photos, report a final course grade, and describe themselves in a cover letter as a hard-working person. They found no effect of these application features on hiring discrimination. However, the self-reported nature of the information in applications of their experiment may indicate that information matters only when it comes from what employers view as reliable external sources such as official certificates and outside letters of recommendation.

Lessons from Comparing Field Experiments

The ubiquity of discrimination against non-White minority groups in Western countries regardless of context suggests an important cross-national role for race in hiring decisions. Suggesting race rather than ethnicity as a key, White ethnic minority groups experience hiring discrimination, but field experiments show they suffer from considerably less discrimination in hiring in White-majority countries than nonwhites.

Some discrimination based on identities distinct from race, but significantly correlated with it, plays a role in racial discrimination – what we have called shadow forms of discrimination. People from the Middle East are discriminated against partly because they are presumed to be Muslim, for instance. And some discrimination against U.S. Black applicants is driven by perceptions that tie race and criminal backgrounds. There is also evidence that members of racial and ethnic groups who present as culturally similar to the White majority experience less discrimination (e.g. for members of immigrant ethnic groups holding a “White native” first name). These are highly racialized processes, however, because discrimination is usually based on appearance or name without assessing the accuracy of the shadow identity.

The field experimental literature on discrimination suggests that a single level of “racism” in a country or population does not uniformly drive discrimination. Labor and housing market discrimination, for instance, follow quite different patterns, suggesting that distinct factors influence the levels of each type of discrimination. Likewise, country levels of hiring discrimination across Europe and North America do not align strongly with national levels of participation in historical systems of racial oppression such as the slave trade or an extensive colonial history (Quillian et al. 2019).

A hopeful conclusion suggested by these results is that hiring discrimination can be reduced significantly by procedural and legal steps. In this area, field experiments suggest following formalized hiring procedures, transparency about the race/ethnicity of hires, and accountability to goals that aim to increase diversity can make a difference (e.g. Midtbøen 2015). This is consistent with the large organizational literature on inequality and employee diversity (e.g., Dobbin et al. 2015, Hirsch and Tomaskovic-Devey 2020).

A lack of data on employee race or ethnicity at both the organizational and national levels in many countries, together with a relative lack of attention to diversity in hiring, may be reasons that the U.S. has levels of hiring discrimination below many European countries (Quillian et. al. 2019; Bartkoski et al. 2018). Just as literature suggests salary transparency is a factor that can help control inequalities in earnings (e.g. Castilla 2015), transparency in the racial composition of employees and managers may be an important tool to help control discrimination in hiring. We believe that more collection of racial data to monitor inequality in European countries where it is currently lacking would be an step in the right direction.

Under the right circumstances, designing hiring to encourage more job-relevant information on applicants at the point of initial application could also be a route to reduce discrimination – in some ways this would make application procedures and links to education more like those in German-speaking countries. The potential tradeoff is that this would damage the job prospects of those whose backgrounds on the additional information are not employment-enhancing – with the danger (as may occur to ex-felons) of creating “trapped” groups who combine multiple forms of identities that have great difficulty gaining employment because of their background. There are then important potential tradeoffs that need to be considered in thinking about the overall effects of changes in hiring to require additional job-relevant information.

Conclusion

The large body of field experimental studies suggest that racial and ethnic discrimination in hiring is a pervasive phenomenon that hardly diminishes over time. Field experiments have been important at establishing these facts with greater certainty than other methods, and also have the advantage that their results are readily understandable by lawmakers and the public.

Field experiments show that countries vary significantly, and often in somewhat surprising ways, in levels of discrimination. The large differences that exist in discrimination levels over countries seem to result in part from a variety of institutional and situation differences, but further research is needed to provide further explanations and to better test these explanations with evidence.

We need to better understand the role of discrimination in generating disparities in outcomes between racial groups. In the case of hiring, it is likely most relevant to understanding persistent racial unemployment gaps. This involves working to connect the process of discrimination to disparities, which itself will require better understanding job search, the effects of perceived discrimination on job search, and the effects of race on quits and firings.

There are only a few field experiments of racial discrimination outside of North America, Europe, and Australia. Yet most accounts suggest significant racial and ethnic discrimination outside of the West (e.g. Kowner and Demel 2012). This is a topic that needs more study, especially as increasing

international labor migration to Asian countries and the Middle East increase the racial and ethnic diversity of these regions.

Finally, studies of racism and studies of discrimination have been highly separate. More evidence is needed on how racist ideologies—usually assessed as beliefs or statements—correspond to acts of discrimination. Deeper analysis of the connection of racism and discrimination could strengthen our understanding of both discrimination and racism.

Future studies will need to be creative in the design of experiments to address these topics, and will need to combine results with survey and qualitative research to continue to make advances in understanding the social processes that produce discrimination and how we can better control it.

References

- Adida CL, Laitin DD, Valfort MA. 2010. Identifying Barriers to Muslim Integration in France. *Proc. Nat. Acad. Sci.* 107(52):22384–90.
- Agan A, Starr S. 2018. Ban the Box, Criminal Records, and Racial Discrimination: A Field Experiment. *Q. J. Econ.* 133(1): 191–235. doi: 10.1093/qje/qjx028.
- Arai M, Bursell M, Nekby L. 2016. The Reverse Gender Gap in Ethnic Discrimination: Employer Stereotypes of Men and Women with Arabic Names. *International Migration Rev.* 50(2): 385–412. doi: 10.1111/imre.12170.
- Arrow KJ. 1973. The Theory of Discrimination. In *Discrimination in Labor Markets* ed. O Ashonfelter, A Rees, pp. 3-33. Princeton: Princeton University Press.
- Auspurg K, Schneck A, Hinz T. 2019. Closed doors everywhere? A meta-analysis of field experiments on ethnic discrimination in rental housing markets. *J. Ethnic Migration Stud.* 45(1): 95-114. doi:-10.1080/1369183X.2018.1489223
- Auspurg K, Schneck A, Thiel F. 2020. Different Samples, Different Results? How Sampling Techniques Affect the Results of Field Experiments on Ethnic Discrimination. *Res. Soc. Strat. Mobility.* <https://doi.org/10.1016/j.rssm.2019.100444>.
- Baert S, Cockx B, Gheyle N, Vandamme C. 2015. Is There Less Discrimination in Occupations Where Recruitment Is Difficult? *ILR Rev.* 68(3): 467-500. doi:10.1177/0019793915570873
- Banerjee R, Reitz JG. 2017. *Do Large Employers Treat Racial Minorities More Fairly? A New Analysis of Canadian Field Experiment Data*. Report, Munk School of Global Affairs, University of Toronto.
- Bartkoski T., Lynch E, Witt C, Rudolph C. 2018. A Meta-Analysis of Hiring Discrimination Against Muslims and Arabs. *Personnel Assessment Decisions* 4(2): 1-16. doi: 10.25035/pad.2018.02.001.
- Beaman J, Petts A. 2020. Towards a global theory of colorblindness: Comparing colorblind racial ideology in France and the United States. *Sociol. Compass* 14(4). doi: 10.1111/soc4.12774.
- Becker G. 1957. *The Economics of Discrimination*. Chicago: University of Chicago Press.
- Bertrand M, Chugh D, Mullainathan S. 2005. Implicit Discrimination. *Am. Econ. Rev.* 95(2): 94-98.
- Bertrand M, Mullainathan S. 2004. Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination. *Am. Econ. Rev.* 90(4): 991-1013. doi:10.1257/0002828042002561
- Bertrand M, Duflo E. 2016. Field Experiments on Discrimination. Working paper w22014. Cambridge, MA: National Bureau of Economic Research. doi: 10.3386/w22014.
- Bielby WT, Baron JN. 1986. Men and Women at Work: Sex Segregation and Statistical Discrimination. *Am. J. Sociol.* 91(4): 759-799.
- Biondi M. 2009. *To Stand and Fight*. Harvard University Press.

- Birkelund GE, Heggebø K, Rogstad J. 2016. Additive or Multiplicative Disadvantage? The Scarring Effects of Unemployment for Ethnic Minorities. *Eur. Sociol. Rev.* 33(1): 17–29. doi:10.1093/esr/jcw030
- Blalock HM. 1967. *Toward a Theory of Minority-group Relations*. New York: Wiley.
- Blumer H. 1958. Race Prejudice as a Sense of Group Position. *Pacific Sociol. Rev.* 1(1): 3-7.
- Bobo L, Kluegel JR, Smith RA. 1997. Laissez-faire Racism: The Crystallization of a 'Kinder, Gentler' Anti-Black Ideology. In *Racial Attitudes in the 1990s: Continuity and Change*, ed. SA Tuch, J.K. Martin, pp. 15-42. Greenwood: Praeger.
- Bonilla-Silva E. 2006. *Racism without Racists? Color-Blind Racism and the Persistence of Racial Inequality in the United States*. Lanham: Rowman & Littlefield.
- Borenstein M, Hedges LV, Higgins J, Rothstein HR. 2009. *Introduction to Meta-Analysis*. Chichester, U.K: Wiley.
- Bovenkerk F, Gras M, Ramsøedh D. 1995. *Discrimination against migrant workers and ethnic minorities in access to employment in the Netherlands*. Genève: International Labour Office.
- Bovenkerk F, Kilbourne B, Raveau F, Smith D. 1979. Comparative aspects of Research on Discrimination Against Non-White Citizens in Great Britain, France and the Netherlands. In *Problems in International Comparative Research in the Social Sciences*, ed. J Berting, F Geyer, R Jurkovich. Oxford: Pergamon Press.
- Brubaker R, Loveman M, Stamatov P. 2004. Ethnicity as Cognition. *Theory Society* 33(1): 31–64.
- Bursell M. 2014. The Multiple Burdens of Foreign-Named Men—Evidence from a Field Experiment on Gendered Ethnic Hiring Discrimination in Sweden. *Eur. Sociol. Rev.* 30(3): 399–409. doi:10.1093/esr/jcu047
- Cahuc P, Carcillo S, Minea A, Valfort MA. 2019. When Correspondence Studies Fail to Detect Hiring Discrimination. IZA Institute of Labor Economics Discussion Paper No. 12653.
- Carlsson, M. 2010. Experimental Evidence of Discrimination in the Hiring of First- and Second-generation Immigrants. *LABOUR* 24(3): 263-278. doi:10.1111/j.1467-9914.2010.00482.x
- Carlsson R, Agerström J. 2016. A closer look at the discrimination outcomes in the IAT literature. *Scandinavian J. Psychol.* 57(4): 278-287. doi:10.1111/sjop.12288
- Carlsson M, Rooth DO. 2007. Evidence of ethnic discrimination in the Swedish labor market using experimental data. *Labour Econ.* 14(4): 716–729. doi: 10.1016/j.labeco.2007.05.001.
- Carlsson M, Rooth DO. 2016. Employer Attitudes, the Marginal Employer, and the Ethnic Wage Gap. *ILR Rev.* 69(1): 227–252. doi: 10.1177/0019793915601630.
- Castilla EJ. 2015 Accounting for the Gap: A Firm Study Manipulating Organizational Accountability and Transparency in Pay Decisions. *Organization Sci.* 26(2): 311–333. doi: 10.1287/orsc.2014.0950.
- Cherry F, Bendick M, Jr. 2020. Making it Count: Discrimination Auditing and the Scholar-Activist Tradition. In *Audit Studies: Behind the Scenes with Theory, Method, and Nuance*, ed M Gaddis, pp. 45-62. New York: Springer.
- Craig MA, Rucker JM, Richeson JA. 2018. Racial and Political Dynamics of an Approaching “Majority-Minority” United States. *Annals Am. Acad. Polit. Soc. Sci.* 677(1): 204–214. doi: 10.1177/0002716218766269.
- Crenshaw K. 1989. Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics. *University of Chicago Legal Forum* (1): 31.
- Cross HE, Genevieve KM, Mell J, Zimmerman W. 1990. *Employer Hiring Practices: Differential Treatment of Hispanic and Anglo Job Seekers*. Washington, D.C.: Urban Institute Press.
- Dahl M, Krog N. 2018. Experimental Evidence of Discrimination in the Labour Market: Intersections between Ethnicity, Gender, and Socio-Economic Status. *Europ. Sociol. Rev.* 34(4): 402–417. doi: 10.1093/esr/jcy020.
- Daniel WW. 1968. *Racial Discrimination in England*. Middlesex: Penguin Books.
- Decker SH, Ortiz N, Spohn C, Hedberg E. 2015. Criminal Stigma, Race, and Ethnicity: The Consequences of Imprisonment for Employment. *J. Crim. Justice* 43(2):108–21.

- Di Stasio V, Lancee B, Veit S, Yemane R. 2019. Muslim by default or religious discrimination? Results from a cross-national field experiment on hiring discrimination. *J. Ethnic Migration Stud.* 1-22. doi:10.1080/1369183X.2019.1622826
- Di Stasio V, Larsen EN. 2020. The Racialized and Gendered Workplace: Applying an Intersectional Lens to a Field Experiment on Hiring Discrimination in Five European Labor Markets. *Soc. Psychol. Q.* 83(3): 229–250. doi: 10.1177/0190272520902994.
- Dobbin F. 2011. *Inventing Equal Opportunity*. Princeton: Princeton University Press.
- Dobbin F, Kim S, Kalev A. 2011. You Can't Always Get What You Need: Organizational Determinants of Diversity Programs. *Am. Soc. Rev.* 76(3): 386-411.
- Dobbin F, Schrage D, Kalev A. 2015. Rage against the Iron Cage: The Varied Effects of Bureaucratic Personnel Reforms on Diversity. *Am. Soc. Rev.* 80(5): 1014-1044. doi:10.1177/0003122415596416
- Duguet E, Leandri N, L'Horty Y, Petit P. 2010. Are Young French Jobseekers of Ethnic Immigrant Origin Discriminated against? A Controlled Experiment in the Paris Area. *Annals Econ. Stat.* (99/100): 187-215.
- European Union Agency for Fundamental Rights. 2008. *Annual Report*. Retrieved August 27, 2020 from <https://fra.europa.eu/en/publication/2010/annual-report-2008>
- Fiske S. 1998. Stereotyping, prejudice, and discrimination. In D. Gilbert, S. Fiske, & G. Lindzey (Eds.), *The Handbook of Social Psychology* (4 ed., Vol. 2, pp. 357-411). New York: McGraw Hill.
- Fix M, Struyk RJ (Eds.). 1993. *Clear and Convincing Evidence: Measurement of Discrimination in America*. Washington D. C.: The Urban Institute Press.
- Flage A. 2018. Ethnic and gender discrimination in the rental housing market: Evidence from a meta-analysis of correspondence tests, 2006–2017. *J. Housing Econ.* 41: 251–273. doi: 10.1016/j.jhe.2018.07.003.
- Gaddis, MS. 2017a. How Black are Lakisha and Jamal? Racial Perceptions from Names Used in Correspondence Audit Studies. *Sociol. Sci.* 4:469-89.
- Gaddis MS. 2017b. Racial/Ethnic Perceptions from Hispanic Names: Selecting Names to Test for Discrimination. *Socius* 3: 1-11.
- Gaddis, MS (Ed.) 2018. *Audit Studies: Behind the Scenes with Theory, Method, and Nuance*. Cham: Springer.
- Galgano SW. 2009. Barriers to Reintegration: An Audit Study of the Impact of Race and Offender Status on Employment Opportunities for Women. *Soc. Thought Research* 30:21–37.
- Gaertner SL, Dovidio JF. 1986. The aversive form of racism. In *Prejudice, Discrimination and Racism* J. ed. F Dovidio, SL Gaertner, pp. 61-89. Orlando: Academic Press.
- Gorsuch MM, Rho D. 2017. Race, Religion, and Immigration: Experimental Evidence From the Labor Market. Paper presented at the 2017 Annual Meetings of the Population Association of America, Chicago, IL.
- Greenwald AG, McGhee DE, Schwartz JL. 1998. Measuring Individual Differences in Implicit Cognition: The Implicit Association Test. *J. Pers. Soc. Psych.* 74(6): 1464-1480. doi:10.1037/0022-3514.74.6.1464
- Heath A, Liebig T, Simon P. 2013. Discrimination against immigrants – measurement, incidence and policy instruments. In *OECD International Migration Outlook*: 191–230. doi: 10.1787/migr_outlook-2013-7-en.
- Heath A, Di Stasio V. 2019. Racial discrimination in Britain, 1969-2017: A meta-analysis of field experiments on racial discrimination in the British labour market. *British J. Sociol.* doi:10.1111/1468-4446.12676
- Heckman J, Siegelman P. 1993. *The Urban Institute Audit Studies: Their Methods and Findings*. In *Clear and Convincing Evidence: Measurement of Discrimination in America*, ed. M Fix, RJ Struyk. Washington D. C.: The Urban Institute Press.
- Hellman D. 2008. *When Is Discrimination Wrong?* Harvard University Press.

- Hirsh E. 2009. The Strength of Weak Enforcement: The Impact of Discrimination Charges, Legal Environments, and Organizational Conditions on Workplace Segregation. *Am. Sociol. Rev.* 74(2): 245–271. doi: 10.1177/000312240907400205.
- Hirsh E, Cha Y. 2018. For Law and Markets: Employment Discrimination Lawsuits, Market Performance, and Managerial Diversity. *Am. J. Sociol.* 123(4): 1117–1160. doi: 10.1086/694887.
- Hirsh E, Thomaskovic-Devey D. 2020. Metrics, Accountability, and Transparency: A Simple Recipe to Increase Diversity and Reduce Bias. In *What Works? Evidence-Based Ideas to Increase Diversity, Equity, and Inclusion in the Workplace*, pp. 16-23. Report, Center for Employment Equity, U. Mass Amherst. <https://www.umass.edu/employmentequity/what-works-evidence-based-ideas-increase-diversity-equity-and-inclusion-workplace>
- Holzer HJ, Neumark D. 2006. Affirmative action: What do we know? *J. Policy Anal. Manag.* 25(2): 463–490. doi: 10.1002/pam.20181.
- Hopkins DJ. 2010. Politicized Places: Explaining Where and When Immigrants Provoke Local Opposition. *Am. Polit. Sci. Rev.* 104(01): 40–60. doi: 10.1017/S0003055409990360.
- Jolson MA. 1974. Employment Barriers in Marketing. *J. Marketing* 38(2): 67–69.
- Jowell R, Prescott-Clarke P. 1970. Racial Discrimination and White-Collar Workers in Britain. *Race* 11: 397-417.
- Jungkunz S, Helbling M, Schwemmer C. 2019. Xenophobia before and after the Paris 2015 attacks: Evidence from a natural experiment. *Ethnicities* 19(2): 271–291. doi: 10.1177/1468796818757264.
- Kalev A, Kelly E, Dobbin F. 2006. Best Practices or Best Guesses? Assessing the Efficacy of Corporate Affirmative Action and Diversity Policies. *Am. Sociol. Rev.* 71(4): 589-617. doi:10.1177/000312240607100404
- Kang SK, DeCelles KA, Tilcsik A, Jun S. 2016. Whitened Résumés: Race and Self-Presentation in the Labor Market. *Admin. Sci. Q.* 61(3): 469-502. doi:10.1177/0001839216639577
- Kaas L, Manger C. 2012. Ethnic Discrimination in Germany's Labour Market: A Field Experiment. *German Econ. Rev.* 13(1): 1–20. doi: 10.1111/j.1468-0475.2011.00538.x.
- Kinder DR, Sears DO. 1981. Prejudice and politics: Symbolic racism versus racial threats to the good life. *J. Pers. Soc. Psych.* 40(3): 414-431.
- Kirschenman J, Neckerman KM. 1991. 'We'd Love to Hire Them, But...': The Meaning of Race to Employers. In *The Urban Underclass*, ed. C Jencks, PE Peterson, pp. 203-232. Washington: Brookings Institution.
- Koopmans R, Veit S, Yemane R. 2019. Taste or statistics? A correspondence study of ethnic, racial and religious labour market discrimination in Germany. *Ethnic and Racial Studies*, 42(16), 233-252. doi:10.1080/01419870.2019.1654114
- Kowner R, Demel W (eds). 2012. *Race and Racism in Modern East Asia: Western and Eastern Constructions*. Brill. Available at: <https://brill.com/view/title/19113> (Accessed: 3 September 2020).
- Lahey JN, Beasley RA. 2009. Computerizing Audit Studies. *J. Econ. Behavior Organizat.* 70(3): 508–514. doi: 10.1016/j.jebo.2008.02.009.
- Lancee B. 2019. Ethnic discrimination in hiring: comparing groups across contexts. Results from a cross-national field experiment. *J. Eth. Migration Stud.* 1-20. doi:10.1080/1369183X.2019.1622744
- Lewis TT, Cogburn CD, Williams DR. 2015. Self-Reported Experiences of Discrimination and Health: Scientific Advances, Ongoing Controversies, and Emerging Issues. *Annu. Rev. Clinical Psych.* 11(1): 407–440. doi: 10.1146/annurev-clinpsy-032814-112728.
- Loury GC. 2002. *The Anatomy of Racial Inequality*. Cambridge: Harvard University Press.
- Majors S. 2020. I'm a black man with white privilege. I see how it distorts America. *Washington Post*, June 11. Available at: https://www.washingtonpost.com/outlook/black-white-privilege/2020/06/11/e9da09b8-ab78-11ea-a9d9-a81c1a491c52_story.html (Accessed: 26 August 2020).

- McConahay JB. 1983. Modern racism and modern discrimination. The effects of race, racial attitudes, and context on simulated hiring decisions. *Pers. Soc. Psych. Bulletin* 9(4): 551-558.
- Macrae CN, Bodenhausen GV. 2000. Social Cognition: Thinking Categorically about Others. *Annu. Rev. Psych.* 51(1): 93–120. doi: 10.1146/annurev.psych.51.1.93.
- McPherson M, Smith-Lovin L, Cook JM. 2001. Birds of a Feather: Homophily in Social Networks. *Annu. Rev. Sociol.* 27(1): 415–444. doi: 10.1146/annurev.soc.27.1.415.
- Midtbøen AH. 2014. The Invisible Second Generation? Statistical Discrimination and Immigrant Stereotypes in Employment Processes in Norway. *J. Ethnic Migration Stud.* 40(10): 1657-1675. doi:10.1080/1369183X.2013.847784
- Midtbøen AH. 2015. The context of employment discrimination: interpreting the findings of a field experiment. *British J. Sociol.* 66(1): 193-214. doi:10.1111/1468-4446.12098
- Midtbøen AH. 2016. Discrimination of the Second Generation: Evidence from a Field Experiment in Norway. *J. Internat. Migration Integration* 17(1): 253-272. doi:10.1007/s12134-014-0406-9
- Mobasseri S. 2019. Race, Place, and Crime: How Violent Crime Events Affect Employment Discrimination. *Am. J. Sociol.* 125(1): 63–104. doi: 10.1086/703883.
- Moss P, Tilly C. 2001. *Stories Employers Tell. Race, Skill, and Hiring in America.* New York: Russell Sage Foundation.
- National Research Council. 2004. *Measuring Racial Discrimination.* Washington, DC: National Research Council, National Academies Press.
- Neumark D. 2012. Detecting Discrimination in Audit and Correspondence Studies. *J. Human Resources* 47(4): 1128-1157. doi: 10.3368/jhr.47.4.1128
- Newman JM. 1978. Discrimination in Recruitment: An Empirical Analysis. *Indust. Labor Relations Rev.* 32(1):15–23.
- O’Connell HA. 2012. The Impact of Slavery on Racial Inequality in Poverty in the Contemporary U.S. South. *Soc. Forces* 90(3): 713–734. doi: 10.1093/sf/sor021.
- Omi M, Winant H. 2014. *Racial Formation in the United States.* Routledge.
- Oreopoulos P. 2011. Why Do Skilled Immigrants Struggle in the Labor Market? A Field Experiment with Thirteen Thousand Resumes. *Am. Econ. J.: Econ. Policy* (3): 148-171. doi:10.1257/pol.3.4.148
- Oswald FL, Mitchell G, Blanton H, Jaccard J, Tetlock PE. 2013. Predicting ethnic and racial discrimination: A meta-analysis of IAT criterion studies. *J. Personal. Soc. Psychol.* 105(2): 2171–2192. doi:10.1037/a0032734
- Pager, D. 2003. The Mark of a Criminal Record. *Am. J. Sociol.* 108(5): 937-975. doi:10.1086/374403
- Pager D. 2007. The Use of Field Experiments for Studies of Employment Discrimination: Contributions, Critiques, and Directions for the Future. *Annals Am. Acad. Polit. Soc. Sci.* 609: 104-133. doi:10.1177/0002716206294796
- Pager D. 2016. Are Firms That Discriminate More Likely to Go Out of Business? *Sociol. Sci.* 3: 849–859. doi: 10.15195/v3.a36.
- Pager D, Karafin D. 2009. Bayesian Bigot? Statistical Discrimination, Stereotypes, and Employer Decision Making. *Annals Am. Acad. Polit. Soc. Sci.* 621: 70-93. doi:10.1177/0002716208324628
- Pager D, Quillian L. 2005. Walking the Talk? What Employers Say Versus What They Do. *Am. Sociol. Rev.*, 70(3): 355-380. doi:10.1177/000312240507000301
- Pager D, Shepherd H. 2008. The Sociology of Discrimination: Racial Discrimination in Employment, Housing, Credit and Consumer Markets. *Annu. Rev. Soc.* 34: 181-209. doi:10.1146/annurev.soc.33.040406.131740
- Pager D, Western B, Bonikowski B. 2009. Discrimination in a Low-Wage Labor Market: A Field Experiment. *Am. Sociol. Rev.* 74: 777-799. doi:10.1177/000312240907400505
- Pedulla DS. 2018. How Race and Unemployment Shape Labor Market Opportunities: Additive, Amplified, or Muted Effects? *Soc. Forces* 96(4): 1477-1506. doi:10.1093/sf/soy002
- Phelps ES. 1972. The Statistical Theory of Racism and Sexism. *Am. Econ. Rev.* 62(4): 659-661.

- Quillian L. 1995. Prejudice as a Response to Perceived Group Threat: Population Composition and Anti-Immigrant and Racial Prejudice in Europe. *Am. Sociol. Rev.* 60: 586-611.
- Quillian L. 2006. New Approaches to Understanding Racial Prejudice and Discrimination. *Annu. Rev. Sociol.* 32: 299-328. doi:10.1146/annurev.soc.32.061604.123132
- Quillian L. 2008. Does unconscious racism exist? *Soc. Psych. Q.* 71(1): 6-11.
- Quillian L, Heath A, Pager D, Midtbøen AH, Fleischmann, F, Hexel, O. 2019. Do Some Countries Discriminate More than Others? Evidence from 97 Field Experiments of Racial Discrimination in Hiring. *Sociol. Sci.* (6): 467-496. doi:10.15195/v6.a18
- Quillian L, Hexel O, Pager D, Midtbøen AH. 2017. Meta-analysis of field experiments shows no change in racial discrimination in hiring over time. *Proceed. Nat. Acad. Sci.* 114(41): 10870–10875. doi:10.1073/pnas.1706255114
- Quillian, L, Lee JJ, Oliver M. 2020. Evidence from Field Experiments in Hiring Shows Substantial Additional Racial Discrimination after the Callback. *Soc. Forces.* doi:10.1093/sf/soaa026
- Quillian L, Lee JJ, Honoré B. 2020. Racial Discrimination in the U.S. Housing and Mortgage Lending Markets: A Quantitative Review of Trends, 1976–2016. *Race Soc. Problems* 12(1): 13–28. doi: 10.1007/s12552-019-09276-x.
- Raveau F, Kilborne B, Frere L, Lorin JM, Trempe G. 1976. Perception Sociale de La Couleur et Discrimination. *Cahiers d'Anthropologie* 1(4):23–41.
- Ray V, Seamster L. 2016. Rethinking racial progress: a response to Wimmer. *Ethnic Racial Stud.* 39(8): 1361–1369. doi: 10.1080/01419870.2016.1151540.
- Reskin BF. 2008. Rethinking Employment Discrimination and Its Remedies. In *Social Stratification: Class, Race and Gender in Sociological Perspective*, ed. DB Grusky, pp. 770-779. Boulder: Westview Press.
- Ridgeway CL. 2001. The emergence of status beliefs: From structural inequality to legitimizing ideology. In *The Psychology of Legitimacy: Emerging perspectives on ideology, justice, and intergroup relations*, pp. 257–277. New York: Cambridge University Press.
- Rivera LA. 2012. Hiring as Cultural Matching: The Case of Elite Professional Service Firms. *Am. Sociol. Rev.* 77(6): 999-1022.
- Rooth DO. 2010. Automatic associations and discrimination in hiring: Real world evidence. *Labour Econ.* 17(3): 523-534. doi:https://doi.org/10.1016/j.labeco.2009.04.005
- Royster D. 2005. *Race and the Invisible Hand: How White Networks Exclude Black Men from Blue Collar Jobs*. Berkeley, CA: University of California Press.
- Roscigno VJ. 2007. *The Face of Discrimination: How Race and Gender Impact Work and Home Lives*. New York: Rowman & Littlefield Publishers.
- Sabbagh D. 2011. Affirmative Action: The U.S. Experience in Comparative Perspective. *Daedalus* 140(2): 109–120. doi: 10.1162/DAED_a_00081.
- Schuman, H, Steeh C, Bobo L, Krysan M. 1997. *Racial Attitudes in America: Trends and Interpretations*. Cambridge, Mass: Harvard University Press.
- Shih J. 2002. '...Yeah, I could hire this one, but I know it's gonna be a problem!': how race, nativity and gender affect employers' perceptions of the manageability of job seekers. *Eth. Racial Stud.* 25(1): 99-119. doi:10.1080/01419870120112076
- Sidanius J, Pratto F. 2001. *Social Dominance: An Intergroup Theory of Social Hierarchy and Oppression*. Cambridge University Press.
- Small ML, Pager D. 2020. Sociological Perspectives on Racial Discrimination. *J. Econ. Persp.* 34(2): 49-67. doi:10.1257/jep.34.2.49
- Smith DJ. 2015. WW Daniel Obituary. The Guardian, November 10. Retrieved from <https://www.theguardian.com/education/2015/nov/10/ww-daniel>
- Spence M 1973. Job Market Signaling. *Q. J. Econ.* 87(3): 355-374. doi: 10.2307/1882010.
- Taylor MC. 1998. How White Attitudes Vary with the Racial Composition of Local Populations: Numbers Count. *Am. Sociol. Rev.* 63(4): 512-535. doi: 10.2307/2657265.

- Thijssen L, Lancee B, Veit S, Yemane R. 2019. Discrimination against Turkish minorities in Germany and the Netherlands: field experimental evidence on the effect of diagnostic information on labour market outcomes. *J. Ethnic Migrat. Stud.*: 1-18. doi:10.1080/1369183X.2019.1622793
- Tomaskovic-Devey D, Skaggs S. 1999. An Establishment-Level Test of the Statistical Discrimination Hypothesis. *Work Occupat.* 26(4): 422-445. doi:10.1177/0730888499026004003
- Tomaskovic-Devey D, Zimmer C, Stainback K, Robinson C, Taylor T, McTague T. 2006. Documenting Desegregation: Segregation in American Workplaces by Race, Ethnicity, and Sex, 1966–2003. *Am. Sociol. Rev.* 71(4): 565–88. doi: 10.1177/000312240607100403.
- Turner, MA, Fix M, Struyk RJ. 1991. *Opportunities Denied, Opportunities Diminished: Racial Discrimination in Hiring*. Washington, D.C. : Lanham, MD: Urban Institute Press.
- Uggen C, Vuolo M, Lageson S, Ruhland E, and Whitham H. 2014. The Edge of Stigma: An Experimental Audit of the Effects of Low-Level Criminal Records on Employment. *Criminology* 52(4):627–54.
- van den Berg C, Blommaert L, Bijleveld C, Ruiter S. 2020. Employment opportunities for ex-offenders: A field experiment on how type of crime and applicants' ethnic background affect employment opportunities for low-educated men in the Netherlands. *Res. Soc. Strat. Mobility*, 65, 100476. doi:https://doi.org/10.1016/j.rssm.2020.100476
- Veit S, Thijsen L. 2019. Almost identical but still treated differently: hiring discrimination against foreign-born and domestic-born minorities. *J. Eth. Migrat. Stud.* 1-20. doi:10.1080/1369183X.2019.1622825
- Vuolo M, Uggen C, Lageson S. 2017. Race, Recession, and Social Closure in the Low-Wage Labor Market: Experimental and Observational Evidence. In *Research in the Sociology of Work*, ed. S Vallas, pp. 141–183. Emerald Publishing Limited. doi: 10.1108/S0277-283320170000030007.
- Waldinger R, Lichter M. 2003. *How the Other Half Works: Immigration and the Social Organization of Labor*. Berkeley: University of California Press.
- Weichselbaumer D. 2020. Multiple Discrimination against Female Immigrants Wearing Headscarves. *ILR Rev.*, 73(3), 600-627. doi:10.1177/0019793919875707
- Widner D, Chicoine S. 2011. It's All in the Name: Employment Discrimination Against Arab Americans. *Sociol. Forum*, 26(4), 806-823.
- Wood M, Hales J, Purdon S, Sejersen T, Hayllar O. 2009. A test for racial discrimination in recruitment practice in British cities. U.K. Department for Work and Pensions, Research Report No 607.
- Wulff JN, Villadsen AR 2020. Are Survey Experiments as Valid as Field Experiments in Management Research? An Empirical Comparison Using the Case of Ethnic Employment Discrimination. *Eur. Manag. Rev.* 17(1), pp. 347–356. doi: 10.1111/emre.12342.
- Zegers de Beijl R. (Ed.) 1999. *Documenting discrimination against migrant workers in the labour market: A comparative study of four European countries*. Genève: International Labour Office.
- Zschirnt E, Ruedin D. 2016. Ethnic discrimination in hiring decisions: a metaanalysis of correspondence tests 1990–2015. *J. Eth. Mig. Stud.*. doi:10.1080/1369183X.2015.1133279

Table 1: Field Experiments of Discrimination in Hiring by Year

Year Range	Number of Studies
Before 1975	4
1975 to 1980	7
1981 to 1985	5
1986 to 1990	6
1991 to 1995	8
1996 to 2000	3
2001 to 2005	12
2006 to 2010	37
2011 to 2015	46
2015 to 2020	19
Total	147

Notes: Year is based on median or modal year of fieldwork, not year of publication.

Table 2: Field Experiments of Discrimination in Hiring by Country

<u>Country</u>	<u>Number of Studies</u>
Australia	3
Austria	1
Belgium	4
Canada	7
China	1
Czech Republic	2
Denmark	2
Finland	2
France	24
Georgia	1
Germany	6
Great Britain	12
Greece	2
Hungary	1
Ireland	1
Israel	2
Italy	2
Malaysia	1
Mexico	1
Netherlands	15
Norway	5
Peru	1
Poland	1
Russia	1
Singapore	1
Spain	3
Sweden	8
Switzerland	3
Turkey	1
USA	33
Total	147

Notes: For multi-country studies, the study is counted in each country in which a field experiment was conducted. Studies of caste in India not included.

Table 3: Estimated Discrimination Ratios, All Country by "Race" Categories with Two or More Studies

<u>Country</u>	<u>"Race" category</u>	<u>Detailed Groups (Study Term)</u>	<u>Studies</u>	<u>Discrimination</u>	
				<u>Ratio</u>	<u>95% CI</u>
Australia	European/White	Greek, Italian	2	1.10	0.84 1.44
Australia	Asian	Chinese, Vietnamese	3	1.64	1.30 2.06
Belgium	MENA	Moroccan, Turkish	4	1.39	1.13 1.72
Canada	African/Black	African, Black, West Indian	4	1.63	1.24 2.14
Canada	European/White	Greek, White Immigrant	4	1.31	1.01 1.68
Canada	MENA	Arab, Middle-Eastern	2	1.22	0.92 1.62
Canada	Asian	Chinese, Indian, Indo-Pakistani, Pakistani	4	1.42	1.19 1.69
Czech Rep.	European/White	Bulgarian, Roma	2	2.17	1.11 4.25
Denmark	MENA	Middle-Eastern, Turkish	2	1.44	1.08 1.93
Finland	European/White	English, Russian	2	1.69	1.35 2.12
France	African/Black	African, French Antillean, Senegalese, Sub-Saharan Africa	7	1.90	1.61 2.24
France	MENA	Moroccan, North African	20	1.70	1.54 1.88
France	Asian	Asian, Vietnamese	2	1.45	1.06 1.98
Germany	MENA	Middle-Eastern, Turkish	6	1.23	1.04 1.44
Great Britain	African/Black	Black African, Black Caribbean, Sub-Saharan African, West Indian	9	1.51	1.32 1.73
Great Britain	European/White	Australian, Cypriot, Eastern European, French, Greek, Italian	5	1.16	0.99 1.35
Great Britain	Asian	Asian, Chinese, Indian, Pakistani	12	1.63	1.45 1.82
Greece	European/White	Albanian	2	1.62	1.24 2.12
Israel	MENA	Arab Israeli, Mizrahi Israeli	2	3.07	1.26 7.44
Italy	MENA	Moroccan	2	1.71	1.29 2.27
Netherlands	African/Black	Antillean	6	1.17	1.00 1.37
Netherlands	European/White	Eastern European, Spanish	2	1.00	0.75 1.32
Netherlands	MENA	Arab, MENA, Moroccan, Turkish	13	1.40	1.23 1.59
Netherlands	Asian	Hindustani, South and Southeast Asian	2	1.41	1.03 1.93
Norway	Asian	Pakistani, South and Southeast Asian	5	1.4	1.16 1.68
Spain	MENA	Asian	2	1.12	0.83 1.52
Sweden	MENA	Arab, North African, Middle-Eastern	8	1.66	1.46 1.89
Switzerland	European/White	French/German, Kosovar Albanians, Portugueses, Yugoslavian	3	1.29	1.06 1.56
Switzerland	MENA	Turkish	2	1.28	0.97 1.68
USA	African/Black	African American, Black, Somali American	24	1.38	1.26 1.51
USA	Latin	American			
USA	Am./Hispanic	Hispanic, Latino	11	1.23	1.06 1.41
Average	Combined	Combined	129	1.45	1.39 1.52

Note: Based on random-effects meta-regression with dummies for country by race category. SEs clustered by study.