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Racial and Ethnic Discrimination in Western Labor Markets

Empirical Evidence from Field Experiments

Raciale en Etnische Discriminatie in Westerse Arbeidsmarkten
Empirisch Bewijs afkomstig van Veldexperimenten

(met een samenvatting in het Nederlands)

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Contents

Chapter 1.

Synthesis[1]

1.1.   Background

Over the course of decades, Western societies have undergone major changes in the racial and ethnic composition of their populations due to global migration processes. These migration processes have not only increased the number of individuals with a racial-ethnic minority background but also resulted in greater diversity in terms of people's economic, social, and cultural backgrounds (Castles and Miller 2009; Mol and De Valk 2016). By implication, as Western countries have become more racially and ethnically diverse, their labor markets have become so too.

As a consequence of these demographic changes, there has been an increasing interest in the integration of racial and ethnic minority groups into the labor market (Alba and Foner 2015b; Alba and Nee 1997, 2003; Gordon 1964; Heath, Rothon, and Kilpi 2008; Park and Burgess 1921; Portes and Rumbaut 2001; Van Tubergen 2006).[2] In this sense, labor market success is often seen as a stepping stone to the integration of racial and ethnic minorities in Western societies (Alba and Nee 1997:830), for example, because it can help people learning new labor skills, improving language proficiency, broadening knowledge about (labor market) institutions, and expanding their social networks.[3] Despite that racial and ethnic minority groups have made great progress in education in recent decades, research has not documented consistently strong improvements in their relative positions in the labor market (Drouhot and Nee 2019; Heath et al. 2008). Studies still find strong racial and ethnic disparities on most indicators of labor market success (e.g. having employment, job status, and income) (Heisig, Lancee, and Radl 2018; Kogan 2006; Lancee 2016; Van Tubergen, Maas, and Flap 2004) for both foreign-born as well as native-born racial-ethnic minorities (Drouhot and Nee 2019; Heath et al. 2008; Kislev 2019).

The disadvantaged labor market positions of racial and ethnic minorities have received much attention from politicians and policy-makers alike, as demonstrated by extensive coverage in news media and its prominence in policy-making (e.g. Dancygier and Margalit 2019; Van Klingeren et al. 2015). Scholars, too, have paid

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2   Following Friedman and Laurison (2019:xiii), I use the terms "racial and ethnic minorities" throughout this dissertation. This is done because my focus lies not solely on people who migrated from a different country, but also on those who were born and raised in the investigated Western countries and those who belong to a national minority group (e.g. African-Americans in the United States). Nevertheless, because I focus particularly on the European (or the Dutch) context, I also use terms like "minorities of migrant origin" or "minorities with migrant backgrounds".

3   Other "stepping stones" to integration are, for example, increasing fluency in the language of the majority population, residential integration, political participation, and mixed marriages (Alba and Foner 2015a; Alba and Nee 1997; Gordon 1964; Van Tubergen 2006).

ample attention to this issue (Altonji and Blank 1999; Heath et al. 2008; Portes and Rumbaut 2001; Van Tubergen 2006). Broadly, this literature can be divided into two lines of research aimed at explaining racial-ethnic disparities in labor markets. One line of research focuses on the characteristics of racial and ethnic minority groups (mostly at the micro-level). For example, scholars have examined whether racial-ethnic inequalities can be attributed to differences in (a) educational training, work experience, or language skills (i.e. human recourses)(Becker 1964; Lancee and Bol 2017; Van Tubergen et al. 2004) (b) the scope of and resources in social networks (i.e. social resources)(Kanas et al. 2012; Kokkonen, Esaiasson, and Gilljam 2015; Lancee 2010; Portes and Rumbaut 2001), and/or (c) people's cultural values towards work (i.e. cultural resources)(Koopmans 2016; Massey and Denton 1993; Van Tubergen et al. 2004). A second line of research devotes closer attention to the macro-level (Crul, Schneider, and Lelie 2012; Kogan 2006; Van Tubergen et al. 2004) and considers how the different "contexts of reception" (Portes and Rumbaut 2001) or "integration contexts" (Crul et al. 2012:29) may explain racial-ethnic inequalities in the labor market. Besides the impact of the state of the economy, institutional arrangements, government policies, or the racial-ethnic community in which racial-ethnic minorities live (Crul et al. 2012; Kogan 2006; Portes and Rumbaut 2001; Van Tubergen et al. 2004), scholars in this tradition have paid much attention to *the role of racial and ethnic discrimination in employment* (Bertrand and Duflo 2017; Gaddis 2018; Neumark 2018; Pager and Shepherd 2008; Riach and Rich 2002; Rich 2014).

Although the term "discrimination" is often used in daily life or in the media, it is quite difficult to define (let alone to measure empirically) (for useful overviews, see Baumle and Fossett 2005; Pager and Shepherd 2008; Zschirnt 2018). In this dissertation, I follow previous research on employment discrimination and view racial and ethnic discrimination in employment as *a behavioral outcome where members of a racial and ethnic minority group are treated differently than members of a racial and ethnic majority group with otherwise identical characteristics in similar circumstances* (Bertrand and Duflo 2017:309). In everyday language, discrimination is often used interchangeably with other components of intergroup bias such as stereotypes and prejudices, but there are important distinctions. While discrimination refers to the behavioral component of intergroup bias, a stereotype is a more cognitive component of intergroup bias – that is, "a set of shared beliefs about a group" (Dovidio and Gaertner 2010:1084) – and prejudice is a more affective component of intergroup bias – also defined as "a negative (or less positive) evaluative or affective response, or both, to others in a given context based on their group membership"(Dovidio and Gaertner 2010:1085). Please note, nonetheless, that stereotypes and prejudices are often viewed as determinants of

discriminatory actions (Blommaert, Van Tubergen, and Coenders 2012; Dovidio and Gaertner 2010; Fiske 1998).

Discrimination is legally prohibited in western countries (see also Zschirnt 2018), not in the last place because of its profound (negative) consequences for individuals, organizations, and society as a whole.[4] For example, various studies have shown that people's experiences with discrimination are linked with reduced levels of trust in one's own ability (Glover, Pallais, and Pariente 2017; Spencer, Logel, and Davies 2015), health problems (Pascoe and Richman 2009), lower well-being (Schmitt et al. 2014), discouragement in job search (Pager and Pedulla 2015), and withdrawal from the labor market and social life (Massey and Denton 1993; Portes and Rumbaut 2001). Besides having negative consequences for its victims, employment discrimination can have negative effects for organizations. Organizations practicing discrimination are at a disadvantage in competitive markets because they do not fully exploit the available talents (Becker 1957), score lower on perceptions of organizational attractiveness (Olsen and Martins 2016), do not benefit from the positive effects of racial-ethnic diversity on team-profitability (Crisp and Turner 2011; Herring 2009, 2017; Hoogendoorn, Oosterbeek, and Van Praag 2012; Roberson, Holmes, and Perry 2017; but see also Adida, Laitin, and Valfort 2016; Stojmenovska, Bol, and Leopold 2017; Thijs 2018), and have a higher risk of being driven out of business (Pager 2016). Finally, discrimination has far-reaching consequences for societies as a whole. Discrimination challenges the widely endorsed meritocratic principle that individuals should be judged on the basis of individual achievement rather than one's social background (i.e. "equality of opportunity") (Parsons 1951). Moreover, historical and sociological studies indicate that long-term forms of discrimination may set in motion self-perpetuating processes of structural marginalization of racial-ethnic minority groups, the development of pervasive cultural stereotypes, and intensifying racial-ethnic tensions (Acharya, Blackwell, and Sen 2016; Alba 2005; Lieberson 1980; Massey 2007; Massey and Denton 1993; Payne, Vuletich, and Brown-Iannuzzi 2019; Reskin 2012).

Over the last decades, scholars have used different methodologies to measure racial and ethnic discrimination in labor markets (for a more thorough discussion, see below)(Neumark 2018; Veenman 2010). The most compelling evidence has come from field experiments, however (Gaddis 2018; Pager 2007). In field

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4   Countries within the European Union are committed to article 21 (Official Journal of the European Union C 303/17 - 14.12.2007): "Any discrimination based on any ground such as sex, race, color, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age or sexual orientation shall be prohibited". Article 1 of the Dutch constitution states that "all persons in the Netherlands must be treated equally in the same circumstances". Discrimination based on religion, belief, political affiliation, race or gender or on any grounds is not permitted".

experiments, job applications of fictitious applicants are sent to real job openings. By experimentally manipulating the race-ethnicity of job applicants (who are otherwise similar), scholars are able to rigorously compare the hiring outcomes of different racial-ethnic groups in isolation of confounding factors (e.g. human capital, job search strategies, social networks). Any observed differences between these groups provides direct evidence for the existence of racial and ethnic discrimination in hiring outcomes.

The bulk of evidence summarized in overview articles and meta-analyses of the literature points to pervasive and persistent discrimination against racial and ethnic minorities in hiring (Baert 2018b; Bertrand and Duflo 2017; Dancygier and Laitin 2014; Gaddis 2018; Guryan and Charles 2013; Heath and Di Stasio 2019; Neumark 2018; Pager and Shepherd 2008; Quillian 2006; Quillian et al. 2017, 2019; Riach and Rich 2002; Rich 2014; Zschirnt and Ruedin 2016). For example, in their meta-analysis of 43 field experiments conducted in Organization for Economic Cooperation and Development (OECD) countries (all conducted between 1990 and 2015), Zschirnt and Ruedin (2016) find strong evidence for the existence of widespread discrimination in the labor market. Also, these researchers find some indications that discrimination rates vary across racial and ethnic groups, skill levels, and countries. A meta-analysis by Quillian, Pager, Hexel, and Midtbøen (2017) looked for trends in the discrimination outcomes of field experiments in the United States between 1989 and 2015. Their findings indicate a slight decline in discrimination against Latinos but no evidence of declining discrimination against African Americans since 1989. Similarly, a recent meta-analysis of field experiments in the United Kingdom observes "no significant diminution in risks of discrimination over time either for Caribbeans, for South Asians as a whole or for Pakistanis in particular"(Heath and Di Stasio 2019:20).

Despite the large number of studies and plethora of research findings, there are still unresolved issues and controversies in this area of research. In this dissertation, I aim to add some pieces towards this incomplete puzzle and focus on two important knowledge gaps in the literature. The first is concerned with the existence (or absence) of differences in the level of discrimination between racial and ethnic minority groups. The second gap relates to identifying the mechanisms and drivers of racial and ethnic discrimination in employment. In what follows, I address both knowledge gaps and discuss the different ways in which this study adds to the existing research.

Today's labor markets in Western societies are increasingly characterized by growing racial and ethnic diversity. Recent scholarship further shows that certain racial and ethnic minority groups are more likely to be disadvantaged in the labor market or perceive more discrimination than others (Kislev 2019; Lancee 2016; Portes and Rumbaut 2001; Van Tubergen et al. 2004). Therefore, it

seems worthwhile to study whether employment discrimination is equally directed towards all racial and ethnic minority groups. So far, however, previous research provides no clear consensus on this matter, theoretically and empirically.

Theoretically, there is no consensus as there are two competing views with regard to the presence or absence of group variations in racial and ethnic discrimination. On the one hand, researchers have argued that there are no clear differences in the degree of discrimination against racial and ethnic minorities (Edo, Jacquemet, and Yannelis 2019; Feld, Salamanca, and Hamermesh 2016; Jacquemet and Yannelis 2012). According to these researchers, discrimination arises primarily because of people's psychological tendency to make explicit distinctions between their own group (i.e. ingroup) and other groups (i.e. outgroups) and their need to belong to a positively viewed group. Both of these processes contribute to a strong preference for cooperation with and motivation to act in the interests of members of the ingroup (Edo et al. 2019; Greenwald and Pettigrew 2014; Jacquemet and Yannelis 2012). Ingroup favoritism is thus expected to be the main determinant of employment discrimination and, as a consequence, discrimination is expected to be "directed against all non-majority groups rather than clearly identified minorities" (Jacquemet and Yannelis 2012:824–25). On the other hand, while not denying (and even acknowledging) that people show strong ingroup favoritism, others have argued for the existence of pronounced group differences in discrimination experiences (Auer et al. 2019; Hagendoorn 1995; Portes and Rumbaut 2001; Van Tubergen et al. 2004). More specifically, it has been argued that in many societies there is a widely accepted hierarchy of racial and ethnic groups in which a minority group's social position is determined by its socioeconomic status and/or the degree to which the group deviates culturally or phenotypically from the majority population (Auer et al. 2019; Hagendoorn 1995; Snellman and Ekehammar 2005). According to this view, the more racial and ethnic minority groups deviate socioeconomically, culturally, or phenotypically from the majority population, the more likely they are to be stereotyped negatively and, in turn, the higher their risk of experiencing severe levels of social exclusion and discrimination (Portes and Rumbaut 2001:47).

Empirically, there is also no consensus as to whether discrimination rates differ across racial and ethnic groups. In most field experiments, scholars studied one or two racial-ethnic minority groups. In a smaller number of field experiments – including a few notable studies that were conducted in the 1960s and 1970s (Firth 1981; Jowell and Prescott-Clarke 1970; McIntosh and Smith 1974) – researchers investigated more than two minority groups simultaneously. Yet, previous research has not been conclusive because of mixed results. For example, some studies in Canada (Eid 2012; Oreopoulos 2011), Ireland (McGinnity and Lunn 2011), United Kingdom (Wood et al. 2009), and the United States (Darolia et al. 2016) find no

significant differences between racial and ethnic minority groups. In contrast, others in Australia (Booth, Leigh, and Varganova 2012), Austria (Weichselbaumer 2017), Italy (Busetta, Campolo, and Panarello 2018), Finland (Ahmad 2019), Germany (Koopmans, Veit, and Yemane 2018), Russia (Bessudnov and Shcherbak 2019), Sweden (Vernby and Dancygier 2019), Switzerland (Zschirnt 2019b), in the United Kingdom (Firth 1981; Jowell and Prescott-Clarke 1970; McIntosh and Smith 1974), and the United States (Gorsuch and Rho 2018; Mobasseri 2019; Pager, Bonikowski, and Western 2009) do find empirical support for the existence of racial and ethnic hierarchies in the labor market. Various explanations could be offered for these variations in study outcomes (e.g. differences in experimental designs, investigated occupations, national contexts), but perhaps that these variations have something to do with the diversity of investigated minority groups – that is, there is a slight tendency that field experiments that included racial-ethnic groups with a greater variety in economic, social, and cultural backgrounds find more pronounced differences between minority groups.

In this dissertation, I contribute to the literature by studying whether some racial and ethnic minority groups face higher levels of discrimination than others by means of a meta-analysis and field experiment. Both are specifically designed to detect group differences. In the meta-analysis, I investigate whether two highly visible racial and ethnic minority groups are more severely affected by employment discrimination than others – that is, groups with a predominantly black or Muslim minority background. In this way, I can investigate the role of skin color and religion in hiring contexts – factors often thought to have a great impact on intergroup relations and the formation of social cleavages in Western societies (Alba 2005; Alba and Foner 2015a; Fiske 1998) – while controlling for relevant study and subgroup characteristics. However, the meta-analysis is also partly limited in ascertaining group differences because the investigated sample of field experiments typically focused on the more established, highly visible racial and ethnic minority groups within countries – that is, groups with relatively homogenous economic, social, and/or cultural backgrounds. Indeed, as concluded by Dancygier and Laitin (2014:59): "the selection of immigrant groups for study is biased, mostly focusing on those for which the discriminatory equilibrium is most telling and where remedial action is most urgent". To better assess whether discrimination rates vary between racial and ethnic minority groups, others and I developed a field experiment (the GEMM-experiment) (Lancee 2019) in which we studied the degree of discrimination against more than 30 racial and ethnic minority groups with strongly varying economic, social, and cultural profiles (in five different national contexts). This field experimental approach thus helps us to shed more light on the impact of various racial and ethnic backgrounds on hiring outcomes.

Summarizing, the first objective of this dissertation is *to describe whether the level of discrimination varies between different racial and ethnic minority groups*. In both the meta-analysis and the GEMM-experiment, more attention is given to the great variation in racial and ethnic backgrounds in contemporary societies. As a result, this dissertation can provide more fine-grained evidence on the existence of group differences in discrimination rates than previous studies. Altogether, I aim to answer the following research question:

(1) In light of the increasing levels of racial and ethnic diversity in Western labor markets, to what extent are there differences in discrimination rates between racial and ethnic minority groups?

In addition to a lack of scholarly consensus about the presence of group differences in discrimination rates, there has been scant empirical attention to the question of what mechanisms are responsible for the existence of racial and ethnic discrimination in hiring. In this dissertation, I move beyond the literature's dominant focus on determining (the extent of) racial and ethnic discrimination and examine more directly some of the supposed explanations for discrimination. More specifically, this dissertation takes some steps toward explaining racial and ethnic discrimination by studying the impact of (characteristics of) resumes, minority groups, and national- and regional contexts.

In the existing literature, various micro-level mechanisms have been proposed that could underlie racial and ethnic discrimination in hiring (Bertrand and Duflo 2017; Fiske 1998; Guryan and Charles 2013; Neumark 2018; Pager and Shepherd 2008; Quillian 2006; Sidanius and Pratto 1999). The two most influential theories are taste-based discrimination theory and statistical discrimination theory. *Taste-based discrimination theory* (Becker 1957) expects that employers are prejudiced against racial and ethnic minority groups and, therefore, reluctant to hire members of these minority groups.[5] Although the original theory remains silent on why employers would dislike racial and ethnic minorities, psychological and sociological research indicates that employers could be prejudiced as a result of individual dispositions (e.g. authoritarian personality, social dominance orientation, or need for closure)(Fiske 1998; Hodson and Dhont 2015; Sidanius and Pratto 1999), concerns about one's social identity (Tajfel 1982; Tajfel and Turner 1986), increased exposure to intergroup competition (Quillian 1995; Scheepers, Gijsberts, and

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5   Originally, Becker (1957) also discussed the role of co-workers and customer discrimination as forms of taste-based discrimination. However, I find this line of reasoning less convincing as employers who act on behalf of the prejudices of co-workers and customers might also discriminate on the basis of economically-rational motives rather than pure racial and ethnic preferences. In my view, incorporating the role of co-worker and customer prejudices would blur an important theoretical distinction between taste-based theory and statistical discrimination theory.

Coenders 2002), less (positive) intergroup contact (Allport 1954; Pettigrew and Tropp 2006), and broader socialization experiences (Dovidio and Gaertner 2000; Inglehart 2018). *Statistical discrimination theory* (Aigner and Cain 1977; Arrow 1973; Baumle and Fossett 2005; Phelps 1972), on the other hand, postulates that discrimination emerges because profit-maximizing employers are inclined to hire only those jobseekers who will be most productive and pose the least risks to the company. This theory suggests that because employers typically have too little information about the capacities and motivation of jobseekers, they compensate for this lack of information by selecting on the basis of the average productivity of racial and ethnic groups. Thus, according to statistical discrimination theory, employers discriminate against racial and ethnic minorities because racial-ethnic majority workers would be, on average, more productive than racial and ethnic minority workers.

Although researchers have often interpreted the findings of field experiments through the lens of either taste-based discrimination theory or statistical discrimination theory, surprisingly little research has been successful in testing the different pathways leading to racial and ethnic discrimination in hiring, in part due to data limitations (Bertrand and Duflo 2017; Midtbøen 2013; Neumark 2018; Quillian 2006). In this dissertation, I aim to contribute to this lively debate by providing a large-scale empirical test of several assumptions underlying statistical discrimination theory. Prior studies mainly investigated statistical discrimination theory by testing whether racial and ethnic discrimination is negatively related to a higher amount of information about individual productivity in job applications (e.g. Agerström et al. 2012; Baert and Vujić 2016; Kaas and Manger 2012; Koopmans et al. 2018; Oreopoulos 2011; Vernby and Dancygier 2019; Weichselbaumer 2019). That is, more diagnostic information (i.e. information that is highly predictive for the task at hand) (Rubinstein, Jussim, and Stevens 2018) about individual labor productivity is expected to eliminate employers' tendency to rely on group information (Bertrand and Duflo 2017; Guryan and Charles 2013; Neumark 2018). So far, however, the results are mixed (though studies are somewhat more likely to find insignificant effects), possibly because of differences in experimental designs (e.g. type of information treatment), investigated racial-ethnic minority groups, or national contexts (Neumark 2018; Rich 2014). Furthermore, previous research on statistical discrimination theory suggest, but does not prove, that group productivity is a key factor in explaining racial and ethnic discrimination in hiring (but see also qualitative studies among employers by Friberg and Midtbøen 2018; Midtbøen 2014; Pager and Karafin 2009). In this dissertation, I advance previous research (a) by investigating the relationship between the amount of information about individual productivity in resumes and racial and ethnic discrimination *with multiple information treatments*, *for*

multiple racial-ethnic minority groups, and *in different national contexts*; (b) by examining empirically whether *various indicators of group productivity* are negatively correlated with the level of racial and ethnic discrimination; and (c) by testing whether the assumed relationship between group productivity and discrimination is weaker when more information about individual productivity was added to the resumes, as has been suggested by recent psychological research (Crawford et al. 2011; Rubinstein 2018; Rubinstein et al. 2018). Altogether, this study adds to the literature on statistical discrimination theory by offering a novel and more direct empirical test as to whether racial and ethnic discrimination in employment is driven by economic rationality and incomplete information about individual labor productivity.

Next, in this dissertation I pay closer attention to the role of the wider social environment in explaining racial and ethnic discrimination in hiring. Sociologists have long recognized the different ways in which social contexts influence people's preferences and behavioral options (Portes and Rumbaut 2001; Van Tubergen 2006). The sociological perspective thus may offer a more dynamic perspective on employer behavior (Gaddis 2018; Mobasseri 2019) – that is, one in which employers' perceptions, attitudes, and behaviors may vary across different social contexts resulting into varying levels of discrimination. In doing so, I concentrate on two social contexts: national and regional contexts.

As for national contexts, previous research has identified remarkable cross-national differences in the size of racial-ethnic inequalities in labor market outcomes which have been often linked to country differences in employment discrimination (Heath et al. 2008; Kislev 2019; Kogan 2006; Lancee 2016; Van Tubergen et al. 2004). For example, it has been suggested that employers' discriminatory practices are affected by the state of the national economy (Heath and Cheung 2007), the legal opportunities to dismiss underperforming workers (i.e. the strictness of employment protection legislation) (Kogan 2006), the presence and strictness of anti-discrimination legislation (Kislev 2018; Pichler 2011; Van Tubergen et al. 2004), and/or short-lived and/or historically grown tensions between racial and ethnic groups (Alba and Foner 2015b; Foner and Alba 2008; Kislev 2019).

Despite these claims, direct evidence on the existence of cross-national differences in discrimination rates is lacking largely because of data limitations. In fact, survey research is limited in its ability to find unbiased estimates of discrimination as it cannot sufficiently control for all productivity-relevant individual characteristics (e.g. variations in aspirations, cognitive abilities, social networks, etc.). Likewise, almost all field experiments investigate racial and ethnic discrimination in one single country and differ greatly in terms of research design, racial-ethnic minority groups, gender of job applicants, investigated occupations, research periods, etc.

Recently, several researchers have tried to detect country differences by analyzing the results of field experiments using meta-analysis (Quillian et al. 2019; Zschirnt and Ruedin 2016). In these meta-analyses, the researchers have collected and analyzed the discrimination outcomes of numerous field experiments and looked whether there are significant differences between countries after controlling for an extensive battery of study and subgroup characteristics that potentially influence the rate of discrimination (e.g. type of design, gender of job applicants, investigated occupations, research period, etc.). Zschirnt and Ruedin (2016) find striking cross-national differences in discrimination outcomes reported in correspondence tests across a large number of Western countries and, more specifically, find that overall discrimination rates in German-speaking countries are lower compared to those in other countries. Quillian et al. (2019) examined the study outcomes of field experiments (correspondence tests and in-person audits) conducted in nine different Western countries and find lower discrimination levels in Germany, United States and Norway and noticeably higher levels of discrimination in Sweden and, in particular, in France. However, because these meta-analyses do not (sufficiently) adjust for the country-specific composition of racial and ethnic minority groups, the reported country differences might still be affected by composition effects.

In this dissertation, I attempt to extend previous research in two ways. First, I study whether national contexts matter by conducting separate meta-analyses for black and Muslim minority groups. By comparing the level of discrimination against predominantly black and Muslim minority groups across countries and controlling for a large set of control variables (i.e. various study- and subgroup characteristics), I separate more extensively compositional from contextual effects and I obtain more accurate estimates of the impact of national contexts than previous meta-analyses. Nevertheless, although this meta-analysis yields less biased estimates of country differences, it is still possible that its estimates are (to some extent) confounded with the effects of unmeasured (or inadequately measured) characteristics of field experiments. Indeed, the most rigorous way to compare discrimination rates cross-nationally is to study the same racial and ethnic minority groups in two (or more) countries using the same field experimental design. To my knowledge, there is only one (non-peer reviewed) study that investigated racial and ethnic discrimination using the same experimental design in two different countries. Akintola (2010) investigated discrimination against candidates with Middle Eastern names in Sweden and Canada and found that discrimination is higher in

Sweden than in Canada. So far, however, a large-scale empirical test is lacking.[6] Therefore, I also explore whether discrimination rates may vary across countries by analyzing data from the GEMM-experiment. The GEMM-experiment is a cross-national harmonized field experiment in five countries and thus allows to investigate the same racial-ethnic groups in multiple national contexts, thereby providing more accurate estimates of the level of discrimination per country.

It is very well possible that not only the national context but also the region where employers live and work can shape their thoughts, attitudes, and behaviors. The findings of studies in adjacent areas of research provide tentative support for this idea. Studies on intergroup attitudes (Czaika and Di Lillo 2018; Savelkoul et al. 2011; Schlueter and Wagner 2008; Weber 2015) as well as those on racial-ethnic inequalities in the labor market (Careja 2019; Charles and Guryan 2008; Demireva and Heath 2017; Horvath and Huber 2019) find remarkable (and sometimes overlapping) regional patters (Keita and Valette 2019). Furthermore, findings from field experiments on discrimination for housing (Flage 2018) or student rooms (Gaddis and Ghoshal 2015) and field experiments studying other grounds of discrimination/inequalities find substantial regional variations in discrimination rates (e.g. unemployment spells, sexual orientation, parenthood, respectively) (Kroft, Notowidigdo, and Lange 2013; Tilcsik 2011; Weisshaar 2018).

Despite this growing and intriguing body of research on the impact of regional contexts, there is only limited scholarly work on regional variations in racial and ethnic discrimination (Blommaert 2013). It is moreover striking that the few existing studies focusing on regional differences seem to produce mixed results (cf. Blommaert et al. 2013; Blommaert, Coenders, and Van Tubergen 2014a) and have yet to begin exploring the sources of that variation. Nevertheless, there are some notable exceptions. In Sweden, for example, Carlsson and Rooth (2012) investigated whether regional differences in discrimination correlate with differences in peoples' negative attitudes towards immigrants. Their findings show that Muslim minorities face higher levels of discrimination in regions where people have more negative views about immigrants. In France, some evidence was found that in regions with a larger supply of job seekers, there was a higher level of discrimination against Moroccan minorities (Berson 2012). For the Netherlands, however, Blommaert et al. (2013) report that regional unemployment rates and

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6   On behalf of the International Labor Organization (ILO), several research teams have investigated racial and ethnic discrimination in various countries using the same field experimental methodology (Zegers de Beijl 2000). Although attempts have been made to harmonize the designs to compare the results across countries (Arrijn et al. 1998; Bovenkerk et al. 1995; Goldberg et al. 1995; Prada et al. 1996), the field experiments vary significantly with regard to the racial and ethnic minority groups examined, jobs and sectors inquired, the regional scope, and the research period, thereby making it impossible to detect unbiased country effects.

shares of racial and ethnic minorities did not correlate with regional differences in discrimination levels.

In the current study, I enrich the data of the GEMM-experiment with data on the location of organizations to investigate whether racial and ethnic discrimination can vary across regions. Apart from assessing whether discrimination differs from region to region, I also try to understand the sources of that variation. By drawing on insights from influential theories on intergroup relations – that is, group threat theory (Blalock 1967; Blumer 1958; Quillian 1995, 1996) and intergroup contact theory (Allport 1954; Pettigrew and Tropp 2006) – I assess whether and how discrimination levels are associated with regional indicators of economic or cultural competition or with opportunities for prolonged positive contacts with racial and ethnic minorities, respectively. By doing so, I directly build on the results of previous research but likewise expand their findings as I examine the impact of regional characteristics in (two) different national contexts. This approach thus allows me to investigate whether the effects of regional characteristics could be contingent on the national context (cf. Hopkins 2010). In short, I contribute to the existing literature (a) by investigating *whether racial and ethnic discrimination varies cross-regionally*, (b) by testing *different hypotheses* on why such regional differences may exist, and (c) by exploring whether these *spatial processes may vary systematically across countries*.

In summary, the second objective of this dissertation *to examine what mechanisms are responsible for (differences) in racial and ethnic discrimination in Western labor markets*. By focusing on the impact of (specific characteristics of) resumes, minority groups and national and regional contexts, this dissertation begins to unpack the "black box" of why and where racial and ethnic minorities face the severe levels of discrimination in contemporary labor markets (see also Figure 1.1) (Gaddis 2018, 2019). Moreover, in shedding more light on the impact of the different characteristics of job applications, minority groups, and national- and regional contexts, the findings of this dissertation might not only lead to a better understanding of the social processes leading to racial and ethnic discrimination in hiring but might also produce interesting insights for policy-makers aiming to develop interventions to combat discrimination against racial and ethnic minorities (Neumark 2018). Hence, the second research question of this dissertation reads:

(2) To what extent is racial and ethnic discrimination in hiring related to the characteristics of resumes, racial and ethnic minority groups, and national and/or regional contexts?

Figure 1.1. Schematic overview of the relationships examined in this dissertation
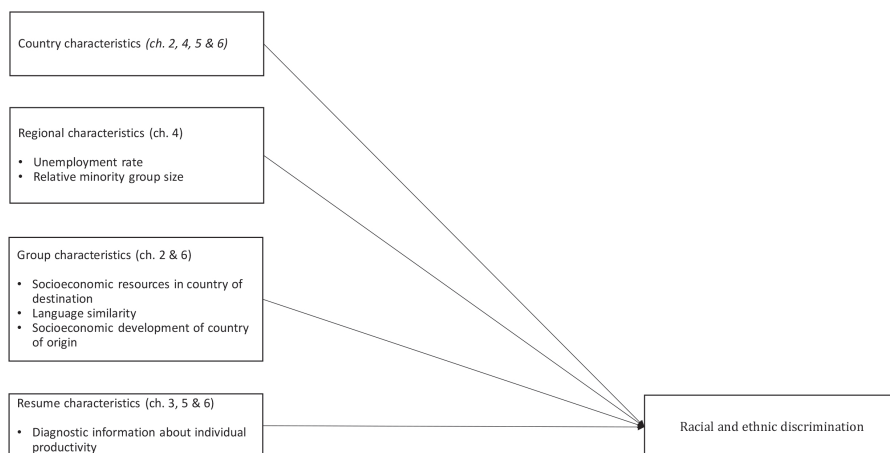
1.2. Methodology

1.2.1. Measuring racial and ethnic discrimination in the labor market

Social scientists have developed various methods to measure racial and ethnic discrimination in the labor market. Here I provide a brief overview of the most important methods. For thorough discussions of these different methods, please consider Blank, Dabady, and Citro (2004), Neumark (2018), or Veenman (2010). Please note that an increasing number of researchers have begun to combine two or more methods in one single study, thereby allowing for the triangulations of findings (e.g. Kang et al. 2016; Midtbøen 2015b; Pedulla 2016; Rivera and Tilcsik 2016).

Traditionally, regression-based approaches have been used to measure employment discrimination (Neumark 2018). Scholars typically make use of large-scale survey data and investigate the size of racial and ethnic disparities in labor market outcomes (e.g. being employment, occupational status, wages) while controlling for productivity-related characteristics deemed important for explaining these group differences such as the level of education, years of work experience, age, gender, household composition, or alternative productivity-related characteristics. The remaining racial and ethnic gap (i.e. the adjusted race/ethnicity coefficient) then provides a crude indication of the extent of racial and ethnic discrimination in the labor market. A more advanced regression-based approach is the so-called Oaxaca-Binder method (Blinder 1973; Oaxaca 1973) that allows to differentiate racial and ethnic gaps in labor market outcomes between a part that can be explained by measured characteristics and a part that results from unmeasured

characteristics – the latter often attributed to employment discrimination. Exemplary studies adopting regression-based approaches to measure racial and ethnic discrimination are Altonji and Pierret (2001), Bayer and Charles (2018), Grodsky and Pager (2001), Neal and Johnson (1996) and Tomaskovic-Devey and Skaggs (1999) in the United States or those by Andriessen, Dagevos, and Iedema (2008), Confurius, Gowricharn, and Dagevos (2019), Gracia, Vázquez-Quesada, and Van de Werfhorst (2016), Koopmans (2016), Schaeffer, Höhne, and Teney (2016), or Tomaskovic-Devey, Hällsten, and Avent-Holt (2015) in Europe. Many scholars have relied on regression-based approaches because of its broad coverage of the population of interest and its focus on employment outcomes (rather than people's intentions or perceptions). Yet, a main shortcoming of this approach is its assumption that discrimination estimates are unaffected by self-selection bias and unobserved heterogeneity. On the one hand, self-selection might bias discrimination estimates because, for example, racial and ethnic minorities may avoid certain companies or sectors due to expected discriminatory treatment (Pager and Pedulla 2015). On the other hand, unobserved heterogeneity might bias the discrimination estimates (as expressed by the race-ethnicity coefficient) because several confounding variables – that is, unmeasured (or inadequately measured) variables that might be related to people's racial-ethnic background and labor market success but not with differential treatment by employers – might not be always be included in the analysis (e.g. cognitive skills, social resources, or cultural values towards work). Consequently, both of these factors might strongly affect the size of the discrimination estimates found.

A second method to study racial and ethnic discrimination is to ask (potential) victims about their experiences with discrimination in their search for work. This can be done with qualitative or quantitative research methods. Qualitative research (e.g. in-depth interviews, participant observation, focus groups) on the perceptions of victims is excellent for capturing whether, when, and how people experience discrimination in different domains of society (e.g. Essed 1991; Friedman and Laurison 2019; Verwiebe et al. 2016). Quantitative studies (i.e. survey research) provide less in-depth data on peoples' experiences with discrimination, but produce large-scale evidence on the levels of perceived discrimination among different racial and ethnic minority groups (Andriessen, Fernee, and Wittebrood 2014; Kislev 2019). While providing insightful results (also in understanding the consequences of discrimination), studies on potential victims are to some extent limited in their ability to provide unbiased estimates of the overall degree of discrimination in labor markets (see also Table 1.1)(Veenman 2010). Apart from overt, unambiguous forms of discrimination (*overt discrimination*) (e.g. misdirected employer messages containing evidence of strong racial-ethnic bias), people may easily misperceive whether one is victim of unequal treatment, especially in

situations where the reference group is not clearly visible. In particular, within the hiring context, people may overestimate the extent of actual discrimination – for example, by downplaying or simply not knowing the capabilities of other candidates (*supposed discrimination*) – or underestimate the extent of discrimination – for example, because one could not know that he or she was actually the best candidate available or is inclined to forget or deny painful experiences (*hidden discrimination*). Hence, a main shortcoming of this methodological approach is that victims' perceptions of discrimination might not always reflect actual levels of discrimination.

Table 1.1. Actual discrimination and perceived discrimination

		Perceived discrimination	
		Yes	No
Actual discrimination	Yes	Overt discrimination	Hidden discrimination
	No	Supposed discrimination	No discrimination

Source: Table is based on Table 1 in Veenman (2010)

The third method to examine racial and ethnic discrimination is questioning (potential) perpetrators of labor market discrimination – that is, employers. This method not only allows for an assessment of employers' intentions to discriminate against racial and ethnic minorities but also of the underlying drivers (e.g. employers' prejudices, stereotypes, trouble avoidance, etc.). Researchers have been studying the motivations and behaviors qualitatively and quantitatively. Qualitative research (e.g. in-depth interviews, observations) is particularly strong in grasping the perspectives of employers and identifying the impact of different employer motives/preferences and (broader) hiring contexts (e.g. phases in the hiring process, organizational features) on the disparate treatment of racial and ethnic minorities (Friberg and Midtbøen 2018, 2019; Friedman and Laurison 2019; Midtbøen 2014, 2015b; Moss and Tilly 2001; Pager and Karafin 2009; Rivera 2015; Waldinger and Lichter 2003). Quantitative research's strengths lies in its ability to systematically reveal employers' (racial and ethnic) hiring preferences and their determinants among a large number of persons (Auer et al. 2019; Pager and Quillian 2005; Rooth 2010; Veenman 2010). However, researching employers also suffers from several limitations that potentially affect the reliability of discrimination estimates. For example, because of social desirability concerns, employers may not always be willing to accurately report their discriminatory intentions or actions (LaPiere 1934; Pager and Quillian 2005; Wulff and Villadsen 2019). Another complicating factor is that discriminatory actions could be the result of cognitive processes operating largely outside people's awareness

(Blommaert et al. 2012; Dovidio and Gaertner 2010; Rooth 2010). Hence, because employers do not always want to report their discriminatory behaviors or because they might be unaware of how unconscious prejudices or stereotypes can influence their hiring decisions, the answers of potential perpetrators are likely to be biased, probably leading to incorrect estimates of the level of discrimination.

A final method to find evidence of employment discrimination is conducting an experiment. One compelling argument for using experiments is their ability to circumvent problems related to self-selection and unobserved heterogeneity. In experiments, researchers can randomly assign the race or ethnicity to otherwise similarly-qualified fictitious job candidates. As a result, one can assess whether fictitious job candidates of different racial and ethnic groups are treated differently, while holding other confounding factors constant (e.g. level of education, work experience, personal background, etc.). Generally, two types of experiments can be distinguished: the laboratory experiment and the field experiment. Although laboratory experiments allow to investigate more directly the different mechanisms that could underlie discrimination in a controlled research setting (Blommaert, Coenders, and Van Tubergen 2014b; Blommaert et al. 2012; Dovidio, Kawakami, and Gaertner 2002), field experiments are generally regarded as the most effective means for detecting employment discrimination, as they provide evidence of unequal treatment in real-life settings (Pager 2007). In particular, by applying with fictious job candidates (with varying racial and ethnic backgrounds) to real job openings, field experiments combine a relatively high degree of internal validity with a high degree of external validity. There are two different types of field experiments, namely the in-person audit test and the correspondence test. In in-person audit tests, actors representing a majority- or a minority job candidate apply (face-to-face or by phone) for similar jobs. In correspondence tests, equally qualified fictitious job applicants of different racial and ethnic groups contact employers by means of sending a resume/CV (by post or online).[7] Overall, researchers tend to favor correspondence tests since it is easier to create identically-qualified fictitious job applicants on paper (rather than training actors to behave identically), the lower risks of experimenter effects, and the relatively low costs per test (e.g. the resources needed to prepare and carry out in-person tests). Nevertheless, some notable strengths of in-person audit tests include the possibilities to investigate multiple hiring phases and apply to a wider variety of jobs (e.g. jobs which are not formally advertised), to obtain qualitative insights of the ways

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7   In a number of original field experiments, researchers placed profiles of fictitious job seekers on online job portals, making it possible to study (1) whether or not employers viewed the full profile of fictitious job seekers and (2) whether or not the job seeker was approached by an employer (Altintas et al. 2009; Bartoš et al. 2016; Blommaert et al. 2014a; Panteia 2015). These studies revealed that discrimination arises often in the first phases of the screening process.

employers treat different fictitious job applicants, and its strong ability to convey the racial and ethnic background of fictitious job applicants (or other variables of interest) (Gaddis 2017a; Pager 2007; Pager et al. 2009). While field experiments are generally considered as the best method for measuring racial and ethnic discrimination in hiring, there are a number of limitations to be mentioned. One limitation relates to the ethical objections to using field experiments, including: the involuntary participation of research subjects, the involvement of deception, its potential influence on real hiring situations, and the lack of debriefing (for excellent overviews, see Pager 2007; Zschirnt 2019c). Indeed, it is important to take these concerns into consideration. However, because of the significant and negative social consequences of discrimination on its victims, the accuracy of this method's estimates, and because researchers often take various precautionary measures to minimize inconveniences to employers and other job seekers, the use of a carefully designed field experiment is often permitted by ethnical boards of research institutes. A second limitation is that in most field experiments, scholars typically varied only the racial-ethnic origin of fictitious job applicants, thereby receiving little insights into employers' motivations to discriminate against racial and ethnic minorities (Gaddis 2019). However, recent studies (including the current study) have made progress in dealing with this issue, for instance, by adding experimental conditions, qualitatively analyzing employer responses, or complementing field experimental data with secondary data (e.g. administrative data, in-depth interviews, survey data) (Blommaert 2013; Gaddis 2019; Lancee 2019; Midtbøen 2013; Pedulla 2018; Zschirnt 2019a).

1.2.2. The present research

During my PhD project, I conducted together with colleagues in the Netherlands and abroad two large-scale data collection efforts: (1) a meta-analysis of field experiments on racial and ethnic discrimination in the labor market and (2) a cross-national harmonized field experiment on employment discrimination, in which I was mainly responsible for the data collection in the Netherlands.

Meta-analysis

One data collection concerns a meta-analysis in which I was involved (since 2015) in the search, coding, and analysis of the (outcomes of) field experiments on racial and ethnic discrimination in the labor market. In this project, I collaborated with Frank van Tubergen, Marcel Coenders, Robert Hellpap, and Suzanne Jak and was assisted by a small team of research assistants. We aimed to trace almost all field experiments that were carried out in Western countries between 1968 and 2018. We thereby built on the earlier work of Zschirnt and Ruedin (2016) who focused on correspondence studies in the period between 1990 and 2015, the work of

Quillian and others (2017) who focused on correspondence tests and in-person audits in the United States between 1989 and 2015, and overview articles on hiring discrimination (Bertrand and Duflo 2017; Neumark 2018; Riach and Rich 2002; Rich 2014).

In our search for suitable articles, we focused on experiments conducted in real-life settings (i.e. laboratory experiments were excluded) in which applicants actively contacted the employer and the researchers measured racial-ethnic differences in callback rates (e.g. positive reaction of an employer, an invitation for a job interview, or a job offer). The search process took place between June 2011 and April 2018 and resulted in 103 field experiments. However, because of our theoretical focus on black and Muslim minority groups in Western labor markets, we decided to include only those field experiments that were conducted in Europe, North America, and Australia (N = 96). Authors of field experiment often report results for various subgroups. Therefore, we decided to code breakdowns by racial and ethnic groups, gender, contact method, jobs, location, and experimentally manipulated variables other than race-ethnicity (e.g. criminal record). Studies were coded by research assistants under close supervision of the principal researchers. The entries were double-checked to ensure reliability. Ultimately, the meta-analysis dataset consisted of 674 subgroups reported in 96 studies in 20 countries, containing data of approximately 240,000 fictitious job applicants.

The GEMM-experiment

For chapters 3 to 6, I make use of data from a cross-national harmonized field experiment on hiring discrimination – also known as the GEMM-experiment (Lancee 2019; Lancee, Birkelund, Coenders, Di Stasio, Fernández Reino, Heath, Koopmans, Larsen, Polavieja, Ramos, Soiné, et al. 2019; Lancee, Birkelund, Coenders, Di Stasio, Fernández Reino, Heath, Koopmans, Larsen, Polavieja, Ramos, Thijssen, et al. 2019). The data collection was carried out by research teams in Germany (WZB Berlin: Prof. Dr. Ruud Koopmans, Dr. Susanne Veit & Ruta Yemane), Great Britain (University of Oxford: Prof. Dr. Anthony Heath & Dr. Valentina Di Stasio), the Netherlands (University of Amsterdam: Dr. Bram Lancee, Utrecht University: Dr. Marcel Coenders), Norway (University of Oslo: Prof. Dr. Gunn Elisabeth Birkelund & Edvard Nergård Larsen), and Spain (Universidad Carlos III de Madrid: Prof. Dr. Javier G. Polavieja, Dr. Mariña Fernández-Reino & Dr. María Ramos). Within this project, I was responsible for the data collection in the Netherlands. In this role, I worked together with all international partners to design and prepare the experimental design and was coordinator of the fieldwork in the Netherlands, managing a team of research assistants. The GEMM field experimental study is part of a larger international project financed by the Horizon 2020 program of the European Commission: that is, The Growth, Equal

Opportunities, Migration & Markets (GEMM) project, that examines the causes and consequences of (racial and ethnic) inequalities in European labor markets.

Data. The field experiment involved a correspondence test, in which fictitious CVs and cover letters of equally qualified fictitious job applicants were sent to real-life job openings. The focus lied on job openings that were advertised on commonly used online job portals. Initially, we focused on a smaller set of occupations: cook, receptionist, sales assistant, administrative clerk, software developer, and sales representative. These occupations were chosen (1) to have sufficient variation with regard to occupational dimensions potentially affecting the level discrimination such as the required level of education, interpersonal skills, and the gender composition; (2) are cross-nationally comparable; (3) for which there is sufficient demand for new workers; and (4) represent a significant share of the total number of occupations in the labor market. In a later stage of the project, four occupations were added (hairdresser, plumber, electricians, and carpenter) to increase the number of observations in a couple of countries.

In order to compare hiring outcomes across countries, all application materials were standardized cross-nationally. Existing CVs and cover letters were used as examples to develop realistic application materials. Before applying to job openings, the fictitious CVs and cover letters were evaluated by real recruiters to verify the degree of realism of the candidate profiles. The cover letters and CVs contain information about the age of the applicant (22-26), contact details (postal and e-mail address, telephone number), previous educational training, prior work experience (4 years), and the applicant's motivation to apply for the job. Due to institutional differences between countries, it was sometimes necessary to slightly adapt the application materials to the specific national context. For example, in Germany, cover letters and CVs are typically longer than elsewhere, and job candidates are required to send copies of school certificates, often by post. Furthermore, in Germany but also in Spain it is required to attach a picture to the resume; in the Netherlands, however, this practice is less common, and in Great Britain and Norway this is strongly discouraged. As a result, fictitious applicants applied less often with a picture in the Netherlands (50% of the applicants) than in Spain and Germany (90% of the applicants included a picture), whereas applications did not include a picture in Great Britain and Norway.

Unlike many previous field experiments, we used an unpaired experimental design and applied with only one fictitious applicant to a job opening (Weichselbaumer 2017). While this approach does not allow us to obtain an estimate of racial and ethnic biases per organization, it offers several important advantages compared to the paired design. First, sending one fictitious applicant reduces the risk of detection and makes it possible to investigate multiple experimental

manipulations simultaneously, without arousing too much suspicion among employers. Second, the design causes less inconvenience to employers because they only had to process one fictitious job applicant. Finally, the unpaired design provides a way to tackle one of Heckman's critiques on correspondence tests (Heckman 1998). According to Heckman, successfully matched pairs (or quadruplets) of minority and majority candidates may artificially affect hiring decisions by forcing employers to discriminate racially or ethnically between otherwise identical applicants, particularly in small applicant pools. In our design, however, this alleged competition between fictitious job applicants is not a problem since we applied with only one fictitious candidate (i.e. unpaired design).

The vacancies were retrieved from multiple well-known job portals using a newly designed software program. Apart from retrieving vacancies, this software program filtered out duplicates (e.g. job vacancies are often uploaded on multiple websites), generated fictitious cover letters and CVs in which various parameters were randomized, sent job applications to the relevant job opening, and made it possible to record the content of employer responses.

A large number of research assistants were involved in the data collection for this project. They assisted in setting up the field experiment (e.g. creating dozens of fake email accounts, setting up voicemails, developing a nationwide school file, and finalizing application materials), finding (additional) job openings, evaluating the fictitious applications before sending (e.g. checking whether all necessary data was entered or fictitious applicants fitted with the job advertisement), and registering employer responses by checking voicemail boxes and e-mail accounts. In the Netherlands, for example, we were assisted by 12 research assistants, mostly during the time of data collection. Because of this relatively high number of research assistants, several measures were taken to standardize the research process. First, I created a manual to familiarize research assistants with the set-up of the field experiment, the software program and the experimental procedures, and to raise awareness to the ethical aspects of the project. In addition, I created a work schedule and logbook to ensure that all necessary information was passed on to the next team of research assistants. Finally, during the period of data collection, I arranged regular meetings to discuss any kinds of problems or unclarities.

An important consideration when conducting field experiments is to minimize inconveniences to employers – who obviously do not know that they are taking part in the experiment – as much as possible. The research assistants played an important role not only by evaluating (on a daily basis) whether fictitious applicants are sufficiently qualified to apply for a specific job opening, but also by regularly checking for employer responses and (if required) by responding with one of the standardized messages (within one or two days). As for the latter, it is important to note that after we had explicit contact with an employer, we

immediately withdrew the fictitious applicant (within one day) and thanked the employer for his or her interest.

The preparation – that is, the fine-tuning of the design, the preparation and evaluation of applicants' motivational letters, CV's, email and voicemail accounts, the development of the software program, the pilot study, and the completion of the field-experimental design – took about 12 months. The data collection was between July 2016 and June 2018. In total, we applied to 18,929 job openings in all countries: 3,234 in Germany, 4,211 in the Netherlands, 2,852 in Norway, 5,293 in Spain, and 3,339 in the United Kingdom. In total, we received the following number of employer responses: 5,165 (27.3 percent): that is, 1,518 or 46.9 percent in Germany; 1,587 or 37.7 percent in the Netherlands; 783 or 27.5 percent in Norway; 715 or 13.5 percent in Spain; and 562 or 16.8 percent in the United Kingdom. The differences in callback rates reflect the labor market situation in these countries, with great economic prospects in Germany and the Netherlands and less favorable economic circumstances in Norway, the United Kingdom, and Spain.

Main operationalizations. Responses from employers were tracked by matching mail, voice, or email messages to resumes. Throughout the dissertation, the dependent variable (at the micro-level) indicates whether or not the job applicant received a positive response from an employer (i.e. callback) – that is, a message in which the employer clearly expressed interest in the candidate, such as personal requests for additional information and (pre-) invitations to a job interview (all coded as 1). Messages without a concrete request for additional personal information, rejections, or no messages are coded as 0.

To measure racial and ethnic discrimination, we varied the racial and ethnic background of fictitious job applicants. In correspondence studies, in particular, it is important that employers can trace the racial and ethnic origin of fictive job candidates because the strength of signals has a major impact on the discrimination estimates found (Gaddis 2017a, 2017b). Therefore, we used multiple indicators to convey the racial and ethnic origin of the job candidate. One indicator is the job candidate's first and last name (signaled in the cover letter and CV). We selected common names which are not strongly associated with other influential background characteristics (e.g. religion, socio-economic status, well-known figures in politics or the media). The second indicator is related to the language skills mentioned in the CV. All applicants mentioned the dominant language in the country of study as their mother tongue, but minority candidates also mentioned the dominant language in the country of origin of their respective minority group as a second mother tongue. As a third and final indicator of racial and ethnic origin, the cover letters of minority candidates included a passage stating

that either their parents and/or him/herself were born abroad, but that candidates completed all educational training in the destination country. The latter was done to rule out the possibility that jobseekers with a migrant origin (despite having the nationality of the country of study) were less likely to be contacted because of lacking country-specific human capital (Oreopoulos 2011).

In each country, we examined 36 to 38 racial and ethnic groups (see also Table 1.2). Of this total number of groups, 31 were investigated in all countries. This selection of racial and ethnic groups included the largest minority groups per country and groups of varying socioeconomic and cultural backgrounds. In addition, in each country we oversampled several racial and ethnic groups. Of the total sample of applicants, 25 percent had a native-majority background and 25 percent was dived over two oversampled and more established racial and ethnic minority groups (each 12.5 percent). All other racial and ethnic minority groups were divided over the remaining share of applicants (50 percent in total, about 1.5 percent per minority group). The composition of the remaining groups differs slightly across countries, so that research teams could investigate minority groups which are of particular interest to the country of study (e.g. minorities of Belgian, Dutch Antillean, and Surinamese origins in the Netherlands; minorities of Ecuadorian, Portuguese, and Ukrainian origins in Spain).

In addition to race-ethnicity, we manipulated different features in the cover letter and CV related to gender, migration status, a job seeker's labor productivity (e.g. one's average final grade in the most recently completed education, performance in previous jobs, and social skills), religiosity, picture/skin color/headscarf. A short description of all manipulations is presented in Table 1.2. Furthermore, we matched the location of the organization behind the job advertisement with regional statistics on the level of unemployment or the relative size of the racial and ethnic minority group in the region in order to assess the impact of regional characteristics.

Table 1.2. Overview of all racial-ethnic groups in the GEMM-experiment

Code	Race-ethnicity	Investigated in country	Oversampled in country
1	Albania	All countries	
2	Bulgaria	All countries	
3	China	All countries	
4	Egypt	All countries	
5	Ethiopia	All countries	
6	France	All countries	
7	Germany	All countries	
8	Greece	All countries	
9	India	All countries	
10	Indonesia	All countries	
11	Iran	All countries	
12	Iraq	All countries	
13	Italy	All countries	
14	Japan	All countries	
15	Lebanon	All countries	Germany
16	Mexico	All countries	
17	Morocco	All countries	The Netherlands, Spain
18	Netherlands	All countries	
19	Nigeria	All countries	United Kingdom
20	Norway	All countries	
21	Pakistan	All countries	Norway, United Kingdom
22	Poland	All countries	
23	Rumania	All countries	
24	Russia	All countries	
25	South Korea	All countries	
26	Spain	All countries	
27	Turkey	All countries	Germany, the Netherlands
28	Uganda	All countries	
29	United Kingdom	All countries	
30	USA	All countries	
31	Vietnam	All countries	
32	Bosnia and Herzegovina	Norway, Spain	
33	Dominican Republic	Germany, Spain	
34	Macedonia	Germany, the Netherlands	
35	Malaysia	Germany, the Netherlands	
36	Trinidad and Tobago	Germany, United Kingdom	
37	Surinam	The Netherlands	
38	Belgium	The Netherlands	
39	Antilles	The Netherlands	
40	Sweden	Norway	
41	Denmark	Norway	
42	Lithuania	Norway	
43	Eritrea	Norway	
44	Philippines	Norway, Spain	
45	Ukraine	Spain	
46	Ecuador	Spain	Spain
47	Portugal	Spain	
48	Jamaica	United Kingdom	
49	Bangladesh	United Kingdom	
50	Somalia	Norway, United Kingdom	Norway
51	Ireland	United Kingdom	
52	South Africa (50% white Afrikaans, 50% black Zulu names)	Germany	
53	Catalonia	Spain	

Source: GEMM, 2019

Table 1.3. Overview of all experimental treatments in the GEMM-experiment

Treatment	Description
Country of origin	In total, 53 different racial-ethnic groups were included. 31 groups were examined in all countries.
Gender	Job candidates were either male or female.
Migration status	Job candidates were either native-majority job candidates, or 1.5st or 2nd generation candidates with a migrant background.
Grade	Half of the job candidates mentioned no grade and half of the candidates mentioned a good grade, thereby indicating (good) cognitive skills and motivation.
Performance	Half of the candidates had resumes without extra information about their performance in their previous job. The other half of applicants had resumes that included an additional passage in the cover letter and extra information in the CV. In this passage, candidates describe themselves as someone who can perform under pressure, is motivated to acquire new skills and, was assigned more responsibilities by previous employer. Furthermore, bullet points were added to the CV to signal the extra responsibilities in previous job.
Social skills	Half of the candidates had resumes in which little information was given about their social skills, the other half had resumes in which these skills were stressed in the cover letter. If so, the cover letter included a passage in which applicants describe themselves as a pleasant and social person, who gets along well with others, a team player and someone who is attentive to other people's needs.
Religion	Religion was signaled through participation in a particular voluntary organization. Job candidates either mentioned no religious affiliation or they mentioned being affiliated with a Christian, Muslim, Buddhist or Hindu voluntary organization. The religion treatment was dependent on the country of origin.
Picture / phenotype / headscarf	A certain number of applications included a picture in Spain (90%), Germany (90%), and the Netherlands (50%). The phenotype of the person on the pictures was varied. Importantly, phenotypic variation was also dependent on the country of origin. Furthermore, we experimentally varied whether female applicants of predominantly Muslim origin countries with a picture wear a headscarf: half of those applicants had a picture with a woman wearing a headscarf, the other half had a picture with a woman not wearing a headscarf. Observations with a headscarf were included in chapter 4 and excluded in chapter 3, 5, and 6.

Source: GEMM, 2019

Table 1.4. Outline of all empirical chapters

	Chapter 2	Chapter 3	Chapter 4	Chapter 5	Chapter 6
Context	Western societies	The Netherlands	The Netherlands and Spain	Germany and The Netherlands	Germany, Great Britain, the Netherlands, Norway, and Spain
Racial-ethnic minority groups	Black, Muslim and other minority groups	35 Western and Non-Western minority groups	Minorities of Moroccan origin	Minorities of Turkish origin	31 Western and Non-Western minority groups
Main independent variables	Black vs. non-black, Muslim vs. non-Muslim	Racial and ethnic origin, grade, hard skills, social skills, picture, personal information	Country, % Moroccan minorities in the region, % unemployed in the region	grade, hard skills, picture	grade, hard skills, social skills
Dependent variable	Discrimination ratio	Callback	Callback	Callback	Callback, discrimination rate
Data sources	Meta-analysis of field experiments	GEMM-experiment	GEMM-experiment	GEMM-experiment	GEMM-experiment
Analytical techniques	Meta-analysis	Linear Probability Models	Linear Probability Models	Linear Probability Models	Logistic Regression Models + Estimated Dependent Variable models

1.3.   Overview of the empirical chapters

Chapter 2 to 6 aim to answer the two main research questions. Table 1.4 provides an overview of the five empirical chapters and briefly presents information about the context analyzed, the racial and ethnic minority groups included, the main dependent and independent variables constructed, data sources used, and the analytical strategy adopted. A summary of each empirical chapter is given below.

1.3.1.   Chapter 2

Ever since the first studies in the 1960s, an increasing number of scholars from various disciplines have been using field experiments to study racial and ethnic discrimination in hiring (Bertrand and Duflo 2017; Gaddis 2018; Neumark 2018; Riach and Rich 2002; Rich 2014; Sidanius and Pratto 1999). Using meta-analysis, chapter 2 aimed to provide a systematic overview of the results obtained in field experiments on racial and ethnic discrimination in Western labor markets. More specifically, this study focused on the role of intergroup boundaries – skin color and religion (Alba 2005; Alba and Foner 2015a) – and examined whether black and Muslim minority groups face systematically more hiring discrimination than other minority groups. Furthermore, this chapter explored whether these discrimination estimates vary across Western countries. By conducting analyses including only black or Muslim minority groups, respectively (and comparing them to the racial-ethnic majority), it is possible to explore more rigorously than in previous meta-analyses whether discrimination rates differ across countries because the country estimates are less affected by the country-specific composition of investigated minority groups. In this chapter, I analyzed the outcomes of 96 field experiments in 20 countries, conducted in the period between 1973 and 2016, representing approximately 240,000 fictitious job applications. Consistent with previous meta-analyses (Quillian et al. 2017, 2019; Zschirnt and Ruedin 2016), the results provide strong evidence for the existence of racial and ethnic discrimination in hiring: majority candidates receive a callback rate that is 40% greater than for identically qualified minority candidates. Furthermore, the findings indicate pronounced differences in discrimination rates between racial and ethnic minority groups – that is, not all minority groups face similar levels of hiring discrimination. In accordance with previous research on intergroup boundaries (Alba and Foner 2015a; Reskin 2012), black minority groups are found to experience significantly higher levels of discrimination than non-black minority groups. Contradicting previous theorizing (Alba and Foner 2015a), however, the multivariate analysis provides no clear support for the view that discrimination against Muslim minority groups is significantly higher than against non-Muslim minority groups. Besides investigating the variation in discrimination rates between racial

and ethnic minority groups, chapter 2 explored whether discrimination rates vary cross-nationally. More concretely, by conducting separate analyses for black and Muslim minority groups, I could separate more adequately compositional from contextual influences and explore more rigorously than has been done previously (Quillian et al. 2019; Zschirnt and Ruedin 2016) whether these minority groups face significantly different levels of discrimination in various national contexts, while controlling for relevant study and subgroup characteristics. The findings indicate that black minority groups are least discriminated against in the United States (and to a lesser extent in the Netherlands) and most severely in France. In the meta-analysis of Muslim minority groups, however, little empirical evidence is found for varying discrimination rates across countries, indicating that Muslim minority groups are similarly penalized in different national contexts (cf. Bansak, Hainmueller, and Hangartner 2016; Strabac and Listhaug 2008). Consequently, this cross-nationally comparative meta-analysis does not provide support for the idea of a highly salient racial boundary in the United States and a more prominent religious boundary in European countries (Alba and Foner 2015a; Foner and Alba 2008).

1.3.2. Chapter 3

In Chapter 2, I was able to show that certain racial and ethnic minority groups – in particular black minority groups – face higher levels of discrimination than others. However, an important observation was that in many field experiments researchers typically study the largest or most socioeconomically disadvantaged minority groups within a country (Dancygier and Laitin 2014). This raises the question as to whether a broader selection of minority groups would be helpful discovering more nuanced differences in discrimination rates between racial and ethnic groups (Lancee 2019). In chapter 3, I draw on data of field experiment including 35 different racial and ethnic groups in the Netherlands (i.e. comparative origin design, Van Tubergen 2006:45) in order to investigate more carefully whether discrimination affects some racial and ethnic minority groups more severely than others. Furthermore, I examine whether racial and ethnic discrimination can be explained by the (amount of) personal information in CV's and cover letters (Bertrand and Duflo 2017; Kaas and Manger 2012; Neumark 2018). Using data of a large-scale correspondence test ($N = 4,211$), I find that the likelihood to receive a callback is approximately 30 percent greater for applicants with a native-majority background than that for candidates with a migration background. These results are remarkably consistent with those found in previous large-scale field experiments one or more decades ago (Andriessen et al. 2012; Bovenkerk, Gras, and Ramsoedh 1995). Furthermore, by studying minority groups with a great variety in economic, social, and/or cultural backgrounds, I was able to demonstrate the

existence of a racial and ethnic hierarchy in the Dutch labor market (Hagendoorn 1995; Snellman and Ekehammar 2005). Applicants with a native-majority background are most likely to be contacted by employers. Despite being equally qualified, Western minority groups received significantly fewer responses from employers than native-majority candidates. Yet, racial and ethnic minority groups that deviate most strongly in socioeconomic status and cultural distance from the native-majority population face the highest levels of discrimination – that is, racial and ethnic minorities with a non-Western background, and in particular those with an African or Arabic origin. Moreover, this racial and ethnic hierarchy appears to be widespread, as I hardly find systematic differences between men and women, occupations, and regions. Next, despite that a lack of information about individual productivity is often regarded as a strong driver behind racial and ethnic discrimination, I find no evidence that the inclusion of extra personal information (average final grade, hard skills, social skills, a professional picture) is associated with reductions in employment discrimination. This holds for both Western and non-Western minority groups. In summary, chapter 3 shows that Western and non-Western minorities are not equally affected by employment discrimination and that adding personal information does not help to reduce discrimination against racial and ethnic minorities in the Dutch labor market.

1.3.3. Chapter 4

Chapter 2 explored whether discrimination can vary across countries. Although this meta-analysis specifically focused on minority groups with similar socioeconomic and cultural backgrounds (and controlled for various potentially confounding study and subgroup characteristics), it is still possible that the country differences found may partly reflect unmeasured (and cross-nationally varying) characteristics of studies and subgroups. In chapter 4 and chapter 5, I extend these findings by investigating one particular racial-ethnic minority group in two countries, using the same field-experimental design (i.e. mirroring a comparative destination design, Van Tubergen 2006:46).

In Chapter 4, I focus on Moroccan minorities, a minority group which is often associated with socioeconomic disadvantages and negatively portrayed in news media in Spain and the Netherlands and investigate how national and regional contexts can have a significant impact on the level of discrimination against job applicants of Moroccan origin. In addition, I borrow insights from group threat theory (Blalock 1967; Blumer 1958; Quillian 1995) and intergroup contact theory (Allport 1954; Pettigrew and Tropp 2006) to formulate hypotheses on how different characteristics of regions relate to regional variations in discrimination rates. As such, chapter 4 contributes to the existing literature by shedding more light on the regional or national conditions in which discrimination against Moroccan

minorities is most or least prevalent. To begin with, the findings indicate higher levels of discrimination against job applicants of Moroccan origin in the Netherlands than in Spain. Whereas job candidates of Moroccan origin are six percentage points less likely to receive a positive response from an employer in Spain, the predicted racial and ethnic gap in callback rates is fourteen percentage points in the Netherlands. Furthermore, I find mixed support for the hypotheses deduced from group threat theory that job applicants of Moroccan origin are more discriminated against in regions with circumstances indicative of more economic or cultural competition between racial and ethnic groups. While regional differences in discrimination rates are not related to regional unemployment rates, I do find some evidence that a higher share of Moroccan minorities in the region is correlated with higher levels of discrimination against Moroccan minorities (i.e. a linear effect in the Netherlands; after excluding the observations from Catalonia, a curvilinear effect in Spain). Finally, and contradicting the theory of politicized contexts (Hopkins 2010, 2011), I do not find strong empirical support for the idea that the effect of regionally differing levels of economic competition (as indicated by unemployment levels) is significantly stronger in Spain than in the Netherlands, nor that regional differences in levels of cultural competition (as indicated by the relative outgroup size) have a significantly stronger impact in the Netherlands than in Spain.

1.3.4. Chapter 5

Chapter 5 focuses on the level of discrimination against Turkish minorities in Germany and the Netherlands. While Turkish minorities in Germany and the Netherlands share a similar migration history and occupy a similar social position in both societies, previous research has documented larger employment disparities between Turkish minorities and native-majorities in the Netherlands than in Germany (e.g. Heath et al. 2008; Van Tubergen 2006), even when accounting for various important background characteristics of individuals using the Blinder-Oaxaca method (Euwals et al. 2007). Yet, previous survey-based research is limited in its ability to assess whether this pattern might be due to different levels of racial and ethnic discrimination. Using data of a harmonized correspondence study, I analyzed whether job candidates of Turkish origin are treated differently in Germany than in the Netherlands, in isolation of potential confounding individual characteristics. One key finding of this study is that discrimination rates vary between Germany and the Netherlands. I find that discrimination against Turkish minorities is significantly higher in the Netherlands than in Germany: in Germany, job candidates of Turkish origin are five percentage points less likely to receive a callback than equally qualified majority candidates, whereas in the Netherlands this racial-ethnic gap is fifteen percentage points. A second key finding relates to a

potential explanation for these cross-national differences in discrimination rates. Recently, it has been proposed that the vast amount of diagnostic information in application materials in German application materials can be an important explanation why racial and ethnic discrimination is lower in Germany than in other countries. I tested this idea more directly by examining whether a larger amount of diagnostic personal information in resumes decreases racial and ethnic discrimination generally, but particularly in the Netherlands where less extensive application documents are the norm and hence the baseline level of personal information is lower. However, despite varying different types of information in the CV and cover letter (more diagnostic as well as less diagnostic information), I do not find clear evidence that the provision of additional diagnostic personal information reduces discrimination against Turkish job candidates in the Netherlands or in Germany. Hence, chapter 5 replicates but also extends the findings of chapter 3 by showing that the (null) effect of adding information on racial and ethnic discrimination does not differ between the Netherlands and Germany.

1.3.5. Chapter 6

In Chapter 6, I build upon the insights from previous chapters (in particular, chapter 3 and 5) and previous research on statistical discrimination theory (Arrow 1973; Baumle and Fossett 2005; Bertrand and Duflo 2017; Guryan and Charles 2013; Neumark 2018; Phelps 1972) by studying whether information about individual productivity in resumes and the specific backgrounds of racial and ethnic minority groups can (independently or interactively) influence discrimination against racial and ethnic discrimination in hiring. Analyzing data from the GEMM-experiment with 31 different minority groups in five European countries (Germany, the Netherlands, Norway, Spain, and United Kingdom), I empirically scrutinize several underlying assumptions of statistical discrimination theory regarding the role of diagnostic information about individual productivity and the average labor productivity of groups. First of all, the analysis provides no convincing evidence for the argument that applicants with a racial and ethnic minority background are less discriminated against once applicants add (more) diagnostic information about their individual productivity. These findings are in line with the results in previous chapters (chapter 3 and chapter 5) and the majority of findings from previous studies (e.g. Agerström et al. 2012; Koopmans et al. 2018; Vernby and Dancygier 2019). Second, the results shed new light on the role of group characteristics – that might signal group averages of labor productivity – in explaining racial and ethnic discrimination by showing that discrimination rates are not associated with the level of socioeconomic resources of the group in the country of destination or language similarity between the language of the destination country and the dominant language in the country of origin.

Strikingly, however, the results do indicate that lower levels of socioeconomic development in the country of origin are associated with higher discrimination rates, even when accounting for unobserved heterogeneity between regions of origin. Finally, I tested whether the impact of group information would disappear or reduce substantially when employers had more diagnostic information about job applicants (Guryan and Charles 2013; Rubinstein 2018; Rubinstein et al. 2018). Generally, however, this is not the case and the findings suggest that employers do not rationally update their group beliefs with more reliable signals of individual productivity (see also Oreopoulos 2011; Pager and Karafin 2009). In sum, the results of chapter 6 seriously challenge the view that racial and ethnic discrimination in hiring is largely driven by economic rationality and incomplete information: employers tend to ignore signals which are more predictive of individual labor productivity in resumes than race-ethnicity. Rather, these findings seem to suggest that employers hire on the basis of very crude stereotypes about origin groups (Friberg and Midtbøen 2018; Midtbøen 2014; Pager and Karafin 2009), though future research is necessary to test this claim more directly.

1.4.   Conclusion and discussion

1.4.1.   Summary of key findings

Western societies and its labor markets are becoming increasingly diverse in terms of people's racial and ethnic backgrounds. Despite that labor market success is often considered as a stepping stone to the integration of racial and ethnic minorities into society, previous research has documented stark racial-ethnic disparities in labor market outcomes (Alba and Foner 2015b; Drouhot and Nee 2019; Heath et al. 2008; Kogan 2006; Midtbøen 2015a; Van Tubergen et al. 2004). Numerous field experiments have provided compelling evidence for the existence of severe levels of discrimination against racial and ethnic minorities in hiring (Heath and Di Stasio 2019; Quillian et al. 2017, 2019; Zschirnt and Ruedin 2016), indicating that discrimination might be partly responsible for these observed racial and ethnic inequalities in the labor market (Neumark 2018). Yet, much research on racial and ethnic discrimination has been largely descriptive, focusing in particular on highly visible and established racial and ethnic minority groups (Bertrand and Duflo 2017; Dancygier and Laitin 2014; Gaddis 2019; Neumark 2018). As a result, little is known about the presence of group differences in discrimination rates and the sources of racial and ethnic discrimination in hiring. Using a meta-analysis and a cross-national harmonized field experiment, this dissertation provides new evidence about the extent of discrimination against different racial and ethnic minority groups as well as some of the factors that may affect racial and ethnic discrimination in employment. Altogether, I have tried to answer the following two

research questions: *(1) In light of the increasing levels of racial and ethnic diversity in Western labor markets, to what extent are there differences in discrimination rates between racial and ethnic minority groups?* And: *(2) To what extent is racial and ethnic discrimination in hiring related to the characteristics of resumes, racial and ethnic minority groups, and national and/or regional contexts?*

In light of the increasing levels of racial and ethnic diversity in contemporary societies, I first examined whether discrimination rates differed across racial and ethnic minority groups. Using a targeted meta-analysis in chapter 2, I discovered some notable group variations in discrimination rates between racial and ethnic minority groups. I expected that black and Muslim minority groups would be more discriminated against than others due the high salience of skin color and religion in Western societies (Alba 2005; Alba and Foner 2015b; Foner and Alba 2008; Portes and Rumbaut 2001), but this was only found for Black minority groups. In the field experiment, I also found pronounced differences in discrimination rates across racial and ethnic minority groups. More concretely, by analyzing the callback rates of 35 different racial and ethnic minority groups in the Netherlands (chapter 3), I could detect more fine-grained patterns of discrimination than in the meta-analysis. I specifically uncovered low to moderate levels of discrimination against western minority groups and (relatively) high levels of discrimination against non-western minority groups. African and Middle-Eastern minority groups, in particular, appeared to be strongly targeted by employment discrimination (see also Di Stasio et al. 2019). Similar patterns were found in Germany, Norway, the United Kingdom and – to a lesser extent – in Spain (see e.g. Veit and Thijssen 2019). These general patterns are largely in line with previous research on the impact of social boundaries (Alba 2005; Alba and Foner 2015a; Foner and Alba 2008; Portes and Rumbaut 2001) and past studies on racial and ethnic hierarchies (Hagendoorn 1995; Sidanius and Pratto 1999; Snellman and Ekehammar 2005); likewise, however, they refute the idea that discrimination is equally directed against all racial and ethnic minority groups (Edo et al. 2019; Jacquemet and Yannelis 2012). In light of these findings and ongoing migration, future research could extend this work by assessing whether the patterns of discrimination reported in this dissertation could be replicated in countries outside this study and over time, though previous research has indicated a high degree of persistence in hiring discrimination over time and place (Heath and Di Stasio 2019; Quillian et al. 2017). More generally, the findings of this dissertation but also those found in a number of studies on employment outcomes (Van Tubergen et al. 2004) and intergroup relations (Hagendoorn 1995; Kalmijn and Van Tubergen 2010) indicate that research should move beyond its focus on established and highly visible racial-ethnic groups (Crul et al. 2012; Dancygier and Laitin 2014; Jennissen et al. 2018; Van Tubergen 2006:51–52). This focus is understandable

but does little justice to the great and increasing diversity of the population with a minority background and leaves unexplained why some groups fare better (or worse) than others (Dancygier and Laitin 2014; Lancee 2019). Future research on integration and intergroup relations is hence strongly encouraged to study multiple racial-ethnic minority groups with more heterogenous socioeconomic and cultural backgrounds.

So far, most studies using field experimental designs have been merely descriptive and provided little insights into the processes that generate racial and ethnic discrimination in hiring (Bertrand and Duflo 2017; Gaddis 2018; Guryan and Charles 2013; Neumark 2018). Therefore, an important objective of this dissertation was to open the "black box" of the drivers behind discrimination. In doing so, I focused specifically on the impact of (the characteristics of) resumes, groups (i.e. individual and group productivity) and social contexts (i.e. national and regional contexts).

One innovation of this study was providing more direct test of the assumptions of statistical discrimination theory regarding the role of information about labor productivity at the applicant- and group-level. According to one assumption of statistical discrimination theory (Arrow 1973; Phelps 1972), a lack of information about individual productivity is one of the main reasons why employers discriminate against racial and ethnic minorities (cf. Bertrand and Duflo 2017; Guryan and Charles 2013; Kaas and Manger 2012; Neumark 2018). While this idea has been analyzed in earlier research, my analyzes went beyond previous work by testing the relationship between diagnostic information about individual productivity and discrimination with multiple information treatments for different racial-ethnic minority groups in five national contexts. The findings of this dissertation indicate, however, that racial and ethnic discrimination is not affected by the amount of information about individual productivity. In particular, the level of discrimination is not influenced by the inclusion of separate information treatments nor by the total number of information treatments included. While challenging a key assumption of statistical discrimination theory, these results are in line with the majority of findings of previous research (e.g. Agerström et al. 2012; Koopmans et al. 2018; Vernby and Dancygier 2019). Hence, I conclude that racial and ethnic discrimination cannot be explained by lack of diagnostic information about individual productivity: solely adding more individual information does not reduce discrimination against racial and ethnic minorities.

Furthermore, I examined a second assumption of statistical discrimination theory, suggesting that variations in the level of racial-ethnic discrimination are correlated with the average labor productivity of racial-ethnic minority groups (Arrow 1973; Baumle and Fossett 2005; Phelps 1972). Whereas previous research on statistical discrimination has generally assumed that racial and

ethnic discrimination stems from skill differences between racial and ethnic groups (Baumle and Fossett 2005), I tested this assumption more directly. In general, however, I found little evidence that indicators of group productivity are significantly related to the degree of racial and ethnic discrimination in hiring. I specifically found no evidence that group variations in discrimination rates are associated with the socioeconomic resources of a minority group in the country of study or with increased language similarity. I did find, however, that racial and ethnic minority groups originating from countries with lower levels of socioeconomic development face higher levels of discrimination than groups originating from countries with higher levels of socioeconomic development. Therefore, the most distant (i.e. the least accurate) proxy for the average labor productivity of racial-ethnic minority groups seemed to have the biggest influence on discrimination outcomes. In addition, I tested whether there is a statistically significant interaction between group indicators of labor productivity and the presence of (more) diagnostic information about individual labor productivity but found no support for the idea that the impact of group information is weaker when resumes contain more productivity-related information (Crawford et al. 2011; Rubinstein 2018; Rubinstein et al. 2018).

Altogether, it appears that employers pay little attention to more informative signals of individual productivity and the average productivity of racial-ethnic groups. Even though all minority candidates were raised and completed their education in the country of study, the results seem to suggest that employers hire on the basis of crude stereotypes about origin countries (Friberg and Midtbøen 2018; Midtbøen 2014; Pager and Karafin 2009). Hence, this study casts doubt that racial and ethnic discrimination in hiring is largely driven by economic-rationality and incomplete information about individual productivity, as predicted by statistical discrimination theory. By contrast, these results are more in line with theoretical accounts stressing that people are mostly inattentive to information that is disconfirming of their systematically biased expectations (Fiske 1998; Fiske and Neuberg 1990; Quillian and Pager 2010). More generally, while I found little evidence in support of an economic interpretation of statistical discrimination theory, I did find that the level of discrimination is systematically related with the socioeconomic development of the country of origin. This may indicate that employers' (explicit or implicit) perceptions about skill differences between origin countries (which are loosely connected to skill differences in the country of study) affect discrimination rates, but alternative explanations could be considered. For example, one could investigate whether the discrimination patterns observed could be better explained by differences in the levels of cultural similarity between the majority population and minority groups (Lancee 2019): employers may penalize certain racial and ethnic minority job applicants, not for lacking the required

hard skills, but for their distinct cultural values or for anticipated communication problems with co-workers or clients (Adida et al. 2016). All in all, more research is needed to understand these group variations in discrimination rates.

In this dissertation, I further explored whether the level of discrimination is affected by the national context. I extended previous findings (Quillian et al. 2019; Zschirnt and Ruedin 2016) by investigating country differences with a targeted meta-analysis and a cross-national harmonized field experiment. First of all, by focusing on black and Muslim minority groups, I found meta-analytic evidence that the levels of discrimination against black minority groups differed across countries. More specifically, I found particularly high levels of discrimination against black minority groups in France and relatively low discrimination levels in the United States. While the meta-analysis provided no significant evidence for the existence of cross-national differences in the level of discrimination against Muslim minority groups, chapter 4 and chapter 5 indicated that Moroccan minorities and Turkish minorities face higher levels of discrimination in the Netherlands than in Spain and Germany, respectively. The cross-national harmonized field experiment thus seemed to be better equipped to detect cross-national differences in discrimination rates (see also Lancee 2019; Larsen and Di Stasio 2019; Di Stasio et al. 2019; Yemane and Fernández Reino 2019). Together, I conclude that discrimination rates can vary across different countries.

Then, an unresolved issue is how to explain these cross-national variations in discrimination rates. Indeed, the findings of this dissertation do not show a clear empirical pattern. In chapter 5, I tested one potential explanation – that is, cross-national differences in the amount of diagnostic information in resumes (Weichselbaumer 2017; Zschirnt and Ruedin 2016) – but found no confirmation of this idea. That is, the effect of diagnostic information is not stronger in a national context with a lower base rate of individual information (the Netherlands) than in a context with a higher base rate of individual information (Germany). Also, despite the strong economy of the Netherlands, discrimination rates against Moroccan minorities appeared to be higher in the Netherlands than in Spain, thereby contradicting claims about the adverse impact of economic hardship on

racial-ethnic disparities in hiring prospects.[8] Lastly, although the relatively low levels of discrimination against black minority groups in the United States are in line with the idea that stricter anti-discrimination legislation diminishes hiring discrimination (Quillian et al. 2019), they contradict the hypothesis that contemporary racial and ethnic disparities may reflect legacies of historical discrimination (Alba 2005; Alba and Foner 2015a; Foner and Alba 2008; Pager and Shepherd 2008). In essence, this lack of conclusive evidence relates to the problem of "Small-N's Big Conclusions" (Lieberson 1991) – that is, the number of country observations is too small given the number of explanatory variables, thereby hindering the assessment of competing hypotheses (Van Tubergen 2006:53). Therefore, one promising direction for future research would be to extent the double comparative design used in the GEMM-experiment by increasing the number of countries of destination. This would not only allow to more strictly assess the relative importance of the impact of different characteristics of destination countries, but might also open the possibility to distinguish between so-called "destination effects" and "community effects" (i.e. the effects resulting from a specific country of origin and county of destination combination) (Van Tubergen et al. 2004). For example, by studying the effects of specific combinations of minority groups and national contexts one could provide a better test for the idea that minority groups originating from a highly religious origin country face higher levels of discrimination in a strongly secularized destination country than in a more religious destination country and, conversely, that minority groups originating from a secular origin country face higher levels of discrimination in a more religious country than in a secular country (Alba and Foner 2015a; Foner and Alba 2008). Another promising avenue for future research would be to compare the level of discrimination before and after changes in, for example, antidiscrimination or employment protection legislation using a repeated field experiment (among the same sample of employers) (see e.g. Agan and Starr 2018). This approach might offer news insight as to whether discrimination rates are responsive to changes in institutional environments and shed more light on the ways in which institutions

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8 Despite the results in chapter 4, I think that it would be premature to conclude that economic fluctuations do not influence employment discrimination. Rather, it could be that the degree to which "employers can afford to discriminate" (Midtbøen 2015b; Petersen and Saporta 2004) is only weakly related to the national (or regional) state of the economy due to, among other things, pronounced sectoral or occupational differences in the demand for labor and variations in the prestige of companies (i.e. more prestigious organizations receive more job applications). In support of this view, the meta-analysis provides tentative evidence that a higher demand for labor (as measured by the callback rates of the majority job candidates) in subgroups is related with lower racial and ethnic discrimination in hiring. Other studies also provide support for this line reasoning (Baert et al. 2015; Hedegaard and Tyran 2018; Kroft et al. 2013; Midtbøen 2015b; Weisshaar 2018), underscoring the need for collecting more detailed data on, for instance, the size of the applicant pool, applicant-to-hire ratios, or the overall performance of organizations in order to measure the opportunity structure for discrimination.

(or other changes in the social environment over time) can influence racial and ethnic discrimination in hiring.

Last, I attempted to describe and understand the cross-regional differences in discrimination rates. Although there is much suggestive evidence that discrimination rates can vary cross-regionally (Careja 2019; Carlsson and Eriksson 2017; Gaddis and Ghoshal 2015; Keita and Valette 2019; Schlueter and Wagner 2008; Tilcsik 2011; Weisshaar 2018), only a few field experiments have studied regional variations in racial and ethnic discrimination rates and found inconsistent results (Berson 2012; Blommaert et al. 2013, 2014a; Carlsson and Rooth 2012). Focusing on Moroccan minorities (in chapter 4), I show that there is meaningful variation in discrimination rates across regions in the Netherlands and Spain. In addition, I tried to understand these regional differences by investigating the effects of regional indicators of intergroup threat (Blalock 1967; Blumer 1958; Quillian 1995, 1996) and (prolonged) intergroup contact (Allport 1954; Pettigrew and Tropp 2006). The results of this study are not entirely in line with my hypotheses, however. I found no support for the view that the economic situation in a region is predictive for differences in the level of discrimination against Moroccan minorities. However, in line with group threat theory, I did find that a higher share of Moroccan minorities in a region is associated with higher levels of discrimination against applicants of Moroccan origin. I specifically find evidence of a linear effect of relative group size in the Netherlands and – after excluding the observations from Catalonia – a curvilinear effect in Spain (cf. Newman 2013; Savelkoul et al. 2011). Finally, the results provide no significant support for the idea that national frames moderate or magnify the impact of regional sources of intergroup competition (Hopkins 2010). All in all, these findings emphasize the merits of studying the impact of regional characteristics on racial and ethnic discrimination. Nevertheless, future research could further our understanding of these "regional effects" (a) by examining a larger set of racial and ethnic minority groups (cf. Havekes et al. 2014), (b) by using more refined measures of regional characteristics (cf. Gaddis and Ghoshal 2015), and/or (c) by analyzing whether similar results can be found at lower spatial scales (i.e. the local environment of the organization or the place of residence of employers) (Laméris 2018) or in different national contexts (cf. Hopkins 2010; Weber 2015). Moreover, to strengthen the causal evidence for a link between regional contexts and discrimination rates, one could examine whether changes in the regional environment are followed by changes in the level of discrimination, by using a repeated field experimental design.

Summarizing, in this dissertation, I add some pieces towards a complex and still incomplete picture of why racial and ethnic minorities are discriminated against in hiring. The findings of this research indicate that diagnostic information about individual productivity and indicators of the average labor productivity

of racial-ethnic minority groups in the country of study are not clearly associated with the level of discrimination. Likewise, the results do suggest that origin countries' level of socioeconomic development is negatively associated with the degree of racial and ethnic discrimination, despite my focus on racial and ethnic minority job applicants who have acquired fluency in the majority language, domestic educational qualifications, and domestic work experience (and adjusting for indicators of skill differences between racial and ethnic minority groups in the country of study). To exemplify these findings, job applicants of Polish origin seem to be treated as if they were job applicants coming from Poland. As a result, they are treated less favorable than job applicants considered as "German" but more favorably than "Iranian" or "Nigerian" job applicants. These findings are difficult to reconcile with the notion that employers discriminate in response to actual skill differences and incomplete information about individual productivity (Arrow 1973; Phelps 1972). Given these findings and those of other (qualitative and quantitative) studies (Friberg and Midtbøen 2018; Midtbøen 2014; Pager and Karafin 2009; Rooth 2010), employers' explicit and/or implicit biases towards racial-ethnic minorities seem to play a more dominant role in explaining racial and ethnic discrimination in employment, but more direct evidence is necessary to substantiate this empirically. Furthermore, in this study, evidence is found that discrimination rates can vary across national contexts, with higher levels of discrimination in the Netherlands than in Germany or Spain, and that discrimination can differ across regional contexts, with some indications of higher levels of discrimination in regions with a larger relative outgroup size. Hence a general conclusion is that while racial and ethnic discrimination is often viewed as resulting from micro-level processes (Arrow 1973; Dovidio and Gaertner 2010; Fiske 1998; Guryan and Charles 2013; Phelps 1972), my findings indicate that discrimination should also be viewed as an outcome of social processes (e.g. situational, structural, institutional, or historical processes). Overall, my findings suggest that understanding how different social processes affect racial and ethnic discrimination in employment is critical for understanding racial-ethnic inequalities in today's labor markets.

1.4.2. Limitations and directions for future research

While this study provides several key insights to the literature, there are a number of limitations which need to be addressed. Furthermore, I would like to take the opportunity here to highlight some additional areas that deserve further research in order to deepen our understanding of how racial and ethnic discrimination emerges and persists in contemporary labor markets. Finally, I discuss some implications for policy-making.

Advancing descriptive research

Since the 1960s, field experiments have become increasingly bigger, nowadays consisting of a high numbers of tests, studying more occupations, sectors and regions, and covering longer time periods. The GEMM experiment, with its large-scale data collections conducted in five countries, is illustrative of what this new stream of research brings about. In particular, the current study extended the findings of previous studies by examining whether patterns of racial and ethnic discrimination can vary across racial and ethnic minority groups, countries, and regions. Nevertheless, I think that future descriptive research could advance in two ways.

First, in GEMM-experiment – as in most other field experiments on hiring discrimination – I studied racial and ethnic discrimination among relatively young (22-26 years old) and inexperienced (4 years work experience) job applicants who applied for jobs mostly in the middle segments of the labor market. Future research could therefore explore whether these results can be generalized to other labor market segments (Heckman 1998; Pager 2007; Pager et al. 2009). For example, more research is needed to investigate discrimination for jobs in the lowest and highest segments of the market, though it could be difficult to design credible job applications (e.g. lack of social contacts, different job requirements) and apply for a sufficient number of job openings. Relatedly, discrimination is under-researched for jobs advertised through offline or online referral networks (e.g. social media or discrimination by inaccurate algorithms)(Baert 2018a; Hiemstra and Nevels 2018; Manant, Pajak, and Soulié 2019; Moss and Tilly 2001; Waldinger and Lichter 2003) or those offered by employment agencies (Andriessen 2012; Sweeney 2011), and in open job applications. Furthermore, field experiments only investigate the first stage of the hiring process (e.g. not job interviews, wage setting, etc.) (Quillian, Lee, and Oliver 2018) and usually do not focus on older workers. For these reasons, it would be interesting to explore to what extent the results in the current study can be generalized to other labor market segments and other types of job seekers. In a similar vein, it would be interesting to study how members of different racial and ethnic minority, particularly those who face severe levels of discrimination, anticipate to this reality, especially in European labor markets (cf. Fryer, Pager, and Spenkuch 2013; Pager and Pedulla 2015): for example, do they actively avoid certain sectors (and which ones, and how), do they become self-employed/free-lancer, or do they drop-out entirely from the workforce?

Second, scholars could devote more attention to examining the degree of heterogeneity in discrimination rates within the samples of jobs examined. One important but largely ignored question is whether discrimination is uniformly practiced by the majority or just by a small minority of organizations. Investigating the same sample of organizations repeatedly with a field experiment could provide more insight into this issue (Verhaeghe and Van der Bracht 2016). Another

under-researched question is related to the existence (or absence) of variation in racial and ethnic discrimination across occupation and/or sectors. So far, previous research has not been able to find univocal evidence for the presence of occupational or sectoral differences (see also chapter 2). On the one hand, this might indicate relatively uniform discrimination patterns. On the other hand, this might indicate that previous research has not been capable of identifying within-occupational or sectoral variation, perhaps because researchers typically aimed to map general patterns of discrimination. Consequently, due to the low number of observations per occupation or sector, one might have had limited power to find statistically significant variations. A recent study by Villadsen and Wulff (2017) in Denmark has shown the value of designing a field experiment with the explicit aim of investigating heterogeneity in discrimination rates between sectors. Using a targeted study, they tested the often-suggested idea that racial and ethnic discrimination is less prevalent in the public sector than in the private sector (Midtbøen 2015b; Zschirnt and Ruedin 2016) but found no evidence for this view: discrimination is just as common in the public sector as in the private sector. I hence argue that future research would benefit strongly from developing more focused research designs to investigate whether there might be meaningful differences in discrimination rates between occupations or sectors.

Directions for explanatory research

A major contribution of this study is its greater focus on the social processes generating employment discrimination and, more specifically, its demonstration of how characteristics of racial-ethnic minority groups and social contexts exert an influence on the degree of racial and ethnic discrimination. Yet, while this contribution should not be undervalued, future research should develop new and more direct tests of the mechanisms underlying racial-ethnic disparities in hiring outcomes. In particular, it would be interesting to consider whether the relationships found can be mediated by the attitudes and beliefs of employers (Gaddis 2018, 2019). In other words, to what extent do employers' racial-ethnic preferences correspond to variations in the socio-economic development of origin countries? How and in which ways do nations' structural, institutional, or historical characteristics affect employers' behavioral intentions? Is it really true that the relative size of racial-ethnic minority groups in the region intensifies employers' biases towards racial and ethnic minorities and leads to greater inequalities in hiring outcomes? And what is the relative importance of each of these influences on the levels of racial and ethnic discrimination found?

While there is a growing number of (small-scale) experimental and qualitative studies among employers (Colella, Hebl, and King 2017; Friberg and Midtbøen 2018; Midtbøen 2014; Rooth 2010), the time is ripe for a large-scale assessment

of employers' beliefs, preferences, and their work environment to consider whether and how these characteristics affect racial and ethnic discrimination in employment. It would be specifically worthwhile to complement the results of a field experiment with a large-scale survey among employers (cf. Rooth 2010). In this survey one can focus, for example, on (the determinants of) employers' explicit and implicit biases towards racial and ethnic minority groups and their willingness to take risks in hiring decisions in order to test more directly hypotheses about taste-based discrimination theory and statistical discrimination theory. One can also include questions about the hiring setting (e.g. amount of time per job applicant, size of application pool, overall workload, availability of performance tests, size and composition of the hiring committee)(Friedman and Laurison 2019; Lindsey et al. 2013; Midtbøen 2015b; Wolgast, Bäckström, and Björklund 2017) and the degree of standardization and formalization of hiring procedures (Dobbin, Schrage, and Kalev 2015; Friedman and Laurison 2019; Reskin 2000; Ryan et al. 1999; Wolgast et al. 2017) to examine the role of hiring contexts. Finally, one could include items capturing the characteristics of organizations – including organizational size (Kaas and Manger 2012; Villadsen and Wulff 2017), the racial and ethnic composition of the workforce/management (Bursell 2007; Thijs 2018; Tomaskovic-Devey et al. 2015; Villadsen and Wulff 2017), its economic performance (Guul, Villadsen, and Wulff 2019; Pager 2016), and organizational culture (e.g. the degree of inclusiveness)(Björklund, Bäckström, and Wolgast 2012; Brief et al. 2000; Friedman and Laurison 2019; Ziegert and Hanges 2005) – to determine whether and how organizational characteristics can directly or indirectly influence the hiring outcomes of racial and ethnic minority job applicants.

In this dissertation, and most field experiments, the effects of race-ethnicity are often examined in isolation from other influential social categories such as age, gender, or socio-economic status. Reality is more complex, however. A growing body of theoretical and empirical work is suggesting that many of these social categories can also interact with each other in very complex ways – a process which is known as *intersectionality* (Birkelund, Heggebø, and Rogstad 2017; Friedman and Laurison 2019; Pedulla 2018). Summarizing previous theorizing, Pedulla (2018) distinguishes three different forms of intersectionality: (1) the stigmas associated with certain social categories can operate independently (i.e. simply add up), (2) the negative connotations related to certain social categories can reinforce each other, and (3) in some cases social categories can reduce each negative influences or might even cancel each other out. In the context of hiring discrimination, there is a small number of studies that considered the interactions between race-ethnicity and gender (Andriessen et al. 2012; Bursell 2014), having a criminal record (Van den Berg et al. 2017; Mobasseri 2019; Pager 2003; Pager et al. 2009), chronical disabilities (Ameri 2014), immigration status (Busetta et al. 2018; Carlsson 2010;

Veit and Thijssen 2019), religion (Adida et al. 2016), or unemployment spells (Birkelund et al. 2017; Pedulla 2018). However, future research might further address this issue (a) by conducting more research outside the United States; (b) by examining these interactions for a greater variety of racial and ethnic minority groups (as can be done with the GEMM-data); or (c) by investing interactions between race-ethnicity and less investigated social categories (e.g. age). As for the latter, despite its status as a master variable (Sidanius and Pratto 1999) and the potential overlapping nature of disadvantages (Gaddis 2017a; Li and Heath 2016), surprisingly little attention has been given to examine the ways in which race-ethnicity interacts with socio-economic class (Dahl and Krog 2018; Friedman and Laurison 2019). In particular, field experimental research to date has yet to begin investigating the direct impact of social class on hiring outcomes (Jackson 2009; Rivera and Tilcsik 2016; Spencer, Urquhart, and Whitely 2019), let alone how its effects vary with the racial-ethnic background of job candidates (for an exception, see Dahl and Krog 2018). Moreover, it could be theoretically interesting to consider how these and other forms of intersectionality may vary with occupational characteristics (e.g. occupational status) (cf. Yavorsky 2019). In short, rather than investigating race-ethnicity in isolation, future research is encouraged to investigate more thoroughly how different key axes of inequality can jointly or separately produce group disparities in hiring outcomes.

Implications for combating racial and ethnic discrimination in the labor market
This study offers policymakers several important new insights. First, this study (most notably chapter 2 and 3) as well as many others (Heath and Di Stasio 2019; Quillian et al. 2017, 2019; Zschirnt and Ruedin 2016) have demonstrated the pervasiveness of discrimination: racial and ethnic discrimination in employment is widespread and highly persistent across space and time, though it must be said that some racial and ethnic minority groups face lower levels of discrimination than others. Second, the finding that discrimination rates differ across countries indicates that discrimination is (to some extent) responsive to changes in social processes, yet future research is necessary to determine whether this variation is due to institutional and/or governmental arrangements (e.g. Kogan 2006) or due to (more) inflexible structural and/or cultural-historical processes (Alba 2005; Pager and Shepherd 2008). Finally, this study shows that racial-ethnic minority job seekers can do little to shield themselves from employment discrimination. I found no evidence of lower levels of discrimination among job candidates that provide extra information about their hard or soft skills (irrespective of region of origin) (cf. Agerström et al. 2012; Vernby and Dancygier 2019). Importantly, this does not mean that no policy attention should be given to, for example, the accreditation of foreign credentials and provision of (language and vocational)

training programs (Lancee and Bol 2017; Oreopoulos 2011; Zwysen 2019) – these policy measures could very well increase labor market integration of racial and ethnic minorities by strengthening their human capital. The main point is, however, that even while being highly qualified, racial and ethnic minorities will still encounter employment discrimination.

One general implication of these findings is that we need to pay more attention to interventions directed at the demand-side of hiring (cf. Bills, Di Stasio, and Gërxhani 2017) – that is, governmental or organizational interventions aimed at influencing the behaviors of employers (for a list of possible interventions see Table 1.5; for useful overviews and references see e.g. Adida et al. 2016 ch. 10; Bertrand and Duflo 2017; Dobbin et al. 2015; Edelman, Smyth, and Rahim 2016; Fang, Guess, and Humphreys 2018; Friedman and Laurison 2019 Epilogue; Kalev, Dobbin, and Kelly 2006; Lindsey et al. 2013; Neumark 2018; Paluck and Green 2009; Verhaeghe 2017). First of all, to reduce racial and ethnic discrimination in hiring, interventions could be targeted at directly changing employers' attitudes and behaviors towards racial-ethnic minorities (e.g. with carrot and stick approaches). For example, this can be done through interventions that are committed to (a) raising awareness to the adverse effects of discrimination and the presence of anti-discrimination legislation; (b) emphasizing the benefits of racial-ethnic diversity on team and/or organizational performance; or (c) eliminating the influence of explicit and/or implicit biases for example by means of diversity training programs. Also, policy-making could consider to (d) impose diversity quotas; (e) strengthen anti-discrimination legislation; (f) conduct government audits or (g) send mystery guests in order to actively search for and penalize organizations that practice discrimination; and/or (h) force organizations to measure and publish about racial-ethnic diversity within their workforce.

A different approach to deter racial and ethnic discrimination in hiring would be to decrease "the opportunity structure for discrimination" (Midtbøen 2015b; Petersen and Saporta 2004) by changing the hiring process altogether. This could be done by (i) diversifying hiring committees; (j) objectifying hiring criteria or formalizing hiring processes; and/or (k) implementing anonymous application. As for the latter, it is unfortunate that anonymous application has received a lot of criticism (e.g. Behaghel, Crépon, and Barbanchon 2015) despite the fact that large-scale assessments are scarce, several studies do find positive effects, and anonymous application could reduce discrimination on grounds other than

race-ethnicity (e.g. age, gender, social class, intersectionality) (Goldin and Rouse 2000; Krause, Rinne, and Zimmermann 2012; Neumark 2018).[9]

As this brief overview illustrates, many different interventions have been proposed to reduce discrimination. Unfortunately, however, most interventions have been tested using laboratory experiments or qualitative studies. So far, there have been surprisingly few large-scale studies that systematically test the effectiveness of these interventions in real-life hiring situations (Bertrand and Duflo 2017; Colella et al. 2017; Lindsey et al. 2013; Neumark 2018; Paluck and Green 2009). This is an important omission, for one, because we need more insights into what works and what not and, secondly, because it is notoriously difficult to take into account all factors that threaten the internal and external validity of the results of policy evaluations. Indeed, as is explained in section 1.2.1, identifying discrimination is hard (i.e. adjusted racial-ethnic disparities in employment outcomes in non-experimental studies do not necessarily imply actual discrimination), establishing a causal impact of an intervention on discrimination is quite another – even with experimental methods. First, certain interventions may appear to be less effective than they really are because of self-selection of participating organizations. It could be true that in particular organizations that already strive for more racial-ethnic diversity in their workforce are more likely to participate in anti-discrimination experiments than others, which in turn could result into a lower-bound effect estimate for a particular policy intervention (e.g. Behaghel et al. 2015). Second, due to so-called Hawthorne effects, participants in policy-evaluations might behave differently (e.g. exhibit more socially desirable behavior) simply because they are aware that they are being observed, having an unpredictable influence on the effect of an intervention (Jackson and Cox 2013). Third, one must realize that policies could fail to achieve their objectives or even bring about the opposite of what is intended due to unexpected feedback processes or interdependence of labor market inequalities. For example, Agan and Starr (2018) examined whether "Ban

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9   It is noteworthy that in many commentaries on the evaluations of anonymous applications, people tend to overstress the importance of increasing racial-ethnic diversity in *hiring outcomes*. Rather, I think that policy evaluations of anonymous application should focus more on its impact on the *hiring process* – that is, one should investigate whether the implementation of anonymous application increases employers' reliance on productivity-relevant criteria (e.g. work experience, education, extra training) and reduces the impact of productivity-irrelevant criteria such as race-ethnicity but also social class, gender, age, etcetera (and/or intersections between these social categories). Moreover, it is important to realize that as long as the racial-ethnic diversity in application pools is rather low and/or there are racial-ethnic differences in the qualifications and skills of job applicants, equal treatment imposed by anonymous application will not automatically lead to greater racial and ethnic diversity in hiring outcomes. Arguably, to reduce discrimination and increase diversity in organizations, a multi-faceted approach is required that is targeted at multiple phases of the hiring process – that is, one should increase diversity in application pools, reduce unequal treatment in screening and job interviews (e.g. through structured interviews), and create a safe working environment.

the Box"-policies in the United States – a policy measure that forbids employers to ask for a job applicant's criminal history in order to improve ex-convicts' labor market opportunities – resulted into more discrimination against black minority job seekers. The authors conducted a large-scale resume audit before and after the implementation of "Ban the Box"-policies and found that racial discrimination increased after policies restricted employers to ask about criminal records, suggesting that "Ban the Box"-legislation prompted employers to use race as a proxy-indicator for having a criminal record. Similarly, under the assumption that discrimination against racial and ethnic minorities stems from risk avoidance, extending trial periods or relaxing dismissal protection legislation might lead to a reduction in racial and ethnic discrimination but likewise to an increase in inequalities between employers and (socio-economically vulnerable) employees. Lastly, of course, there is the possibility that employers confronted with new anti-discrimination legislature look for alternative search channels which are not (or less) affected by these policy actions (e.g. social networks). Consequently, large-scale research programs are needed to evaluate the impact of different interventions aimed at combating racial and ethnic discrimination in hiring.

Table 1.5. An inexhaustive list of policy interventions aimed at combatting racial and ethnic discrimination in hiring

	Intervention	Mechanism	(Potential) caveats	Further readings
	Changing employer behavior			
a	Raise awareness about (the negative consequences of) discrimination and anti-discrimination legislation	More awareness increases employers' motivation to take actions against discrimination	Is raising awareness enough to combat discrimination? Might be difficult to develop interventions to raise awareness	Fang, Guess, and Humphreys (2018)
b	Emphasize the benefits of racial-ethnic diversity for organizations	More awareness of the benefits of racial-ethnic diversity increases employers' motivation to take actions against discrimination	While there is evidence that racial-ethnic diversity increases team and organizational performance, it might not always be easy to accommodate racial-ethnic diversity on the work floor	Adida et al. (2016: ch. 10); Roberson et al. (2017)

Table 1.5. Continued

	Intervention	Mechanism	(Potential) caveats	Further readings
c	Participate in diversity trainings	More awareness about people's explicit and implicit biases decreases discrimination	Mixed effects on the (long-term) impact of diversity training on people's attitudes and behaviors	Devine et al. (2012); Lindsey et al. (2013); Paluck and Green (2009)
d	Impose diversity quota	Forcing organizations to take actions to increase racial-ethnic diversity decreases discrimination	On what criteria should quota be based (e.g. origin country/region of individuals? Or the origin country/region of the parents?)? Is a one-dimensional intervention; cannot deal with intersectionality	Bertrand and Duflo (2017); see also Bertrand et al. (2019) with regard to gender inequality
g	Use mystery guests to trace organization violating anti-discrimination legislation	Increased monitoring how organizations respond to discriminatory hiring requests decreases discrimination	Cannot be used to assess whether organizations practice discrimination in hiring; rather, it can only assess organizations' intentions to discriminate	Verhaeghe (2017)
h	Force to measure and monitor racial-ethnic diversity in organizations	Publishing statistics about racial-ethnic diversity in organizations creates more awareness of the problem of discrimination and increases employers' motivation to take actions against discrimination	A low degree of diversity may not always be the result of hiring discrimination; likewise, a relatively high degree of diversity may not always imply the absence of hiring discrimination	Friedman and Laurison (2019: Epilogue)

Table 1.5. Continued

	Intervention	Mechanism	(Potential) caveats	Further readings
	Changing the hiring process			
i	Diversify hiring committees	Members of racially and ethnically diverse hiring committees are more aware of people's explicit or implicit biases against racial-ethnic minorities and discriminate less	It might be very challenging to form racially and ethnically diverse hiring committees. In addition, it might be difficult to develop criteria to select members of hiring committees	Lindsey et al. (2013)
j	Objectify hiring criteria and formalize the hiring process	Quantification of relevant skills and work experience and increased formalization decreases discrimination on the basis of irrelevant background information (including race-ethnicity)	Might be difficult to quantify all job requirements and to formalize the whole hiring process	Dobbin et al. (2015); Friedman and Laurison (2019:Epilogue); Lindsey et al. (2013); Wolgast et al. (2017)
k	Anonymous applications	Leaving out all irrelevant background information leads to less discrimination	Cannot reduce discrimination during job interviews. In addition, increased racial-ethnic diversity may not always be the outcome (in the short run) of the introduction of anonymous applications	Krause et al. (2012); Neumark (2018:855–57)

1.4.3. General conclusion

In contemporary Western countries, labor market success is often seen as a stepping stone to integration into mainstream society (Alba and Nee 1997, 2003; Heath et al. 2008; Portes and Rumbaut 2001; Van Tubergen 2006). However, racial and ethnic minorities do not confront Western labor markets as a level playing field where they are being solely evaluated on the basis of their talents, efforts, and achievements. As has been shown by previous research (Heath and Di Stasio 2019; Quillian et al. 2017, 2019; Zschirnt and Ruedin 2016), racial and ethnic minorities are often blocked by employment discrimination. In this dissertation, I aimed to contribute to the existing literature by examining whether the level of discrimination varies between different racial and ethnic minority groups and uncovering some of the mechanisms that generate racial and ethnic discrimination in hiring. First of all, I assessed whether discrimination rates vary across racial and ethnic minority groups and found that not all group are equally affected by employment discrimination. Using a meta-analysis and a cross-national harmonized field experiment, I documented low to moderate levels of discrimination against Western minority groups and high levels of discrimination against non-Western and/or Black minority groups. These findings suggest that those who already occupy a vulnerable position in society (possibly caused by previous discrimination) face the highest risks of being discriminated against in the labor market, despite having acquired fluency in the majority language, domestic educational qualifications, and domestic work experience. Furthermore, I attempted to obtain more insights into the sources of racial and ethnic discrimination in the labor market by considering the impact of diagnostic information about individual productivity, indicators of group productivity, and the social environments wherein hiring takes place (national- and regional contexts). Broadly, the findings seem to indicate that overall levels of racial and ethnic discrimination cannot be explained by a lack of productivity-relevant information in application materials (cf. Agerström et al. 2012; Koopmans et al. 2018; Vernby and Dancygier 2019) nor by indicators of skill differences between racial-ethnic groups. The evidence here rather suggest that racial and ethnic discrimination is related to (employers' perceptions about) origin countries and the broader social context in which employers operate, such as countries and regions. All in all, these findings indicate that *different* contexts of reception (Portes and Rumbaut 2001) can have a strong impact on the distribution of labor market opportunities among *different* racial and ethnic minority groups.

Chapter 2.

Are Black and Muslim minority groups more discriminated against than other groups in the labor market? Evidence from a meta-analysis[10]

Abstract

This chapter examines whether black and Muslim minority groups face systematically more hiring discrimination in Western labor markets than other minority groups and explores whether these estimates vary across countries. We analyze the outcomes of 96 field experiments in 20 countries, conducted in the period between 1973 and 2016, representing approximately 240,000 fictitious job applications. Using meta-analysis, findings indicate that black minority groups are more strongly discriminated against than non-black minority groups, but the degree to which this is the case varies cross-nationally. We find that black minority groups face the highest level of discrimination in France. Unexpectedly, discrimination against black minority groups in the United States is not higher than elsewhere. Results further provide no strong evidence that Muslim minority groups are more discriminated against than non-Muslim minority groups and show that discrimination rates for Muslim minority groups vary hardly across countries. These findings suggest that patterns of discrimination vary across countries and by racial or religious backgrounds.

2.1. Introduction

In many countries, stark socioeconomic disparities exist between racial and ethnic majorities and minorities (Dancygier and Laitin 2014; Heath et al. 2008). These disparities can partly be attributed to differences in human capital (Van Tubergen et al. 2004), social resources (Friberg and Midtbøen 2019; Lancee 2010) and cultural values (Koopmans 2016) but also to discriminatory practices in the labor market (Pager and Shepherd 2008). Discrimination is a major social problem for societies that favor equality. People's perceptions of being discriminated against are associated with increased health problems, less trust in one's own ability, and lowered motivation for job searching (Monk 2015; Pager and Pedulla 2015; Schmitt et al. 2014). At more aggregate levels, racial and ethnic discrimination wastes individual talents, hinders the integration of racial and ethnic minorities, and exacerbates racial and ethnic stratification (Dancygier and Laitin 2014; Reskin 2012).

Scholars have used different methodologies to investigate discrimination in the labor market. The most compelling evidence comes from field experiments (Neumark 2018; Pager and Shepherd 2008). Experiments allow researchers to assess whether fictitious job candidates of different racial and ethnic groups are treated differently, while holding other confounding factors constant. Although racial and ethnic discrimination has also been investigated in laboratory settings, field experiments are generally regarded as the most effective means for detecting hiring discrimination, as they can provide evidence of differential treatment in real-life settings (Gaddis 2018; Pager and Shepherd 2008; Riach and Rich 2002). In field experiments, equally qualified fictitious job applicants of different racial and ethnic groups contact employers by means of sending a resume/CV (by letter or online) – commonly known as correspondence tests – or personal presentation (face-to-face or by phone) – also known as in-person audits. The size of the difference in employer responses between racial and ethnic majority and minority candidates indicates the level of discrimination in hiring.

The earliest field experiments were developed in the 1960s by British sociologists, who used the method to examine racial and ethnic discrimination in the housing and labor markets (Daniel 1968; Jowell and Prescott-Clarke 1970). From that time onwards, an increasing number of scholars from various disciplines has used field experiments to examine discrimination across different occupations, sectors, regions and national contexts (Bertrand and Duflo 2017; Gaddis 2018; Neumark 2018; Riach and Rich 2002; Rich 2014; Sidanius and Pratto 1999).

Recently, several meta-analytical studies have been published synthesizing the results of previous field experiments (Bartkoski et al. 2018; Bonoli and Fossati 2018; Heath and Di Stasio 2019; Quillian et al. 2017, 2019; Zschirnt and Ruedin

2016). Zschirnt and Ruedin (2016) summarized the research findings of 43 correspondence studies conducted in Organization for Economic Cooperation and Development (OECD) countries between 1990 and 2015. They find that discrimination rates vary across racial and ethnic groups, skill levels and countries. Discrimination rates appear to be lower in German-speaking countries, and they also find evidence that discrimination is highest against applicants of Arabic origin, followed by applicants of Indian, Pakistani, Bangladeshi, Chinese and Turkish origin. A meta-analysis by Quillian, Pager, Hexel, and Midtbøen (2017) examined the outcomes of both correspondence tests and in-person audits in the United States between 1989 and 2015. By analyzing changes over time in the level of hiring discrimination against African Americans and Latinos, they find some signs of a minor decline in discrimination against Latinos but no indications of declining discrimination against African Americans since 1989. Heath and Di Stasio (2019) performed a meta-analysis in Great Britain and find relatively low levels of discrimination against white minorities and high levels against non-white minorities. Additionally, this study finds no indication of declining discrimination rates of non-white groups across field experiments conducted between 1969 and 2017. Finally, Quillian and colleagues (2019) analyzed the outcomes of 97 correspondence and in-person audit studies in nine countries in Europe and North America. In all countries, they find significant discrimination against racial and ethnic minorities, however non-white minorities face higher levels of discrimination than white minorities. Furthermore, their findings show that the level of discrimination varies across countries, with highest discrimination levels found in France.

In addition, there are several theory-driven meta-analyses on racial and ethnic discrimination in hiring. Bonoli and Fossati (2018) analyzed a selective set of field experiments ($N = 15$) to investigate the rare instances in which employers preferred minority candidates over majority candidates and showed that these instances occur more frequently with more stigmatized minority groups and for relatively highly skilled jobs. Bartkoski and colleagues (2018) investigated whether Muslim or Arabic minorities are discriminated against in hiring situations and examined 26 field, vignette or laboratory experimental studies. They find that discrimination against Muslim or Arabic minorities is higher in field studies than in laboratory studies.

In this chapter, too, we aim to review previous studies on racial and ethnic discrimination in hiring by means of meta-analysis. By doing so, we build upon previous studies in several ways. First, our meta-analysis of field experiments is more comprehensive than prior studies. We complement studies of Zschirnt and Ruedin (2016) ($N = 43$ correspondence tests) and Quillian and colleagues (2017) ($N = 28$ correspondence tests and/or in-person audits) by analyzing a larger

number of field experiments (N = 96). In particular, we analyze the outcomes of correspondence studies and in-person audits conducted both in the United States and other OECD countries. Also, we were able to examine a greater number of field experiments because we included studies that have been overlooked in earlier research and studies that were published after 2015. Furthermore, compared to Quillian and others (2019), our study additionally included outcomes of field experiments conducted in Australia, Austria, Czech Republic, Denmark, Finland, Greece, Ireland, Italy, Poland, Spain, and Switzerland.[11] In light of calls for more replication research in the social sciences (Firebaugh 2008; Ioannidis 2005), one contribution of this chapter is therefore to replicate the main findings of previous research by analyzing an extended dataset of field experiments.

Second, in this chapter we pay closer attention to differences in discrimination rates between racial and ethnic minority groups than have previous studies. Although the results of Zschirnt and Ruedin (2016) indicate substantial variation in discrimination rates across groups, this research has not yet examined the factors that could explain these group differences. Similarly, although Quillian and colleagues (2019) find that white minorities (i.e. minorities from European origin and – to a lesser extent – Latin American or Latino minorities) are less disadvantaged than non-white minorities (i.e. African/black, Middle-Eastern/ North-African, Asian minorities), they too pay relatively little attention to the specific backgrounds of minority groups. To fill this gap, we investigate whether group variation in discrimination rates is affected by two commonly studied indicators of group boundaries (Alba 2005): race and religion. We specifically test whether candidates of black minority groups – that is, groups with a dark skin color – and Muslim minority groups – that is, groups with a predominantly Muslim country of origin – face more hiring discrimination than candidates of non-black or non-Muslim minority groups. We thereby also elaborate on the study of Bartkoski and colleagues (2018) that assessed whether Muslim or Arabic minorities are discriminated against. Whereas Bartkoski et al. (2018) included only studies with the explicit aim of studying discrimination towards Muslim or Arabic minorities, we have included a wider range of field experiments, and moreover examine whether members of Muslim minority groups are more strongly discriminated against than members of black minority or other minority groups. Hence, by examining the impact of having a black or Muslim minority background, we aim to shed more light on the relative importance of racial and religious cleavages in recruitment situations.

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11 Within the nine countries examined in the study of Quillian and others (2019) and ours, there are also some minor differences in field experiments included probably reflecting the different backgrounds of the researchers.

Third, we examine whether discrimination of black and Muslim minority groups varies across countries. Society's legacies of historical discrimination, histories with immigration or labor market institutions could influence if and how employers respond to different signals of 'otherness' (Adida et al. 2016; Pager and Shepherd 2008; Van Tubergen et al. 2004; Zschirnt and Ruedin 2016). Consequently, discrimination based on race or religion may vary across societies, and several scholars have argued that race may be a particularly salient category in the US, whereas in Europe religion is the key dimension of contemporary discrimination (Alba 2005; Alba and Foner 2015a). We therefore contribute to this literature by empirically testing whether black minority groups face more discrimination in the US than elsewhere, and whether discrimination of Muslim minority groups is particularly strong in Europe.

2.2.   Theoretical background

Scholars have studied various mechanisms that could underlie discrimination in hiring (Bertrand and Duflo 2017; Neumark 2018; Pager and Shepherd 2008; Quillian 2006). Most theories start with the notion of ethnocentrism: the belief that one's own group is at the center or everything, and all others are scaled and rated with reference to it (Sumner 1906:13). People tend to show ingroup favoritism toward the social groups of which they are member and outgroup derogation toward members of other social groups (Dovidio and Gaertner 2010). These psychological biases, in turn, lead to discrimination of members of other racial and ethnic groups. Beyond baseline in-group favoritism, however, scholars have also speculated that discrimination varies across racial and ethnic minority groups, depending on the interplay between characteristics of these groups and the social conditions in which these groups are embedded (Hagendoorn 1995; Sidanius and Pratto 1999). We examine how two group characteristics (race and religion) may affect discrimination, and how these two dimensions vary in salience across countries.

The first dimension, race, is socially constructed with the intertwining of certain physical, behavioral and cultural properties (Jablonski 2012). Race is linked to skin color, and research shows that already at a very young age children notice differences in skin color (Jablonski 2012; Whitley and Kite 2009). When children grow older, they start to associate skin color with social group distinctions. Hierarchies in terms of racial groups are observed across countries. In many contemporary societies, there are racial inequalities in terms of education, work, health and political power (Reskin 2012). Research also finds high levels of residential and social segregation between blacks and whites (Alba and Foner 2015a; Kalmijn 1998; McPherson, Smith-Lovin, and Cook 2001; Musterd 2005;

Potârcə and Mills 2015). Negative stereotypes – for example that black minorities are backward, foolish, lazy, violent or criminal – which may have arisen from historically rooted racial inequalities, are everywhere present and strengthened in daily social interactions, politics or portrayals in the media (Essed 1991; Quillian 2006; Reskin 2012).

Against this background, race can also be seen as an important social boundary in the labor market. In accordance with this view, research shows that members of black minority groups strongly feel that they are being discriminated against in various domains of society, including in job searches and/or in the workplace (Kislev 2019; Monk 2015). Furthermore, numerous studies find that people have strong prejudices against black minority groups, among the population as a whole and among employers in particular (Moss and Tilly 2001; Pager and Karafin 2009; Quillian 2006). In this study, we therefore investigate whether, and to what extent, black minority groups are more strongly discriminated against than non-black minority groups in hiring situations. Based on the aforementioned arguments, we expect that: (H1) *Black minority groups face more employment discrimination than non-black minority groups.*

We also expect to see that discrimination based on race varies across countries. Scholars have argued that in the United States race is a particularly salient boundary, more so than in Europe for example (Alba, 2005). The black-white boundary in the United States is the result of centuries-long history of slavery, institutionalized racial segregation (e.g. Jim Crow or Anti-miscegenation legislation), and blatant hostility against black minority groups (Kalmijn 1998; Massey and Denton 1993; Reskin 2012). Research indeed finds very low black-white intermarriages in the US, much lower than in Western Europe (Alba and Foner 2015a; Kalmijn and van Tubergen 2006; Lucassen and Laarman 2009). In Europe, intermarriage between blacks and whites is more common. For example, Kalmijn and Van Tubergen (2006), in their study on intermarriage in the Netherlands, find that within the group of Surinamese origin, the Creoles (a darker-skinned subgroup) are more likely to marry outside their own group than lighter-skinned groups of Surinamese origin (Hindustani or Javanese). Likewise, research suggests high levels of residential segregation and corresponding neighborhood poverty between blacks and whites in the United States (Massey and Denton 1993; Sharkey 2013). For example, Sharkey (2013) finds that among those born between 1985-2000 in the United States, 61 percent of the white population grew up in neighborhoods with less than 10 percent poverty, compared to 9 percent of the black population. Spatial inequalities based on race are less pronounced in Europe (Musterd 2005).

The history of race relations and the persistent socio-economic inequalities between whites and blacks form an important breeding ground for strong political activism and disputes in the United States (Acharya et al. 2016; Massey and

Denton 1993). These arguments and findings suggest that in the United States race is likely to play a more important role in hiring discrimination than in other western societies. We therefore expect that: (H2) *Black minority groups face higher levels of employment discrimination in the United States than in other western countries.*

The second group characteristic we study is religion, and more specifically, being a member of a Muslim minority group. The share of Muslim minority groups has increased significantly in European societies and other western societies (Voas and Fleischmann 2012). These minority groups stand out because of salient cultural expressions (e.g. hijab, niqab or burqa), behaviors (e.g. Muslim prayer, Ramadan) and more conservative cultural opinions (Inglehart 2018; Röder 2015; Sniderman and Hagendoorn 2007; Voas and Fleischmann 2012). Muslim minority groups live rather spatially segregated from the majority population and are less likely to marry outside of their own racial and ethnic group (Adida et al. 2016; Alba and Foner 2015a; Lucassen and Laarman 2009). Majority populations have negative views of Muslim minority groups and Muslims are negatively portrayed in the media (Bansak et al. 2016; Sides and Gross 2013; Storm, Sobolewska, and Ford 2017; Strabac, Aalberg, and Valenta 2014; Strabac and Listhaug 2008).

Stark labor market disparities have been found between Muslim minority groups and the majority population (Adida et al. 2016; Heath et al. 2008; Lancee 2016). A significant proportion of people belonging to Muslim minority groups further reports having bad experiences with discrimination in the labor market (Kislev 2019). Also, reflecting the attitudes of the general population, scholars find indications of anti-Islam sentiments – sometimes called 'Islamophobia' (Strabac et al. 2014; Strabac and Listhaug 2008) – among employers (Adida, Laitin and Valfort 2016; Rooth 2010; Midtbøen 2014). These anti-Muslim sentiments are sometimes expressions of blatant xenophobia and prejudice but may also operate unconsciously (Rooth 2010) or reflect concerns over how cultural differences between Muslims and non-Muslims on the work floor can adversely affect organizational performance (Adida, Laitin and Valfort 2016; Midtbøen 2014). There are, therefore, reasons to suspect that members of Muslim minority groups are more strongly discriminated against than other minority groups: (H3) *Muslim minority groups face more employment discrimination than non-Muslim minority groups.*

The salience of religion may also differ across countries (Alba 2005; Alba and Foner 2015a). Prior scholarship hints at the existence of a strong and salient religious boundary in Europe, especially regarding the position of Muslim minority groups (Alba, 2005). In contrast to the United States, with its relatively high level of religiosity, Muslim minorities would stand out in European societies not only because of their larger group size but also because of their higher levels of religiosity, thereby provoking strong resistance among Europe's predominantly secular

native-majority population (Alba & Foner, 2015). Previous research has indeed found higher levels of anti-Muslim attitudes in Europa than in the United States (Strabac et al. 2014). Further support for this view comes from studies showing particularly low rates of mixed unions among Muslim immigrants in European countries (Alba and Foner 2015a; Kalmijn and van Tubergen 2006; Lucassen and Laarman 2009).

Thus far, only one experimental study has been conducted to examine employment discrimination against Muslim minorities in the United States (Widner and Chicoine 2011). Therefore, convincing tests of a difference in discrimination of Muslims in Europe and the United States cannot be conducted. We therefore explore whether discrimination against Muslim minorities differs between European countries and the United States.

2.3. Data and methods

2.3.1. Target studies

We selected only those field experiments that fulfilled all the following criteria. The study should be (1) a field experiment, (2) in which the treatment variable is ethnicity or race (3) and the dependent variable is an employer response. We discuss these criteria consecutively.

Field experiment. We focused on experiments conducted in real-life settings and therefore excluded laboratory experiments. Furthermore, we included only experiments in which applicants actively contacted the employer. Field experimental studies in which resumes were posted on online job search websites or where employers could approach potential candidates were excluded (e.g. Blommaert, Coenders and Van Tubergen 2014).

Race and ethnicity. The 'target groups' are racial and ethnic minorities. The race and ethnicity of the candidate could be reflected in terms of first or last names, nationality, ethnic origin or likewise.

Employer response. The studies had to measure discrimination regarding employer responses: that is, whether racial or ethnic minority and majority applicants have the same opportunities when it comes to receiving a response from employers. Typically, the dependent variable is a positive callback, for instance a positive reaction, an invitation for a job interview, or a job offer.

2.3.2. Search process and coding of field experiments

The search process started in June 2011 and ended in April 2018. We used three methods to find studies.

Traditional. In the first method, we searched with relevant keywords in online databases and search engines (such as Omega, Google Scholar, Google, Web of

Science and other online databases). Examples of relevant keywords are: 'experiment racial-ethnic discrimination labor market,' 'audit studies discrimination,' 'situation testing discrimination', 'correspondence testing discrimination', 'in-person test discrimination', 'field experiment discrimination', and 'employment discrimination experiments'. Searches were extended by searching with keywords in other languages than English (German, French, Dutch and Spanish). Keywords were also broadened in this wave of data collection.

Snowballing. The studies that were found in the first method were subsequently used as a starting point for further data collection. The so-called 'snowballing' method consists of browsing references in the studies found using the first method and establishing whether they fit the selection criteria. We also searched 'forward' by investigating the studies that cited the previously located studies. Additionally, literature reviews on racial and ethnic discrimination in the labor market (Gaddis 2018; Neumark 2018; Quillian et al. 2017; Riach and Rich 2002; Rich 2014; Zschirnt and Ruedin 2016) were used in the search for further eligible articles.

Personal contacts. In the hope of finding unpublished work, more recent studies or studies that were still ongoing, the authors contacted other researchers seeking information on their current and ongoing research work and that of others in their country.

By using these search strategies, we were able to identify 103 field experiments. However, because of our theoretical focus on black and Muslim minority groups in Western labor markets, we decided to include only field experiments that were conducted in the Europe, North America and Australia (*N* = 96); that is, socioeconomically comparable countries with a meaningful share of black or Muslim minority groups.

Coding of field experiments. Studies were coded by research assistants under close supervision of the authors; entries were double-checked to ensure reliability. Also, the number of majority and minority applicants sent was registered, as in meta-analysis effect sizes are weighted by the precision of estimates. Authors often report separate results for various subgroups. For example, Andriessen et al. (2012) present results for groups with different ethnic origins, for men and women and for different job characteristics. We coded breakdowns by racial and ethnic groups, gender, contact method, jobs, location and experimentally manipulated variables other than race-ethnicity (e.g. criminal record of an applicant). As a result, our dataset has a nested structure with subgroups (subgroup-level) nested within studies (study-level). In the end, the dataset consists of 674 subgroups reported in 96 studies, containing data of approximately 240,000 fictitious job applicants. For a complete overview of all field experiments, see also Table A2.7 in the Appendix.

2.3.3. Coding of racial and ethnic minority groups

Black minority background (subgroup-level). First, we examined whether researchers explicitly stated whether they investigated a black minority group or not. More concretely, when researchers explicitly classified a racial or ethnic minority group as a "black Caribbean" or "black African" (e.g. Wood et al. 2009), a "black immigrant group" (e.g. Bovenkerk, Gras, and Ramsoedh 1995 / Surinamese), or "Afro-American" (e.g. Pager 2003) we coded this group as "black". This information was not always provided, however. In that case, we used census data on the racial self-classification of immigrant groups in the United States (US Census Bureau 1990) to indicate whether or not a racial or ethnic minority group can be considered as black. In particular, we coded a minority group as black if the percentage of people classifying themselves as black is greater than 50%. Table 2.1 presents information about the percentage of people classifying themselves as black for each of the remaining minority groups. Finally, we coded a not further specific "African" group also as "black" because research on the degree of melanin pigmentation in human skin indicates that people of African descent are highly likely to have a dark skin collar (Jablonski 2012). We found one minority group that was difficult to classify: Surinamese Hindustani. Although researchers in the Netherlands mostly classify Surinamese as a "black immigrant group" (e.g. Bovenkerk et al. 1995), we decided to code Surinamese Hindustani as non-black, because this specific minority group originated from northern India (Kalmijn and van Tubergen 2006). As a robustness check, we examined whether we obtain similar results when we excluded this specific minority group. Ultimately, *black minority background* consists of the following categories: black, non-black, and unclassified/both (i.e. subgroups that could not be classified – for example, those labelled as "foreign" – and mixed groups including black and non-black minority groups).

Table 2.1. Overview of black and non-black minority groups per country

	Black	Non-Black	Unclassified/both
Australia		Chinese, Greek, Indigenous, Italian, Middle Eastern/Arabic, Vietnamese	
Austria	Nigerian (90.6)[a]	Chinese, Serbian, Turkish	
Belgium	Congolese (71.2)[a]	Italian, Moroccan, Turkish	Turkish + Moroccan + Slovakian + Ghanaian
Canada	African (C), Black Caribbean/West-Indian (AC)	British, Chinese, Greek, Indian, Latino, Middle Eastern/Arabic, Pakistani, White immigrant	
Czech		Asian, Roma	
Denmark		Middle Eastern/Arabic	
Finland		Russian	
France	Antillean (55.0)[a], Senegalese (85.7)[a]	Moroccan, North African, Vietnamese	Foreign, North African + Sub-Saharan
Germany		Turkish	
Great Britain	Black African (AC), Black Caribbean (AC)	Asian, Australian, Chinese, French, Indian, Pakistani	Asian + Black Caribbean/West-Indian, Greek + Italian + Asian + Black Caribbean/West-Indian
Greece		Albanese	
Ireland	African (C)	Asian, German	
Italy		Albanese, Chinese, German, Moroccan, Romanian	
Netherlands	Antillean (55.0)[a], Surinamese (AC)	Middle Eastern/Arabic, Moroccan, Spanish, Hindustani Surinamese, Turkish	Surinamese + Spain
Norway		Pakistani	
Poland		Ukrainian, Vietnamese	
Spain		Moroccan	
Sweden		Middle Eastern/Arabic	
Switzerland		Portuguese, Serbian, Turkish	
United States	Black (AC)	Jewish, Latino, Middle Eastern/Arabic	Black + Latino, Black + Latino + Asian + Middle Eastern/Arabic, Foreign

Note: [a] = the percentage (between brackets) of people classifying themselves as black in United States Census (US Census Bureau 1990). Abbreviations: AC = Classified by the authors as a black minority group. C = Classified as "black" on the basis of geographical data on the degree of melanin pigmentation in human skin (Chaplin 2004; Jablonski 2012; Jablonski and Chaplin 2000).

Muslim minority background (subgroup-level). We distinguish between racial and ethnic minority groups with a dominant Islamic background and minority groups with no dominant Islamic background. To start, we examined whether researchers mentioned explicitly that they investigated a Muslim minority group. For example, Adida and colleagues (2016) and Pierné (2013) made a clear distinction between job applicants (with a similar country/region of origin) which are either openly Muslim or Christian. The former was classified as "Muslim", the latter as "non-Muslim". In case explicit information was lacking, we categorized a minority group as Muslim minority group if more than 50% of the population in the country of origin considers themselves Muslim according to data from the CIA World Factbook (Central Intelligence Agency 2018); other groups are classified as non-Muslim minority groups. Indeed, various studies indicate that immigrants or the children of immigrants originating from predominantly Muslim countries are highly likely to regard themselves as Muslim (Fleischmann and Phalet 2012; Huijnk 2018; Lagrange 2014; O'Brien and Potter-Collins 2015). Table 2.2 presents information about the percentage of people classifying themselves as Muslim in each country of origin of the remaining minority groups. We also classified groups broadly labelled as "North African" and "Middle Eastern/Arabic" as "Muslim" because Muslims make up the majority of the population within these regions (Central Intelligence Agency 2018). We identified four groups that are difficult to classify. Albanians and Nigerians, because the percentage of the population in the country of origin that identifies as Muslim is close to 50% (52% and 57% respectively). Additionally, in some studies, the description of the included minority groups (i.e. Indo-Pakistani and African/Senegalese) was unclear. In the main analysis, we nevertheless coded these four groups as "Muslim". As a robustness check, however, we investigated whether we obtain similar results when excluding these difficult-to-classify groups. In the end, the variable Muslim minority background differentiates between Muslim, non-Muslim, and unclassified/both (i.e. subgroups that could not be classified – for example, those labelled as "foreign" – and mixed groups including Muslim and non-Muslim minority groups).

Table 2.2. Overview of Muslim and non-Muslim minority groups per country

	Muslim	Non-Muslim	Unclassified/both
Australia	Middle Eastern/Arabic (C)	Chinese, Greek, Indigenous, Italian, Vietnamese	
Austria	Nigerian (51.6), Turkish (99.8)	Chinese, Serbian	
Belgium	Moroccan (99.0), Turkish (99.8)	Congolese, Italian	Turkish + Moroccan + Slovakian + Ghanaian
Canada	Middle Eastern/Arabic (C), Pakistani (96.4)	African, Black Caribbean/West-Indian, British, Chinese, Greek, Indian, Latino, White immigrant	
Czech		Asian, Roma	
Denmark	Middle Eastern/Arabic (C)		
Finland		Russian	
France	Moroccan (99.0), North African - Muslim (AC), North African (C), Senegalese (95.9), Senegalese - Muslim (AC)	Antillean, North African - non-Muslim, Senegalese - non-Muslim, Vietnamese	Foreign, North African + sub-Saharan
Germany	Turkish (99.8)		
Great Britain	Pakistani (96.4)	Asian, Australian, Asian + Black Caribbean/West-Indian, Black African, Black Caribbean, Chinese, French, Greek + Italian + Asian + Black Caribbean/West-Indian, Indian	
Greece	Albanese (56.7)		
Ireland		African, Asian, German	
Italy	Albanese (56.7), Moroccan (99.0)	Chinese, German, Romanian	
Netherlands	Middle Eastern/Arabic (C), Moroccan (99.0), + Turkish (99.8)	Antillean, Hindustan Surinamese, Spanish, Surinamese, Surinamese + Spain	
Norway	Pakistani (96.4)		
Poland		Ukrainian, Vietnamese	
Spain	Moroccan (99.0)		
Sweden	Middle Eastern/Arabic (C)		
Switzerland	Turkish (99.8)	Portuguese, Serbian	
United States	Middle Eastern/Arabic (C)	Black, Black + Latino, Jewish, Latino	Black + Latino + Asian + Middle Eastern/Arabic, Foreign

Note: [a] = the percentage (between brackets) of people in the country of origin identifying themselves as Muslim (Central Intelligence Agency 2018). Abbreviations: AC = Classified by the authors as a Muslim minority group. C = Classified as "Muslim" on the basis of estimations of the percentage of people in the region of origin identifying themselves as Muslim (Central Intelligence Agency 2018).

2.3.4. Coding of control variables

To stringently examine the role of having a black and Muslim minority background on discrimination rates, we take into account the potentially biasing influence of other characteristics of studies and subgroups.

Publication status (study-level). This variable consists of three categories: studies published in peer-reviewed journals, unpublished studies or working papers, and government reports.

Interactions with race-ethnicity (study-level). Although many studies primarily focused on establishing ethnic or racial discrimination, this was not the main goal in every study. Possibly this could have influenced the observed level of racial and ethnic discrimination (cf. Quillian et al. 2017). Therefore, we included a dichotomous variable that indicates whether or not race-ethnicity has been manipulated in combination with another characteristic (e.g. whether or not an applicant had a criminal record).

Scientific discipline (study-level). Based on the journal in which a study was published or the affiliations of the authors for unpublished studies, we distinguished between sociology, economics, criminology and others (e.g. political science, multidisciplinary teams and government reports).

Experimental design (subgroup-level). Studies are coded as an in-person audit (telephone or face-to-face), a correspondence test (application letters and CVs) or – if both methods are used and no clear distinction could be made – as combined.

Number of fictitious applicants (subgroup-level). The number of applications per employer differs drastically between studies. We distinguish between studies in which only one fictitious candidate applied for a job, studies in which two to four fictitious candidates applied for a job and studies in which six or more fictitious candidates applied for a job. Note that there were no studies with five fictitious job candidates.

Research period (subgroup-level). We coded the year in which each study was conducted, or if this was missing, we took the year before the year of publication. Concretely, we distinguish between studies that were carried out before 2000, between 2000 and 2004, between 2005 and 2009 and studies carried out between 2010 and 2018.

Demand for labor (subgroup-level). It has often been suggested that ethnic or racial minorities face less discrimination when there is a high demand for labor (Baert et al. 2015; Becker 1957). This is why we include the callback rate of the majority candidate as an indicator of the demand for labor. We mean-centered this variable across all subgroups. Higher values indicate a greater demand for labor.

Gender of applicants (subgroup-level). Several researchers have claimed that race-ethnicity and gender interact with each other (e.g. Andriessen et al. 2012; Arai, Bursell, and Nekby 2016). To take this into account, we differentiate

between subgroups in which only male applicants were included, subgroups in which only female applicants were included and subgroups where it was not possible to clearly distinguish gender because no separate results for males and females were provided.

Educational level (subgroup-level). Based on the description of the researchers in the text, we coded the level of education using the International Standard Classification of Education (ISCED) classification scheme. For studies without detailed information, we classified the level of education based on the available information in the text and general job descriptions. In the analysis, we differentiate between jobs that require a primary or secondary level of education, jobs that require a tertiary level of education, and studies that did not share any specific information about the level of education.

Interpersonal skills (subgroup-level). Based on the descriptions in the text, a variable for interpersonal skills is created. Jobs that require relatively more interpersonal skills are characterized by more customer/client contacts, teamwork and/or maintaining or expanding social networks (Lee and Lee 2015). Other jobs, by contrast, require more instrumental skills – that is, workers are required to handle simple or complex tools and machines (Lee and Lee 2015). We distinguish between jobs with more interpersonal skills (e.g. lawyer, consultant, doctor, teacher, receptionist and nurse), jobs with fewer interpersonal skills (e.g. accountant, electrician, factory worker, cleaner, software developer and carpenter), and subgroups for which we were unable to make this distinction (other).

2.4. Results

Before we turn to our main results, we first consider the impact of publication bias and outliers.

2.4.1. Publication bias
There are various methods for assessing the potential impact of publication bias (Viechtbauer 2010). Because of the multilevel structure of the data (subgroups nested within studies), we use these methods at both the subgroup-level and study-level.

A graphical method for identifying publication bias is the funnel plot, where effect sizes are plotted against the precision of estimates (e.g. standard error). There is no bias when the funnel plot is symmetrical; that is, more accurate studies should be closer to the true population effect size, whereas less accurate studies should be further away from this effect size. At the study-level and the subgroup-level, we find evidence for an asymmetrical funnel plot, with 153 missing subgroups in the left half of the plot at the subgroup-level (Figure 2.1)

and 28 studies missing in the left half of the plot at the study-level (Figure 2.2), possibly indicating publication bias. In addition to this visual method, we use two statistical methods to formally examine the relationship between the accuracy of subgroups/studies and the magnitude of the discrimination rates: Begg's rank order test and Egger's test. These methods yield mixed findings, however. At both levels, the Begg's rank order test produces insignificant results (subgroup-level: Kendall's tau = 0.002, p = 0.946; study-level: Kendall's tau = −0.021, p = 0.769), while the Egger's test produces significant results (subgroup-level: z = 10.999, p < .001; study-level: z = 4.436, p < .001). A final test for publication bias (which can only be done at the study-level) is examining whether discrimination rates differ between published and unpublished studies in a meta-regression. Despite the inclusion of a substantial number of unpublished studies, the results indicate that published studies (the reference group) did not report significantly higher discrimination rates than unpublished studies (b = −0.068, 95% CI [−0.193, 0.056]) and non-peer-reviewed studies (b = −0.037, 95% CI [−0.148, 0.074]).

All in all, we find inconclusive evidence whether the discrimination rates found are affected by publication bias. Unpublished studies documented no significantly different discrimination rates than published studies, suggesting a limited effect of publication bias. However, it cannot be ruled out that subgroups and studies with small or unexpected negative effects are underrepresented in our meta-analysis, potentially leading to an upwardly biased overall discrimination rate.

Figure 2.1. Funnel plot of discrimination rates against their S.E. (subgroup-level)
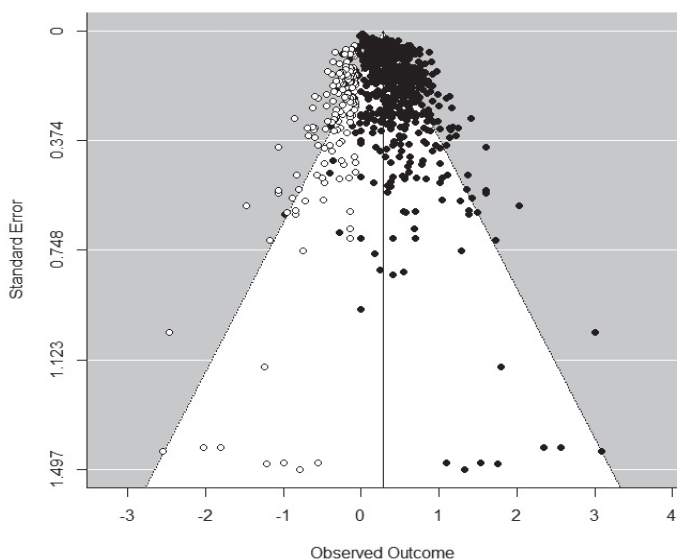
Note: Black circles are for observed subgroups, white circles are subgroups that would be needed to obtain a balanced picture.

Figure 2.2. Funnel plot of discrimination rates against their S.E. (study-level)
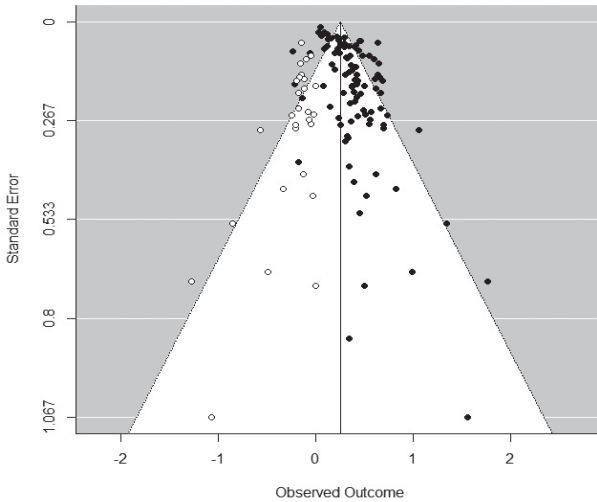
Note: Black circles are for observed studies, white circles are studies that would be needed to obtain a balanced picture.

Figure 2.3 provides an overview of the natural log of the discrimination ratio per study (sorted from the lowest to highest values). The average discrimination ratio is 1.44 (natural log of the discrimination ratio = 0.368; e0.368 = 1.44) (95% CI [0.311; 0.425]), indicating that majority candidates receive a callback rate that is 44% greater than for minority candidates. Nevertheless, as is shown in Figure 2.3, the natural log of the discrimination ratio varies substantially between studies. Most studies find that racial and ethnic minorities are discriminated against; however, a small number of studies find no evidence of discrimination, and one study provides evidence of positive discrimination of minority candidates.

Next, we identified several outlying studies ($N = 2$, consisting of 4 subgroups in total) or subgroups ($N = 9$) on the basis of Cook's distance and the sampling variance (see also Viechtbauer 2010). The exclusion of these studies and subgroups slightly reduced the average discrimination ratio from 1.44 to 1.40 (log of the discrimination ratio = 0.335 [95% CI (0.287; 0.384)]). Given the risk of publication bias – which would result in an inflated estimated discrimination ratio – we decided to use the dataset that leads to the most 'conservative' discrimination ratio. After the removal of outliers and two subgroups with missing values on one independent variable (i.e. demand for labor), the final dataset consisted of 629 subgroups and 94 studies.[12] Descriptive statistics of all predictor variables are displayed in Table 2.3.

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12 The following subgroups and studies are excluded: the studies of Amadieu (2004) and Berson (2011) - consisting of respectively one and three subgroups - three subgroups of Bovenkerk et al. (1975), one subgroup of Cediey and Foroni (2008), one subgroup of Bursell (2007), one subgroup of Dechief and Oreopoulos (2012), one subgroup of Drydakis and Vlassis (2010), one subgroup of Oreopoulos (2011), and one subgroup of Weichselbaumer (2016).

Figure 2.3. Natural log of discrimination ratio for studies (*N* = 96)
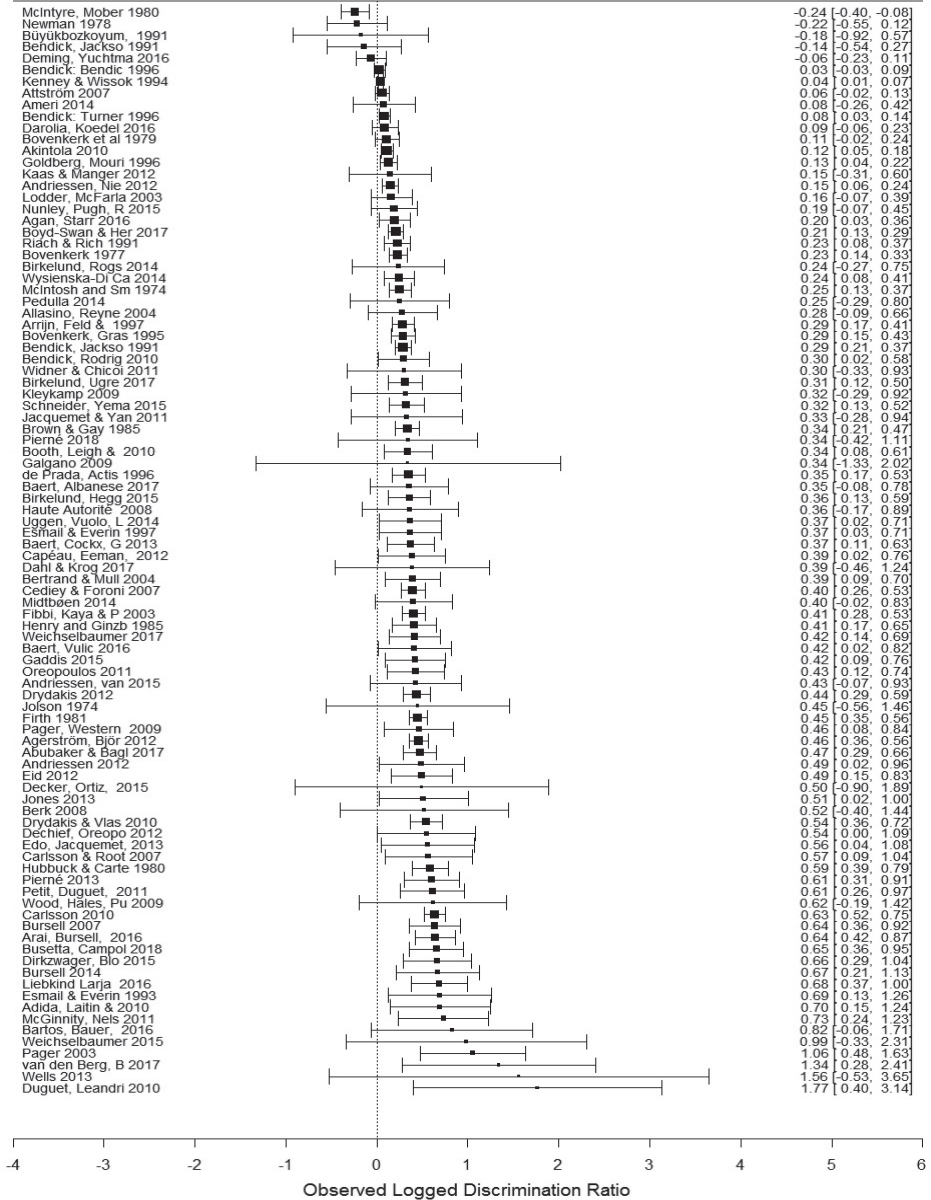
Note: Studies are sorted from the lowest to the highest natural log of discrimination ratio.

Table 2.3. Descriptive statistics of predictor variables

	Prop. / Mean
Black minority background (subgroup-level)	
Non-black	0.720
Black	0.178
Unclassified / both	0.102
Muslim minority group (subgroup-level)	
Non-Muslim	0.431
Muslim	0.474
Unclassified / both	0.095
Country (subgroup-level)	
Austria	0.019
Australia	0.073
Belgium	0.029
Canada	0.092
Switzerland	0.006
Czech Republic	0.005
Germany	0.072
Denmark	0.018
Spain	0.011
Finland	0.013
France	0.075
Great Britain	0.064
Greece	0.014
Ireland	0.006
Italy	0.060
Netherlands	0.083
Norway	0.056
Poland	0.003
Sweden	0.116
United States	0.186
Publication status (study-level)	
Peer-reviewed	0.498
Government reports	0.216
Unpublished work	0.286
Interactions with race-ethnicity (study-level)	0.370

Table 2.3. Continued

	Prop. / Mean
Scientific discipline (study-level)	
Sociology	0.191
Economics	0.437
Criminology	0.056
Other disciplines	0.316
Experimental design (subgroup-level)	
Resume (ref.)	0.838
In-person	0.140
Both designs	0.022
Number of applications (subgroup-level)	
1 applicant	0.092
2 to 4 applicants	0.787
>4 applicants	0.121
Research period (subgroup-level)	
<2000	0.102
2000-2004	0.052
2005-2009	0.415
2010-2018	0.431
Demand for labor (Std. Dev. = 0.223; Min. = 0.007; Max. = 0.964) (subgroup-level)	0.329
Gender of applicants (subgroup-level)	
Only male	0.382
Only female	0.227
Both genders	0.391
Educational level (subgroup-level)	
Lower	0.479
Higher	0.304
Unclear / both	0.218
Interpersonal skills required (subgroup-level)	
Less	0.237
More	0.140
Unclear / both	0.623

Note: $N_{subgroups} = 629$; $N_{studies} = 94$.

2.4.3. Descriptive findings on differences in discrimination rates across groups and countries

Before turning to the multivariate analysis, we first look at the descriptive findings on the discrimination rates of black, Muslim, and other minority groups by country (see also Table 2.4 and Table 2.5). For each specific racial or ethnic minority group, we calculated the discrimination rate by dividing the callback rate of majority candidates by the callback rates of candidates of that specific minority group. A value of 1 indicates equal treatment of minority and majority candidates, a (higher) value above 1 indicates (higher) discrimination against racial or ethnic minority groups, and a value under 1 indicates positive discrimination against minority groups. Subsequently, for black and non-black (respectively, Muslim and non-Muslim) minority groups separately, we averaged these discrimination rates per country. As a result, we obtain for each country an average discrimination rate for black and non-black and for Muslim and non-Muslim minority groups. Please note that these estimates are not adjusted for differences in characteristics of subgroups and studies (e.g. differences in the precision of estimates, occupations, design choices, research periods, etc.).

Table 2.4 provides the discrimination rates for black and non-black minority groups per country. Black minority groups have been studied in eight of the twenty countries (Austria, Belgium, Canada, France, Great Britain, Ireland, the Netherlands, and the United States).

We generally find higher discrimination rates for black minority groups compared to non-black minority groups: the overall discrimination rate is 1.9 for black minority groups and 1.7 for non-black minority groups. However, the difference in discrimination rate between black and non-black minority groups differs across countries and a clear relative disadvantage of black minority groups is only visible in four out of eight countries (Austria, France, Great Britain, Ireland).

We further observe that levels of discrimination against Black minority groups differ between countries. For example, in the four countries in which scholars examined Black Caribbean/West-Indian, Black Caribbean minorities face highest discrimination levels in France. Zooming in on the United States, we find relatively low discrimination rates against black minorities. Within the United States, too, no clear black-white boundary emerges, though this result is mainly due to one study on discrimination against a Muslim minority group (see also below). Excluding this study decreases the discrimination rate of non-black minority groups (Jewish and Latinos) to 1.2.

Table 2.4. Unadjusted discrimination rates for black and non-black minority groups per country

Country	Black groups		Non-black groups		Unclassified / both	
	Avg.	Groups (avg. per group)	Avg.	Groups (avg. per group)	Avg.	Groups
Austria	2.0	Nigerian (2.0)	1.4	Chinese (1.4), Serbian (1.3), Turkish (1.5)		
Belgium	1.3	Congolese (1.3)	1.4	Italian (1.3), Moroccan (1.5), Turkish (1.5)	1.4	Turkish + Moroccan + Slovakian + Ghanaian (1.4)
Canada	1.6	African (1.8), Black Caribbean/West-Indian (1.4)	1.6	British (1.3), Chinese (1.8), Greek (1.4), Indian (1.7), Latino (1.5), Middle Eastern/Arabic (1.3), Pakistani (2.1, White immigrant (1.3)		
France	2.9	Antillean (3.5), Senegalese (2.2)	2.3	Moroccan (2.9), North African (2.3), Vietnamese (1.6)	1.7	Foreign (1.7), North African + Sub-Saharan (1.6)
Great Britain	1.7	Black African (1.6), Black Caribbean (1.8)	1.6	Asian (1.7), Australian (1.1), Chinese (1.9), French (1.3), Indian (1.9), Pakistani (1.8)	1.3	Asian + Black Caribbean/West-Indian (1.5), Greek + Italian + Asian + Black Caribbean/West-Indian (1.1)
Ireland	2.4	African (2.4)	2.0	Asian (1.8), German (2.1)		
Netherlands	1.5	Antillean (1.7), Surinamese (1.3)	1.6	Middle Eastern/Arabic (2.9), Moroccan (1.3), Spanish (0.9), Hindustani Surinamese (1.5), Turkish (1.3)	1.3	Surinamese + Spain
United States	1.5	Black (1.5)	1.7	Jewish (1.1), Latino (1.2), Middle Eastern/Arabic (2.8)	1.2	Black + Latino (1.0), Black + Latino + Asian + Middle Eastern/Arabic (1.3), Foreign (1.2)
	1.9		1.7			

Note: Abbreviations: Avg. = Average discrimination rate per country, Avg. per group = Average discrimination rate for each specific minority group per country

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Table 2.5. Unadjusted discrimination rates for Muslim and non-Muslim minority groups per country

Country	Muslim		Non-Muslim		Unclassified / both	
	Avg.	Groups (avg. per group)	Avg.	Groups (avg. per group)	Avg.	Groups (avg. per group)
Australia	1.6	Middle Eastern/Arabic (1.6)	1.3	Chinese (1.7), Greek (1.1), Indigenous (1.3), Italian (1.1), Vietnamese (1.4)		
Austria	1.8	Nigerian (2.0), Turkish (1.5)	1.4	Chinese (1.4), Serbian (1.3)		
Belgium	1.5	Moroccan (1.5), Turkish (1.5)	1.3	Congolese (1.3), Italian (1.3)	1.4	Turkish + Moroccan + Slovakian + Ghanaian (1.4)
Canada	1.7	Middle Eastern/Arabic (1.3), Pakistani (2.1)	1.5	African (1.8), Black Caribbean/West-Indian (1.4), British (1.3), Chinese (1.8), Greek (1.4), Indian (1.7), Latino (1.5), White immigrant (1.3)		
Denmark	1.5	Middle Eastern/Arabic (1.5)				
France	2.6	Moroccan (2.9), North African (2.3), Senegalese (2.7)	2.1	Antillean (3.5), North African - non-Muslim (1.9), Senegalese - non-Muslim (1.3), Vietnamese (1.6)	1.7	Foreign (1.7), North African + sub-Saharan (1.6)
Germany	1.2	Turkish (1.2)				
Great Britain	1.8	Pakistani (1.8)	1.5	Asian (1.7), Australian (1.1), Asian + Black Caribbean/West-Indian (1.5), Black African (1.6), Black Caribbean (1.8), Chinese (1.9), French (1.3), Greek + Italian + Asian + Black Caribbean/West-Indian (1.1), Indian (1.9)		

Table 2.5. Continued

Country	Muslim		Non-Muslim		Unclassified / both	
Greece	1.6	Albanese (1.6)				
Italy	1.9	Albanese (1.9), Moroccan (1.8)	1.8	Chinese (2.0), German (1.5), Romanian (1.9)		
Netherlands	1.8	Middle Eastern/ Arabic (2.9), Moroccan (1.3), Turkish (1.3)	1.3	Antillean (1.7), Hindustan Surinamese (1.5), Spanish (0.9), Surinamese (1.3), Surinamese + Spain (1.3)		
Norway	1.3	Pakistani				
Spain	1.3	Moroccan (1.3)				
Sweden	1.6	Middle Eastern/ Arabic (1.6)				
Switzerland	1.4	Turkish (1.4)	1.4	Portuguese (1.1), Serbian (1.6)		
United States	2.8	Middle Eastern/ Arabic (2.8)	1.2	Black (1.5), Black + Latino (1.0), Jewish (1.1), Latino (1.2)	1.3	Black + Latino + Asian + Middle Eastern/ Arabic (1.3). Foreign (1.2)
	1.7		1.5			

Note: Abbreviations: Avg. = Average discrimination rate per country, Avg. per group = Average discrimination rate for each specific minority group per country.

Table 2.5 presents the observed discrimination rates for Muslim and non-Muslim minority groups per country. Muslim minority groups have been studied in 16 of the 20 countries in the data. In six countries (Denmark, Germany, Greece, Norway, Spain, and Sweden), researchers only investigated Muslim minority groups, making it impossible to discern between anti-Muslim bias and a general anti-minority group bias in these countries.

Across all countries, the discrimination rate of Muslim minority groups is slightly higher than that of other minority groups: the discrimination rate is 1.7 for Muslim minority groups and 1.5 for non-Muslim minority groups. However, the difference between these two groups is larger when looking exclusively at countries in which researchers studied both Muslim and non-Muslim minority groups. Within this group of 10 countries, the overall discrimination rate is 1.9 for Muslim minority groups and 1.5 for non-Muslim minority groups. Moreover, in nine of the ten of these countries, Muslim minorities tend to face higher levels of discrimination than other groups.

Next, there is some cross-national variation in the level of discrimination against Muslim minority groups. For instance, the discrimination rates of Moroccan minorities appear to be higher in France and Italy than in Belgium, the Netherlands, and Spain. As for Turkish minorities, we notice less pronounced differences across countries, however (i.e. Austria, Belgium, Germany, Netherlands, and Switzerland). Generally, Muslim minority groups were most likely to be discriminated against in France and in the United States, with discrimination rates of 2.6 and 2.8, respectively. The latter is surprising, though is important to emphasize that only one study investigated discrimination against Muslim minority groups in the United States.

2.4.4. Multivariate results

In Table 2.6, we show the extent to which discrimination rates vary between racial and ethnic minority groups and countries while accounting for the precision of discrimination estimates and the potentially biasing influence of other characteristics of studies and subgroups.[13] We conducted a meta-regression with robust variance estimation (Hedges, Tipton, and Johnson 2010) using the R-package "robumeta" (Fisher, Tipton, and Zhipeng 2017). In model 1 and model 2, we examine whether members of black and/or Muslim minority groups were more strongly affected by hiring discrimination than members of other minority groups. Whereas model 1 includes all subgroups, model 2 excludes subgroups and studies with 'unclassified' cases; that is, subgroups that could not be classified and mixed groups including black, non-black, Muslim, and non-Muslim minority groups. The exclusion

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13 Table A2.8 and Table A2.9 (in the Appendix) present the bivariate correlations between the logged discrimination ratio and the independent variables.

of these cases leads to a sharper contrast between subgroups with and without members of black and/or Muslim minority groups. Model 1 and 2 do not permit answering the question as to whether discrimination rates vary cross-nationally because the observed country differences could be biased by the different selections of racial and ethnic minority groups within countries. Therefore, in model 3 and 4, we only include black minority groups and Muslim minority groups, respectively.[14]

The first hypothesis expected that black minority groups face more employment discrimination than non-black minority groups. The results in model 1 indicate that the estimated discrimination ratio of black minority groups is higher than that of non-black minority groups. To put this in perspective, the intercept indicates that the discrimination ratio for non-black minority groups is 1.66 (e0.506), holding other variables at zero; the discrimination ratio for black minority groups would be 1.82 (e(0.506+0.095)). Also, in model 2 – which excludes 'unclassified cases' – we find that black minority groups face more discrimination than non-black minority groups. Hence, we find clear support for hypothesis 1.

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14 Robustness analyses in which we excluded "difficult-to-classify" minority groups (see Table A2.10 in the Appendix) led to the same substantial conclusions.

Table 2.6. Meta-regression results of log discrimination ratio predicted by black minority background, Muslim minority background, country, and controls

	Model 1 Full sample			Model 2 Full sample			Model 3 Black minority groups only			Model 4 Muslim minority groups only		
	Coef.		SE	Coef.		SE	Coef.		SE	Coef.		SE
Constant	0.506	***	0.129	0.532	***	0.129	1.460	***	0.430	0.360	*	0.157
Black minority background												
Non-black (ref.)												
Black	0.095	*	0.049	0.119	**	0.046						
Unclassified / both	-0.053		0.138									
Muslim minority background												
Non-Muslim (ref.)												
Muslim	0.066		0.054	0.062		0.049						
Unclassified / both	-0.005		0.129									
Country												
France (ref.)												
Australia	-0.158		0.131	-0.149		0.135				-0.039		0.279
Austria	-0.163		0.130	-0.179		0.139	-0.604	*	0.265	0.018		0.228
Belgium	-0.132		0.097	-0.104		0.116	-0.633	**	0.190	-0.051		0.159
Canada	-0.037		0.098	-0.015		0.119	-0.585	**	0.182	0.087		0.189
Czech Republic	0.169		0.161	0.157		0.166						
Denmark	-0.043		0.139	-0.012		0.142				-0.005		0.193
Finland	0.289	*	0.150	0.274		0.165						
Germany	-0.190		0.107	-0.152		0.118				-0.149		0.193
Great Britain	0.103		0.119	0.089		0.136	-0.553	**	0.189	-0.049		0.180
Greece	0.026		0.118	0.002		0.133				0.016		0.276
Ireland	0.060		0.148	-0.006		0.152	-0.556		0.380			
Italy	-0.128		0.178	-0.127		0.137				-0.118		0.249
Netherlands	-0.172		0.114	-0.105		0.130	-0.730	**	0.238	-0.115		0.187
Norway	-0.326	*	0.155	-0.366	**	0.161				-0.069		0.170
Poland	-0.331	*	0.175	-0.363	*	0.183						
Spain	-0.014		0.099	0.047		0.120				0.130		0.164
Sweden	-0.050		0.153	-0.062		0.148				0.056		0.177
Switzerland	-0.162		0.141	-0.105		0.148				-0.434		0.349
United States	-0.350	***	0.094	-0.336	***	0.102	-0.925	***	0.160	-0.115		0.183
Publication status												
Peer-reviewed (ref.)												
Government reports	0.026		0.113	-0.031		0.124	0.207		0.106	0.009		0.209
Unpublished work	-0.043		0.056	-0.063		0.057	-0.086		0.180	-0.036		0.112
Interactions with race-ethnicity	0.050		0.067	0.041		0.066	-0.065		0.215	0.175		0.111

Table 2.6. Continued

	Model 1 Full sample			Model 2 Full sample			Model 3 Black minority groups only			Model 4 Muslim minority groups only		
Scientific discipline												
Sociology (ref.)												
Economics	-0.161	**	0.071	-0.195	**	0.077	-0.342		0.228	-0.063		0.152
Criminology	0.168		0.140	0.104		0.156	0.013		0.146	0.290		0.236
Other disciplines	-0.232	**	0.107	-0.260	**	0.113	-0.610	**	0.224	-0.039		0.178
Experimental design												
Resume (ref.)												
In-person	0.078		0.087	0.066		0.100	0.094		0.075	-0.171		0.208
Both designs	-0.174		0.178	-0.514	**	0.181	-0.640	*	0.342	-0.286		0.288
Number of applications												
2 to 4 applicants (ref.)												
1 applicant	0.237	*	0.117	0.229	*	0.113	0.321		0.159	0.424	**	0.167
>4 applicants	0.223	**	0.101	0.231	*	0.107	-0.015		0.140	0.375	*	0.168
Research period												
2010-2018 (ref.)												
<2000	-0.048		0.092	-0.077		0.093	-0.079		0.110	0.198		0.227
2000-2004	0.161		0.119	0.139		0.121	0.075		0.111	0.390		0.340
2005-2009	0.048		0.061	0.043		0.063	-0.090		0.094	0.203		0.129
Demand for labor	-0.212	*	0.113	-0.159		0.131	-0.166		0.142	-0.216		0.219
Gender of applicants												
Only male (ref.)												
Only female	0.045		0.051	0.066		0.047	-0.011		0.059	0.123		0.081
Both genders	0.074		0.052	0.056		0.055	0.012		0.056	0.156		0.101
Educational level												
Lower (ref.)												
Higher	-0.074		0.053	-0.098		0.058	-0.120		0.103	-0.206	*	0.116
Unclassified / both	0.002		0.067	0.008		0.075	0.122		0.086	-0.087		0.127
Interpersonal skills required												
Less (ref.)												
More	0.088		0.063	0.115		0.067	0.314		0.229	-0.120		0.078
Unclassified / both	0.033		0.068	0.072		0.067	0.058		0.100	-0.067		0.093
Tau-squared	0.057			0.059			0.026			0.099		
Observations												
$N_{studies}$	94			88			36			51		
$N_{subgroups}$	629			562			112			298		

Note: In model 1, the dependent variable is the log discrimination ratio of all racial or ethnic minority groups. In model 2, the dependent variable is the log discrimination ratio of all racial or ethnic minority groups excluding unclassified/both minority groups. In model 3, the dependent variable is the log discrimination ratio of black minority groups. In model 4, the dependent variable is the log discrimination ratio of Muslim minority groups. (ref.) indicates the reference group for each moderator variable. $*p < 0.10$. $**p < 0.05$. $***p < 0.01$ (two-sided).

Next, model 3 includes only field experiments investigating discrimination against black minority groups to analyze variation in discrimination rates across countries. As is shown in Figure 2.4, compared to France, we find significantly lower discrimination levels in Great Britain, Canada, Austria, and Belgium. Yet, the lowest levels of discrimination are found in the Netherlands and the United States. Furthermore, discrimination rates in Ireland are not significantly lower than in France, though this might be due to low statistical power.[15] Hence, it appears that the highest levels of racial discrimination were detected in France.

Hypothesis 2 stated that discrimination against black minority groups would be higher in the United States than elsewhere. Unexpectedly, we find even significantly lower discrimination rates in the United States compared to the other countries (coef. = -0.366, 95% CI [-0.487, 0.245], table not shown). Consequently, we find no empirical support for hypothesis 2.

The third hypothesis predicted higher levels of discrimination against Muslim minority groups than other minority groups. In the descriptive analysis, we found some tentative evidence that Muslim minority groups face higher levels of discrimination. Here we investigate whether these differences in discrimination rates are significant while taking into account the precision of the discrimination ratio as well as other relevant characteristics of studies and subgroups.[16]Although the coefficient of having a Muslim minority background is positive in model 1 and model 2 – thus indicating higher levels of discrimination against Muslim minority groups – it is not statistically significant in either model. Therefore, we find no clear evidence that discrimination ratios are higher for Muslim minority groups than for non-Muslim minority groups.

To explore country differences in discrimination of Muslims, model 4 only include only Muslim groups. The findings are presented in Figure 2.5, which suggests that Muslim minority groups are rather similarly penalized in different national contexts. Additional analyses further reveal no significantly differences in the level of discrimination against Muslim minorities between the United States and the other countries (coef. = -0.121, 95% CI [-0.390, 0.148], table not shown).

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15 When using the United States as reference category, we do not find significant differences in discrimination rates between the United States and the Netherlands or Ireland.

16 Please note, too, that there is a certain overlap in the measurements for black minority background and Muslim minority background.

Figure 2.4. Country differences in the log discrimination ratio for black minority groups
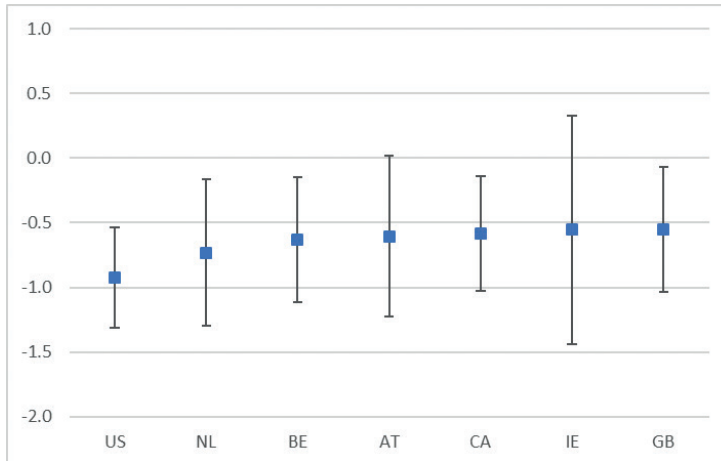
Note: This figure depicts the country differences in the log discrimination ratio for black minority groups (blue squares) based on Model 3 in Table 2.6. 95% confidence intervals are calculated. FR=France (reference category = 0), US=United States, NL=Netherlands, BE=Belgium, AT=Austria, CA=Canada, IE=Ireland, GB=Great Britain. Countries are sorted from the lowest to the highest estimate of the difference in the log discrimination ratio.

Figure 2.5. Country differences in the log discrimination ratio for Muslim minority groups
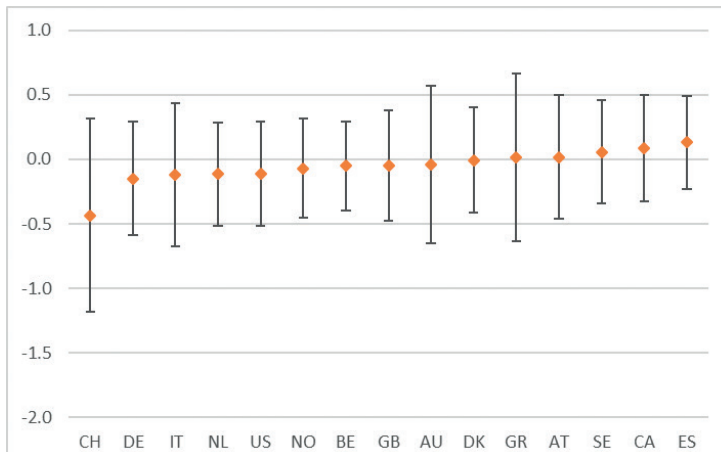
Note: This figure depicts the country differences in the log discrimination ratio for Muslim minority groups (orange diamonds) based on Model 4 in Table 2.6. 95% confidence intervals are calculated. FR=France (reference category = 0), CH=Switzerland, DE=Germany, IT=Italy, US=United States, NL=Netherlands, NO=Norway, BE=Belgium, GB=Great Britain, AU=Australia, DK=Denmark, AT=Austria, GR=Greece, SE=Sweden, CA=Canada, ES=Spain. Countries are sorted from the lowest to the highest estimate of the difference in the log discrimination ratio.

2.4.5. Other results

Although our main focus is on differences in discrimination rates between racial and ethnic minority groups and across countries, here we briefly discuss the impact of various other study and subgroup characteristics (see Table 2.6).

Like Zschirnt and Ruedin (2016), Quillian and colleagues (2017), and Heath & Di Stasio (2019), we find no clear and significant overall trends in discrimination rates over time. Furthermore, in contrast to Quillian and colleagues (2019), we observe no significant differences between field experiments that used a correspondence or in-person design. We also find no significant difference in discrimination rates between field experiments focusing primarily on the effect of race-ethnicity and those that investigated this in combination with other (experimental) characteristics.

We do find some evidence that field experiments carried out by sociologists and criminologists show higher levels of discrimination than field experiments carried out by other scientists (economics, scholars in other disciplines and interdisciplinary teams).

In addition, field experiments that used two to four fictitious applications per job opening generally report less discrimination than studies that applied with either one or more than four fictitious applicants per job opening.

Although it is often suggested that economic circumstances are important, Zschirnt and Ruedin (2016), Quillian and colleagues (2017), and Quillian and others (2019) find no moderation by the national economic situation (unemployment rate or annual growth in GDP) or unemployment rate at the metropolitan/regional-level. Using the callback rate of the majority candidate as a more direct indicator of the demand for work, we do find in our analysis of all 94 studies that hiring discrimination is negatively associated with labor shortages, suggesting lower discrimination levels when there is a strong demand for new employees.

Our findings suggest that race or ethnicity and gender do not interact with each other. This is at odds with the double burden hypothesis and the subordinate male target hypothesis that, respectively, argue that either racial and ethnic minority women or men are relatively more discriminated (Andriessen et al. 2012). Yet, it is important to note that many field experiments did not use a gender-balanced design (in which gender was independently randomized from other characteristics), making it impossible to draw firm conclusions here.

Overall, we also find no clear support for the idea that discrimination is lower for jobs requiring higher educational degrees (but see Quillian et al. 2019). Only in our separate analyses of Muslim minority groups, we observe less discrimination against candidates of Muslim minority groups in higher-skilled jobs (see model 4 in Table 2.6).

Finally, in contrast to the notion that minorities might face higher levels of discrimination in jobs requiring teamwork and client/customer contact (Becker

1957), we do not find any significant differences in discrimination rates between jobs requiring less or more interpersonal skills.

2.5.   Conclusion and discussion

Using meta-analysis, this chapter aimed to provide a systematic overview of the results of obtained in field experiments on hiring discrimination of racial and ethnic minorities in Western labor markets. An attempt was made to replicate, deepen and extend the findings of earlier meta-analyses (Quillian et al. 2017, 2019; Zschirnt and Ruedin 2016) in order to shed more light on the nature of, and the conditions that influence, racial and ethnic discrimination in hiring. Our analysis yields the following main findings.

First, in line with previous meta-analyses (Quillian et al. 2017, 2019; Zschirnt and Ruedin 2016), we find strong evidence for the existence of racial and ethnic discrimination in hiring. Analyzing a larger number of field experiments in a greater number of countries than previous meta-analyses, we show that majority candidates receive a callback that is 40% greater than for identically qualified minority candidates. Although we cannot rule out that our findings may be slightly affected by publication bias, this clearly illustrates that hiring discrimination is an important factor in shaping racial and ethnic disparities in the labor market.

Second, we find partial support for our expectations about differences in discrimination rates between racial and ethnic minority groups. We focused on two important dimensions of group boundaries (Alba 2005) – race and religion – and expected that black and Muslim minority groups would face relatively more discrimination than non-black and non-Muslim minority groups. In line with our expectation, we observe that the logged discrimination ratio of black minority groups is 0.095 higher than that of non-black minority groups. For example, when holding all other variables at zero, the multivariate analysis shows that if majority candidates receive a callback that is 66% greater than for identically qualified non-black minority candidates, this would mean a difference of 82% for black minority candidates. Whether due to structural (e.g. lingering histories of colonialism or institutionalized segregation) or psychological factors (e.g. higher visibility of skin color), these results indicate that in the initial stages of the recruitment process, black minority groups are systematically disadvantaged compared to identically qualified majority and other non-black minority group candidates.

On the other hand, our multivariate analysis provides no clear support that discrimination against Muslim minority groups is significantly higher than against non-Muslim minority groups. While this does not imply that Muslim minority groups do not face severe levels of discrimination in the labor market, it does show that, on average, they are not more strongly targeted than non-Muslim

minority groups that were examined in previous field experiments. Nevertheless, it is important to note the issue of group selectivity in field experiments: scholars typically investigate minority groups with a disadvantaged labor market position (Dancygier and Laitin 2014). Hence, we cannot exclude the possibility that Muslim minority groups are more discriminated than other minority groups that were not studied in field experiments.

Third, we explored variation in discrimination across countries. Comparing discrimination rates across countries is hindered not only by differences in study designs (which are included as control variables in our meta-analysis), but also by cross-national differences in the selection of examined minority groups. We therefore proposed that in order to make a more insightful cross-national comparison of discrimination rates than previous studies that included heterogenous groups (Quillian et al. 2019; Zschirnt and Ruedin 2016), it is essential to examine comparable minority groups in different countries. By conducting analyses including only black or Muslim minority groups, respectively (and comparing them to the racial-ethnic majority) we were able to test whether these minority groups face different levels of hiring discrimination in various national contexts, while controlling for relevant study and subgroup characteristics.

As for black minority groups, our results indicate some significant cross-national variation in discrimination rates. In particular, we find that black minority groups are least discriminated against in the United States (and to a lesser extent in the Netherlands) and most severely in France. In the meta-analysis of Muslim minority groups, however, we find little evidence for varying discrimination rates across countries, indicating that Muslim minority groups are similarly penalized in different national contexts. Against our expectations, though, our comparative analysis does not provide support for the idea of a highly salient racial boundary in the United States and a more prominent religious boundary in European countries (Alba and Foner 2015a). An open question is whether this lack of evidence is due to differences in practices in labor market and marriage market contexts, or perhaps that more theoretical attention should be given to other characteristics of racial and ethnic minority groups. More generally, these findings suggest that patterns of discrimination can be influenced by both the national context and the racial and religious backgrounds of minority groups.

Despite these insights, we acknowledge some limitations of this study. One limitation is that the generalizability of our findings is limited because the selection of racial and ethnic minority groups in field experiments is not random and typically consists of sizeable groups that suffer from socioeconomic disadvantages and frequently are at the center of political debates and decision-making (Dancygier and Laitin 2014). This could be a reason why we did not find significant differences between members of Muslim minority groups and those of other groups. To

address this issue, future research should examine more racial and ethnic minority groups with differing socioeconomic and cultural backgrounds. This would also allow to map cross-national discrimination patterns more accurately. Furthermore, an interesting next step for future research could be to look at changes in discrimination rates over time within countries and relate the between (cross-national) and within (over time) country variations to various indicators of intergroup competition (Dancygier and Laitin 2014), labor market institutions (Lancee 2016, 2019), integration regimes (Adida et al. 2016), long-term existential security (Inglehart 2018), or a society's legacy of colonialism or the slave trade (Pager and Shepherd 2008). Although this requires a high number of observations across countries and over time, it would greatly enrich our understanding of how structural factors might influence discrimination patterns, and perhaps explain why we find relatively low levels of racial discrimination in the United States and high levels in France (cf. Quillian et al. 2019).

In conclusion, this meta-analysis has shown that hiring discrimination is an important barrier to the integration of racial and ethnic minorities in the labor market. Not all minority groups face similar levels of discrimination, however. Black minority groups in particular are strongly affected by hiring discrimination. In addition, while discrimination rates of Muslim minority groups hardly vary cross-nationally, our findings do show cross-national variation in discrimination against black minority groups. Future research is strongly advised to pay more attention to differences between a wide range of racial and ethnic minority groups and countries in explaining hiring discrimination.

2.6.   Appendix

Table A2.7. List of 96 included field experimental studies

Authors / year of publication	Country	Year of data collection	Total number of applications sent
Abubaker and Bagley 2017	NL	2016	1453
Adida, Laitin, and Valfort 2010	FR	2009	542
Agan and Starr 2018	US	2015	14637
Agerström et al. 2012	SE	2007	5636
Akintola 2010	CA & SE	2009	4670
Allasino et al. 2004	IT	2003	1266
Amadieu 2004	FR	2004	516
Ameri 2014	US	2013	6016
Andriessen 2012	NL	2011	460
Andriessen et al. 2012	NL	2008	2680
Andriessen et al. 2015	NL	2014	504
Arai, Bursell, and Nekby 2016	SE	2006	566
Arrijn, Feld, and Nayer 1998	BE	1996	1742
Attström 2007	SE	2005	2862
Baert et al. 2017	BE	2015	768
Baert et al. 2015	BE	2011	752
Baert and Vujić 2016	BE	2014	1152
Bartoš et al. 2016	CZ	2012	274
Bendick, Jackson, & Reinoso, 1994	US	1992	564
Bendick, Jackson, Reinoso, & Hodges, 1991	US	1990	372
Bendick, Rodriguez, and Jayaraman 2010	US	2006	86
Bendick, 2007; Bendick et al., 1994	US	1991	298
Berk, 2009	US	2006	880
Berson, 2012	FR	2011	5000
Bertrand & Mullainathan, 2004	US	2001	4870
Birkelund, Heggebø, & Rogstad, 2017	NO	2012	1188
Birkelund, Rogstad, Heggebø, Aspøy, & Bjelland, 2014	NO	2012	1174
Birkelund, Chan, Ugreninov, Midtbøen, & Rogstad, 2018	NO	2011	900
Booth, Leigh, & Varganova, 2012	AU	2007	4210
Bovenkerk, 1977	NL	1976	556
Bovenkerk, Kilborne, Raveau, & Smith, 1979	FR + NL + GB	1975	1546
Bovenkerk, Gras, & Ramsoedh, 1995	NL	1994	2064

Table A2.7. Continued

Authors / year of publication	Country	Year of data collection	Total number of applications sent
Boyd-Swan & Herbst, 2017	US	2016	10986
Brown & Gay, 1995	GB	1984	1698
Bursell, 2007	SE	2006	3552
Bursell, 2014	SE	2006	3636
Busetta, Campolo, & Panarello, 2018	IT	2013	22000
Büyükbozkoyum, Stamatiou, & Stolk, 1991	NL	1990	84
Capéau, Eeman, Groenez, & Lamberts, 2012	BE	2010	1708
Carlsson, 2010	SE	2006	3942
Carlsson & Rooth, 2007	SE	2005	3104
Cediey & Foroni, 2008	FR	2005	4220
Dahl & Krog, 2018	DK	2015	800
Darolia, Koedel, Martorell, Wilson, & Perez-Arce, 2016	US	2013	8914
Dechief & Oreopoulos, 2011	CA	2010	7901
Decker, Ortiz, Spohn, & Hedberg, 2015	US	2012	3108
Deming, Yuchtman, Abulafi, Goldin, & Katz, 2016	US	2014	10492
Dirkzwager, Blokland, Nannes, & Vroonland, 2015	NL	2010	1152
Drydakis, 2012	GR	2008	1892
Drydakis & Vlassis, 2010	GR	2006	1578
Duguet, Leandri, L'Horty, & Petit, 2010	FR	2006	1097
Edo, Jacquemet, & Yannelis, 2017	FR	2011	3024
Eid, 2012	CA	2010	1162
Esmail & Everington, 1993	GB	1992	46
Esmail & Everington, 1997	GB	1997	100
Fibbi, Kaya, & Piguet, 2003; Fibbi, Lerch, & Wanner, 2007	CH	2001	3276
Firth, 1981	GB	1977	1974
Gaddis, 2015	US	2011	1904
Galgano, 2009	US	2008	600
Goldberg, Mourinho, & Kulke, 1995	DE	1994	3452
Haute Autorité de Lutte contre les Discriminations et pour l'Egalité, 2006	FR	2006	120
Henry & Ginzberg, 1985	CA	1984	1350
Hubbuck & Carter, 1980	GB	1978	483

Table A2.7. Continued

Authors / year of publication	Country	Year of data collection	Total number of applications sent
Jacquemet & Yannelis, 2012	US	2009	330
Jolson, 1974	US	1973	300
Jones, 2013	FR	2010	441
Kaas & Manger, 2012	DE	2007	1056
Kenney & Wissoker, 1994	US	1989	720
Kleykamp, 2009	US	2008	934
Larja et al., 2012; Liebkind, Larja, & Brylka, 2016	FI	2011	1690
Lodder, McFarland, & White, 2003	US	2001	692
McGinnity & Lunn, 2011	IE	2008	480
McIntosh & Smith, 1974	GB	1973	518
McIntyre, Moberg, & Posner, 1980	US	1979	1374
Midtbøen, 2016	NO	2009	1800
Newman, 1978	US	1977	414
Nunley, Pugh, Romero, & Seals, 2015	US	2013	9396
Oreopoulos, 2011	CA	2008	12910
Pager, 2003	US	2001	700
Pager, Bonikowski, & Western, 2009	US	2004	1020
Pedulla, 2014, 2018	US	2012	4822
Petit, Duguet, L'Horty, Parquet, & Sari, 2011	FR	2009	2424
Pierné, 2013	FR	2011	1800
Pierné, 2018	FR	2011	1204
Prada, Actis, Pereda, & Pérez Molina, 1996	ES	1994	1104
Riach & Rich, 1991	AU	1985	1038
Schneider, Yemane, & Weinmann, 2014	DE	2014	3376
Turner, Fix, and Struyk 1991	US	1990	952
Uggen, Vuolo, Lageson, Ruhland, & Whitham, 2014	US	2007	598
Van den Berg, Blommaert, Bijleveld, & Ruiter, 2017	NL	2013	520
Weichselbaumer, 2017	AT	2012	2142
Weichselbaumer, 2016	DE	2014	1474
Wells, 2013	US	2007	60
Widner & Chicoine, 2011	US	2008	530
Wood, Hales, Purdon, Sejersen, & Hayllar, 2009	GB	2008	2961
Wysienska-Di Carlo & Karpinski, 2014	PL	2013	1768

Table A2.8. Bivariate correlations between log discrimination ratio and key predictor variables

	Coef.	SE
Black minority background		
Non-black (ref.)		
Black	-0.109*	0.060
Unclassified / both	-0.091	0.062
Muslim minority background		
Non-Muslim (ref.)		
Muslim	0.152***	0.048
Unclassified / both	0.087	0.051
Country		
France (ref.)		
Australia	-0.259*	0.079
Austria	-0.119*	0.055
Belgium	-0.183**	0.061
Canada	-0.161	0.100
Czech Republic	0.289***	0.055
Denmark	-0.145**	0.055
Finland	0.150**	0.055
Germany	-0.306**	0.094
Great Britain	-0.091	0.079
Greece	-0.046	0.075
Ireland	0.197**	0.055
Italy	-0.045	0.193
Netherlands	-0.271**	0.091
Norway	-0.202**	0.060
Poland	-0.291***	0.055
Spain	-0.184**	0.055
Sweden	-0.071	0.111
Switzerland	-0.127*	0.055
United States	-0.368***	0.069
Observations		
$N_{studies}$	94	
$N_{subgroups}$	629	

Note: The dependent variable is the log discrimination ratio of all racial or ethnic minority groups. (ref.) indicates the reference group for each moderator variable. *p < 0.10. **p < 0.05. ***p < 0.01 (two-sided).

Table A2.9. Bivariate correlations between log discrimination ratio and subgroup-level and study-level predictor variables

	Coef.	SE
Publication status		
Peer-reviewed (ref.)		
Government reports	-0.037	0.055
Unpublished work	-0.068	0.060
Interactions with race-ethnicity	0.099*	0.057
Scientific discipline		
Sociology (ref.)		
Economics	-0.065	0.068
Criminology	0.244	0.160
Other disciplines	-0.026	0.066
Experimental design		
Resume (ref.)		
In-person	-0.051	0.054
Both designs	-0.197	0.086
Number of applications		
2 to 4 applicants (ref.)		0.026
1 applicant	0.164	0.117
>4 applicants	0.284***	0.062
Research period		
2010-2018 (ref.)		
<2000	-0.165***	0.059
2000-2004	0.035	0.092
2005-2009	0.056	0.058
Demand for labor	-0.148	0.102
Gender of applicants		
Male (ref.)		
Female	-0.007	0.067
Both genders	-0.000	0.051
Educational level		
Lower (ref.)		
Higher	-0.044	0.069
Unclear / both	0.031	0.056
Relational skills required		
Less (ref.)		
More	-0.007	0.070
Unclear / both	-0.073	0.062
Observations		
$N_{studies}$	94	
$N_{subgroups}$	629	

Note: (ref.) indicates the reference group for each moderator variable. *p < 0.10. **p < 0.05. ***p < 0.01 (two-sided).

Table A2.10. Results of the robustness analysis excluding difficult-to-classify minority groups

	Model 1 Full sample		Model 2 Full sample		Model 3 Black minority groups only		Model 4 Muslim minority groups only	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Constant	0.501 ***	0.130	0.527 ***	0.130	1.490 ***	0.460	0.343 *	0.159
Black minority background								
Non-black (ref.)								
Black	0.085	0.054	0.109 **	0.052				
Unclassified / both	-0.057	0.141						
Muslim minority background								
Non-Muslim (ref.)								
Muslim	0.062	0.061	0.058	0.056				
Unclassified / both	-0.007	0.130						
Country								
France (ref.)								
Australia	-0.161	0.133	-0.151	0.137			-0.018	0.277
Austria	-0.216	0.135	-0.226	0.144			-0.076	0.247
Belgium	-0.128	0.098	-0.098	0.116	-0.701 ***	0.172	-0.004	0.161
Canada	-0.041	0.101	-0.017	0.121	-0.773 **	0.221	0.095	0.193
Czech Republic	0.175	0.169	0.165	0.174				
Denmark	-0.054	0.146	-0.023	0.147			-0.035	0.220
Finland	0.279 *	0.154	0.260	0.169				
Germany	-0.189	0.107	-0.147	0.116			-0.103	0.192
Great Britain	0.102	0.119	0.088	0.134	-0.642 **	0.182	-0.032	0.179
Greece								
Ireland	0.060	0.149	-0.010	0.152	-0.679	0.393		
Italy	-0.132	0.178	-0.132	0.133			-0.161	0.304
Netherlands	-0.162	0.116	-0.091	0.130	-0.837 **	0.308	-0.078	0.202
Norway	-0.326 *	0.155	-0.368 **	0.160			-0.050	0.165
Poland	-0.334 *	0.175	-0.367 *	0.183				
Spain	-0.009	0.100	0.057	0.119			0.193	0.196
Sweden	-0.050	0.154	-0.063	0.149			0.070	0.186
Switzerland	-0.174	0.142	-0.114	0.149			-0.484	0.391
United States	-0.344 ***	0.096	-0.328 ***	0.103	-0.987 ***	0.149	-0.097	0.189
Tau-squared	0.057		0.059		0.032		0.114	
Observations								
$N_{studies}$	92		86		34		48	
$N_{subgroups}$	607		540		107		279	

Note: In model 1, the dependent variable is the log discrimination ratio of all racial or ethnic minority groups. In model 2, the dependent variable is the log discrimination ratio of all racial or ethnic minority groups excluding unclassified/both minority groups. In model 3, the dependent variable is the log discrimination ratio of black minority groups. In model 4, the dependent variable is the log discrimination ratio of Muslim minority groups. (ref.) indicates the reference group for each moderator variable. All models control for publication status, interactions with race-ethnicity, scientific discipline, experimental design, number of fictitious applicants, research period, demand for labor, gender of applicants, educational level, and interpersonal skills. *p < 0.10. **p < 0.05. ***p < 0.01 (two-sided)

Chapter 3.

Racial and ethnic discrimination in the Dutch labor market: Differences between racial-ethnic minority groups and the role of personal information about job applicants[17]

Abstract

In this study, we present the results of a large-scale field experiment on racial and ethnic discrimination in the Dutch labor market. We sent fictitious job applications (N = 4,211) to vacancies for jobs in ten different occupations in the Netherlands. By examining 35 different racial-ethnic minority groups, we detect considerable differences in discrimination rates between Western (discrimination rate 1.2) and non-Western minorities (discrimination rate 1.4). Furthermore, we find little systematic variation in discrimination with regard to gender, regions, and occupations, pointing to the existence of a racial-ethnic hierarchy that is widely shared among employers. Finally, we do not find empirical support for the hypothesis that adding personal information in job applications reduces discrimination.

3.1. Introduction

The Dutch labor market is characterized by persistent inequalities between racial and ethnic groups. Compared to people with a native-majority background, people with a migrant background are more often unemployed (see Table 3.1), work more often in the lower segments of the labor market, and have a lower income (Huijnk and Andriessen 2016). Various explanations have been suggested to explain these inequalities, such as differences in human resources, cultural resources, and social resources (Gracia et al. 2016; Koopmans 2016; Lancee 2010; Van Tubergen et al. 2004). A fourth explanation that receives much scholarly attention is employment discrimination (Gaddis 2018): that is, employers' systematic preferences for candidates with a native-majority background.

Table 3.1. Unemployment rate by age group and migrant origin in the Netherlands in 2017

Migrant origin	Age group 15–75			Age group 15–25		
	UE [a]	Abs. Δ [b]	Ratio [c]	UE [a]	Abs. Δ [b]	Ratio [c]
Native-majority	3.9			7.2		
Migrant origin	8.5	-4.6	2.2	14.9	-7.7	2.1
Western migrant origin	5.7	-1.8	1.5	11.2	-4.0	1.6
Non-Western migrant origin	11.1	-7.2	2.8	16.8	-9.6	2.3
Moroccan origin	11.3	-7.4	2.9	16.0	-8.8	2.2
Turkish origin	9.6	-5.7	2.5	16.5	-9.3	2.3
Surinamese origin	11.1	-7.2	2.8	18.9	-11.7	2.6
Antillean origin	13.7	-9.8	3.5	19.9	-12.7	2.8
Other non-Western migrant origin	11.2	-7.3	2.9	15.9	-8.7	2.2

Note: [a] UE: registered unemployment rate (in percentages). [b] Absolute difference in unemployment rates (in percentage points) between the native-majority population and the population with a (specific) migrant origin. [c] The ratio of the unemployment rate (in percentages) of the native-majority population to that of the population with a (specific) migrant origin. Source: CBS, 2017

Racial and ethnic discrimination occurs when people with a migrant background are systematically less likely to find a job than people with a native-majority background, despite being equally qualified and in comparable circumstances (cf. Bertrand and Duflo 2017). Racial and ethnic discrimination is difficult to observe, mainly because it is difficult to ascertain whether employers treat racial-ethnic minorities differently because of their ethnic origin or because of differences in other (productivity-relevant) characteristics (Bertrand and Duflo 2017). Therefore,

more and more researchers have been using experimental designs to assess discrimination. Indeed, experimental research designs make it possible to compare the employability of equally qualified applicants who differ only with regard to their ethnic background. Accordingly, the difference in callback rates between racial-ethnic groups gives a clear indication of the extent to which racial-ethnic minorities are discriminated against.

In contrast to laboratory or survey experiments, field experiments allow the examination of the causal effect of race-ethnicity on labor market outcomes in real hiring situations. There are two types of field experiments: the in-person audit and the correspondence test (Pager 2007). In in-person audits, actors apply for real job openings (face-to-face or by telephone). In correspondence tests, fictitious applicants apply with cover letters and CVs. A special variant of the correspondence test is an online CV test in which researchers do not directly apply for job openings, but, instead, fictitious CVs are uploaded to online job portals.

In both the Netherlands (see also Table 3.2) and other countries, an increasing body of research has studied racial and ethnic discrimination in hiring using in-person audits and correspondence tests (Bertrand and Duflo 2017; Neumark 2018; Quillian et al. 2017; Zschirnt and Ruedin 2016). Table 3.2 provides, to the best of our knowledge, an overview of all field experiments on racial and ethnic discrimination in the Dutch labor market. Please note, however, that there are major methodological differences between studies, for example, with regard to the racial-ethnic minority groups or occupations included, the proportion of male or female applicants, design choices (in-person audit or correspondence test), research sample (newspaper advertisements or online job portals), and study size. We therefore highlight several influential studies.

Table 3.2. Overview of field experiments on racial and ethnic discrimination in the Dutch labor market

Publication	Research design	Minority groups	Gender [a]	Target population	Observations (n) [b]	Discrimination?	Discrimination ratio [c d]
Bovenkerk, 1977	In-person audit+ correspondence test	Surinamese origin, Spanish origin	Male + Female	Newspaper advertisements	556	Yes	1.3 (gen.)
Büyükbozkoyum, Stamatiou, & Stolk, 1991	Correspondence test	Turkish origin	Male	Newspaper advertisements	84	No	0.9 (gen.)
Bovenkerk, Gras, & Ramsoedh, 1995	In-person audit+ correspondence test	Moroccan origin, Surinamese origin	Male + Female	Newspaper advertisements	554 (study 1) + 598 (study 2)	Yes	1.3 (MOR) 1.3 (SUR)
Dolfing & Van Tubergen, 2005	In-person audit	Moroccan origin	Male + Female	Internships	336	Yes	-
Derous, 2007	Correspondence test	Moroccan origin	Male + Female	-	744	Yes	-
Altintas, Maniram, & Veenman, 2009	Correspondence test + online cv-test	Moroccan origin, Chinese origin	Male	Newspaper advertisements + Online job portals + Online CV database	468 (study 1) + 665 clicks (study 2)	No	-
Andriessen, Nievers, Faulk, & Dagevos, 2010 / Andriessen, Nievers, Dagevos, & Faulk, 2012	Correspondence test + in-person audit	Moroccan origin, Turkish origin, Surinamese origin, Antillean origin	Male + Female	Online job portals	2,680	Yes	1.2 (men.) 1.1 (MOR) 1.2 (TUR) 1.2 (SUR) 1.2 (ANT)

Table 3.2. Continued

Publication	Research design	Minority groups	Gender [a]	Target population	Observations (n) [b]	Discrimination?	Discrimination ratio [c d]
Andriessen, 2012	Correspondence test + in-person audit	Moroccan origin, Turkish origin, Surinamese origin, Antillean origin	Male + Female	Employment agencies + Online job portals	263 (study 1) + 460 (study 2)	Yes	1.6 (gen.) 1.1 (MOR) 1.8 (TUR) 1.6 (SUR) 2.1 (ANT)
Derous, Ryan, & Nguyen, 2012	Correspondence test	Arabic origin	Male + Female	-	768	Yes	-
Blommaert, Coenders, & Van Tubergen, 2014	Online cv-test	Moroccan origin	Male + Female	Online CV database	636	Yes	1.5 (gen.)
Andriessen, Van der Ent, Van der Linden, & Dekker, 2015	Correspondence test	Moroccan origin, Surinamese Hindustani origin	Male + Female	Online job portals	528 (study 1) + 436 (study 2)	Yes	1.8 (MOR) 1.5 (SUR)
Dirkzwager, Blokland, Nannes, & Vroonland, 2015	Correspondence test	Non-Western migrant origin	Male	Online job portals	1,152	Yes	1.8 – 2.1 (gen.)
Panteia, 2015	Online cv-test	Moroccan origin, Turkish origin, Surinamese origin, Antillean origin, Polish origin	Male	Online CV database	1,346	Yes	2.0 (MOR) 2.2 (TUR) 1.9 (SUR) 1.8 (ANT) 2.0 (POL)
Abubaker & Bagley, 2017	Correspondence test	Arabic origin	Male	Online job portals	430	Yes	1.3 (alg.)
Van den Berg, Blommaert, Bijleveld, & Ruiter, 2017	Correspondence test	Non-Western migrant origin	Male	Online job portals	520	Yes	3.0 – 5.0 (gen.)

Table 3.2. Continued

Publication	Research design	Minority groups	Gender [a]	Target population	Observations (n) [b]	Discrimination?	Discrimination ratio [c,d]
Thijssen, Coenders & Lancee, 2019	Correspondence test	35 Western and non-Western migrant origin groups, including: Moroccan origin, Turkish origin, Polish origin, Bulgarian origin	Male + Female	Online job portals	4,211	Yes	1.3 (gen.) 1.2 (W) 1.4 (NW) 1.5 (MOR) 1.4 (TUR) 1.2 (POL) 1.3 (BUL)

[a] Please note that in case researchers applied with male and female candidates this does not necessarily indicate that a balanced experimental design was used. In a balanced experimental design, gender is randomly assigned to job applications. However, in many field experiments researchers used an unbalanced experimental design in which, for example, male candidates applied only for jobs in manufacturing or construction and female candidates applied only for jobs in health care or education.

[b] Unless indicated otherwise, N refers to the number of fictitious applications sent

[c] The discrimination ratio per group is calculated by dividing the callback rate of native-majority candidates by the callback rate of candidates with a migrant origin. Unfortunately, not all studies provided enough information to calculate the discrimination ratio. For several studies, it was possible to calculate a discrimination ratio per origin group investigated. Please note that there are major methodological differences between studies with regard to the racial-ethnic minority groups or occupations included, the proportion of male or female applicants, design choices (in-person audit or correspondence test), research sample (newspaper advertisements or online job portals), study size, et cetera.

[d] Abbreviations: - = none or insufficient information available, gen. = all minority groups, MOR = Moroccan origin, TUR = Turkish origin, SUR = Surinamese origin, ANT = Antillean origin, POL = Polish origin, BUL = Bulgarian origin, W = Western migrant origin, NW = Non-Western migrant origin.

In the Netherlands, pioneering work has been carried out by Bovenkerk and his colleagues. Using both in-person audits and correspondence tests, they demonstrated that the likelihood of receiving a positive response from an employer was about 30 percent lower for applicants with a Moroccan, Spanish, or Surinamese background, compared to that of applicants with a native-majority background, in the 1970s and 1990s (Bovenkerk 1977; Bovenkerk et al. 1995). More recently, field experiments conducted by The Netherlands Institute for Social Research found evidence that both employers (Andriessen et al. 2010, 2012, 2015) as well as employment agencies (Andriessen 2012) hold a strong preference for candidates of native-majority origin over candidates with a migrant background: the likelihood that a candidate with a native-majority background was contacted was 20 to 80 percent greater than that for someone with a non-Western migration background. One last interesting example is a study by Blommaert, Coenders, and Van Tubergen (2014), who placed profiles of fictitious job seekers (with typical Dutch or Moroccan names) on online job portals (see also Altintas et al. 2009; Panteia 2015). This enabled the authors to analyze two outcomes: (1) whether or not employers viewed the full profile of a fictitious job seeker and (2) whether or not the job seeker was approached by an employer. Discrimination was found to occur mainly in the first phase of the hiring process. Profiles of job seekers with a Moroccan name were viewed 50 percent less often than profiles with a typical Dutch name and were 60 percent less likely to be approached by an employer.

In this study, we present the results of a new large-scale correspondence test on racial and ethnic discrimination in the Dutch labor market (Lancee 2019; see also Lancee, Birkelund, Coenders, Di Stasio, Fernández Reino, Heath, Koopmans, Larsen, Polavieja, Ramos, Thijssen, et al. 2019). We focus on the employment opportunities of young job seekers (aged 23–25) with relatively little work experience (± 4 years). A practical argument for this choice was related to the difficulty of creating realistic careers for older job seekers. A theoretical argument for investigating this relatively young population is that various studies (Blau and Duncan 1967; Luijkx and Wolbers 2009) show that the start of a person's career is a critical moment, with potentially lasting (negative) consequences for one's future employment prospects, thereby stressing the importance of gaining more insight into the social barriers of people at the start of one's career. All in all, we contribute to the existing literature on racial and ethnic discrimination in hiring in three ways.

One important contribution is the scale of this field experiment. Indeed, previous field experiments were restricted to studying either male or female candidates, a small number of occupations, or a limited number of regions. In the current study, we sent 4,211 applications (between November 2016 and April 2018) of both male and female fictitious job candidates to job openings in ten different

occupations advertised by organizations located throughout the Netherlands. Existing research provides mixed evidence as to whether discrimination primarily affects male or female candidates with a migrant background, and whether discrimination might vary across occupations and regions (Andriessen et al. 2012; Blommaert 2013; Midtbøen 2016; Zschirnt 2019b).[18] We conducted a large-scale field experiment to examine more accurately whether and to what extent discrimination patterns vary by gender, occupation, or region.

A second innovation of this study is investigating the extent to which levels of discrimination vary between racial-ethnic minority groups. So far, most field experiments have included only one or two racial-ethnic minority groups, and only a small number of field experiments investigated three or more minority groups simultaneously (see Table 3.2). This is a major shortcoming for two reasons. First, this approach does little justice to the great and increasing diversity of the population with a migrant background in the Dutch society (Jennissen et al. 2018). Second, research has yet to examine whether discrimination affects all racial and ethnic minority groups equally. In their study among the four largest groups with a non-Western migrant background, Andriessen et al. (2012) find no systematic group differences in the level of discrimination and, accordingly, concluded that employers do not distinguish between racial-ethnic minority groups in hiring decisions. It is, however, an open question as to whether this conclusion also holds for racial and ethnic minority groups with great variations in migrant backgrounds. For example, Table 3.1 shows that individuals with a Western migration background are more often unemployed than individuals with a native-majority background but less often unemployed than those with a non-Western migration background. This raises the question as to whether employers offer certain racial-ethnic groups more employment opportunities than others. Therefore, we study the relative chances of a high number of racial-ethnic groups with various backgrounds, namely 35 groups in total. We thereby focus not only on the "classical" racial-ethnic minority groups that have been frequently associated with socioeconomic disadvantages in the Netherlands. Rather, we also focus on smaller, perhaps more positively stereotyped minority groups, which are generally better integrated into the Dutch labor market. As a consequence, this multigroup approach enables us to determine whether racial and ethnic discrimination is directed towards all racial-ethnic minority groups (Edo et al. 2019; Jacquemet

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18 Discrimination is more likely to occur in jobs requiring fewer educational skills or requiring more interpersonal skills, or in jobs where employers have a wider choice of applicants and can be more selective in hiring decisions (Andriessen et al. 2012; Mergener and Maier 2019; Midtbøen 2016). In addition, the demographic and socioeconomic conditions of a region could be important because of the regional labor market conditions, the possibilities for (positive) inter-ethnic contact, or the visibility of cultural differences (Blommaert 2013). A rigorous empirical assessment of each of these explanations falls outside the scope of this chapter, however.

and Yannelis 2012) or if certain racial-ethnic minority groups are more targeted by employment discrimination than others (Hagendoorn 1995).

The final contribution of our study is our focus on considering why job seekers with a migrant background are discriminated against in the labor market. We concentrate specifically on the effect of personal information on racial and ethnic discrimination. Theorists have suggested that a lack of relevant personal information in job applications is an important reason why employers discriminate on the basis of ethnic origin (Arrow 1973; Phelps 1972). However, it has often been expected that adding personal information should reduce information uncertainties and, in turn, reduce discrimination against racial and ethnic minorities (Neumark 2018). So far, however, only a few studies have tested this hypothesis using field experimental designs and, moreover, they have produced mixed results (Agerström et al. 2012; Andriessen et al. 2010; Kaas and Manger 2012; Koopmans et al. 2018). In this study, we contribute to the literature by investigating whether racial and ethnic minorities face lower levels of discrimination when candidates add more information about their hard and soft skills in their CVs and cover letters.

In summary, previous research has shown that applicants with a migrant background face severe levels of discrimination in the Dutch labor market. The aim of this study is twofold: it seeks to obtain a better understanding as to whether some racial-ethnic minority groups are more discriminated against than others, and it also examines whether racial and ethnic discrimination is affected by the amount of individual information in job applications. Our research questions are as follows: *(1) To what extent does racial and ethnic discrimination vary between different racial-ethnic minority groups?* and *(2) To what extent does racial and ethnic discrimination decrease when more individual information is available?*

3.1.   Theory

3.1.1.   Does racial-ethnic discrimination vary across minority groups?

In the literature, there are two theories that provide an answer to the question as to whether discrimination rates differ across racial-ethnic minority groups: racial-ethnic homophily theory and racial-ethnic hierarchy theory.

Racial-ethnic homophily theory assumes that racial and ethnic discrimination is directed against all racial-ethnic minority groups and is strongly driven by ingroup preferences (Edo et al. 2019; Jacquemet and Yannelis 2012). This theory is closely linked to a long research tradition in psychology based on social categorization and minimal group effects (Dovidio and Gaertner 2010; Fiske 1998; Greenwald and Pettigrew 2014). The principle of social categorization involves the idea that people do not only categorize objects but also individuals almost automatically and rapidly into categories in order to make a complex world

understandable (Fiske 1998). People make a distinction between individuals who belong to the ingroup (their own racial-ethnic group) or the outgroup (a different racial-ethnic group). Research shows that social categorization mostly results in a strong ingroup bias (Dovidio and Gaertner 2010; Fiske 1998; Greenwald and Pettigrew 2014). People overestimate the individual differences between in- and outgroups, while simultaneously overestimating the similarities between individuals within groups as well (especially within outgroups). Social categorization also influences the ways in which people process group information – that is, new information about the ingroup is processed more easily than information about an outgroup. This tendency also explains why people feel more familiar and socially connected with people from their ingroup.

Psychological research shows that social categorization plays an important role in processes of social exclusion and discrimination (Greenwald and Pettigrew 2014; Tajfel 1982; Tajfel and Turner 1986). For example, so-called minimal group experiments have shown that people who were randomly assigned to groups on the basis of arbitrary criteria in allocation experiments nevertheless allocated more resources to individuals from the ingroup than to those belonging to the outgroup. This is a tendency that has been observed even when participants did not benefit personally from this decision or when they were informed about the random assignment to groups. Based on these insights, racial-ethnic homophily theory expects that discrimination arises primarily because of people's psychological tendency to make explicit distinctions between the ingroup and outgroups.

Despite the fact that the minimal group experiments have been replicated (successfully) countless times in laboratory experiments (Greenwald and Pettigrew 2014), research to date has paid little attention to the role of ingroup preferences in explaining racial and ethnic discrimination in the labor market. An exception is the work of Jacquemet, Yannelis, and Edo, in which they compared levels of discrimination against more established racial and ethnic minority groups and a fictive minority group, which had no clear connotation with an existing racial and ethnic group. Both in France and in the United States (Edo et al. 2019; Jacquemet and Yannelis 2012), no significant differences were found in the extent to which these different minority groups were discriminated against in hiring, supporting the claim that the specific racial or ethnic origin and the reputation of a group make little difference in hiring decisions. Thus, employers would mainly have a strong preference for a candidate from the ingroup. In summary, following racial-ethnic homophily theory, it can be expected that employers have a stronger preference for applicants with a native-majority background than for applicants with a migrant background because they have more trust in and identify more strongly with members of their own racial-ethnic group.

Racial-ethnic hierarchy theory (Hagendoorn 1995; Sidanius and Pratto 1999; Snellman and Ekehammar 2005) assumes that members of racial and ethnic groups have specific preferences with regard to engaging in social contact with members of other groups (e.g., in relationships, in the neighborhood, or at work). In accordance with racial-ethnic homophily theory, it is postulated that people have a clear preference for the ingroup. Importantly, however, racial-ethnic hierarchy theory also assumes that a widely accepted hierarchy of racial and ethnic groups exists in societies (Hagendoorn 1995). The position of racial and ethnic minority groups depends on their socioeconomic status and the degree to which minority groups deviate culturally from the dominant native-majority population. It follows that minority groups that deviate more strongly socioeconomically or culturally from the native-majority will be stereotyped more negatively and, in turn, face higher levels of social exclusion and discrimination.

So far, however, a limited number of studies have examined variations in discrimination rates between racial and ethnic minority groups. Importantly, these studies find less convincing evidence than studies on people's attitudes towards racial-ethnic minorities (Hagendoorn 1995; Snellman and Ekehammar 2005) and studies on perceived discrimination (Andriessen et al. 2014; McGinnity and Gijsberts 2016). For example, studies in Canada (Oreopoulos 2011), Ireland (McGinnity and Lunn 2011), and the United Kingdom (Wood et al. 2009) find no significant differences between racial-ethnic minority groups, whereas studies in Australia (Booth et al. 2012), Austria (Weichselbaumer 2017), Finland (Ahmad 2019), Germany (Koopmans et al. 2018), Russia (Bessudnov and Shcherbak 2019), and Switzerland (Zschirnt 2019b) do find empirical support for the existence of racial-ethnic hierarchies in the labor market.

The picture that emerges in Dutch research indicates that racial-ethnic minority groups are equally affected by employment discrimination. Andriessen et al. (2012) observe similar levels of discrimination against fictitious applicants of Moroccan, Turkish, Surinamese, and Antillean origin. Panteia (2015) investigated employers' interest in the CVs of fictitious candidates with native Dutch, Antillean, Surinamese, Moroccan, Turkish, and Polish backgrounds uploaded to online job portals. This study demonstrated that employers clicked, on average, more often on candidates with a native-majority background, but it also found minimal differences between racial-ethnic minority groups.

It is difficult to say why some studies – especially those conducted outside the Netherlands – observe significant differences between racial and ethnic minority groups, and others do not find group differences. Possibly, these differing outcomes could be due to the number of observations per group or the selection of racial and ethnic minority groups. For example, studies with a lower number of observations or limited variation in the socioeconomic or cultural backgrounds of

minority groups may be less likely to identify group variations in discrimination rates. Therefore, we conducted a large-scale field experiment to assess the level of discrimination against minority groups with various cultural and socioeconomic backgrounds and included 35 different racial-ethnic minority groups.

Based on these two theories and the inconsistent findings in the literature, we formulate two rival hypotheses: (H1a) *Job applicants with migrant origins are equally discriminated against in the Dutch labor market* (racial-ethnic homophily hypothesis). The second hypothesis, however, predicts that: (H1b) *Job applicants with a migrant origin are not equally targeted by employment discrimination; the more that the migrant group deviates culturally or socioeconomically from the native-majority population, the higher the level of discrimination* (racial-ethnic hierarchy hypothesis).

3.1.2.   Do information uncertainties lead to racial-ethnic discrimination in hiring?

Statistical discrimination theory argues that discrimination is mainly the result of information uncertainties in the hiring process (Arrow 1973; Phelps 1972). Employers experience uncertainty because they have to make important hiring decisions on the basis of very limited amounts of information in CVs and cover letters within a short period of time. To avoid making wrong hiring decisions, they use group information to better assess the qualities and motivation of individual job applicants. Because employers believe that racial and ethnic minorities are, on average, less productive than the native-majority population, they therefore opt to hire native-majority candidates.

According to statistical discrimination theory, insufficient productivity-relevant information is a main reason why employers discriminate on the basis of ethnic origin (Bertrand and Duflo 2017; Neumark 2018). Several scholars tested this idea by assessing whether discrimination is higher when employers have less information about the productivity of a job candidate and lower when they have more information (Neumark 2018). To date, the results have been mixed. Supporting statistical discrimination theory, Kaas and Manger (2012) observe no discrimination against Turkish-named applicants in Germany when candidates sent a positive reference letter from a previous employer. In Sweden, Agerström et al. (2012) demonstrate that, although candidates of both Swedish and Arabic origin received more positive responses when they described themselves as a warm or competent person, the relative differences between the two groups did not decrease and, therefore, did not lead to a reduction in racial and ethnic discrimination. In Germany, Koopmans and colleagues (2018) investigated the impact of adding positive information in a reference letter and reporting a good average final grade for the candidate's most recently completed education. Similar to the study by Agerström and colleagues, this study also finds no evidence that employers

discriminate less when positive information about someone's qualities and motivation was added to job applications. Finally, in the Netherlands, Andriessen et al. (2010) varied applicants' number of years of work experience. Increasing the number of years of work experience led to more positive responses for all candidates but not to lower levels of discrimination.

In the present research, we also varied the amount of personal information – regarding both hard and soft skills – in application materials. Following statistical discrimination theory, we expect that adding personal information will increase the chances of receiving a callback for both native-majority and minority candidates, yet we expect a stronger effect for minority candidates. After all, adding individual information reduces employers' need to rely on group beliefs that have a particular negative effect on the chances of applicants with a migrant origin. Moreover, by investigating multiple racial-ethnic minority groups, it is possible to explore whether this effect differs between origin groups. Hence, we test the following hypothesis: (H2) *Job applicants with a migrant background face lower levels of discrimination when more personal information is added to their CVs or cover letters* (information hypothesis).

3.3. Data, measures, and analytical strategy

3.3.1. Data

In this study, we analyze the Dutch data from a cross-nationally harmonized correspondence study on racial and ethnic discrimination in the first phases of the hiring process (Lancee, 2019; Lancee, et al., 2019).[19] The field experiment was conducted between November 2016 and April 2018.[20] Existing CVs and cover letters were used as examples for developing realistic application materials. Before responding to vacancies, the fictitious CVs and cover letters were evaluated by recruiters to verify the degree of realism of the fictitious job applications. The cover letters and CVs contained information about the age of the applicant (aged 23–25), contact details (postal and e-mail address, telephone number), previous educational training (MBO or HBO), previous work experience (4 years), and

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19 In order to measure the level of discrimination in five different countries, the cover letters and CVs of fictitious applicants as well as the included occupations are standardized cross-nationally.

20 The national economy in the Netherlands grew steadily during the research period. Unemployment rates among the general population and youth unemployment rates fell sharply (Statistics Netherlands 2017a). Increasing economic growth rates and a high demand for labor may be related to a lower degree of ethnic discrimination (Mergener and Maier 2019). Apart from these favorable economic developments, this research period was characterized by several important news incidents. For example, various terrorist attacks took place in different European countries at the end of 2016 and in 2017. It cannot be excluded that these incidents might have had an influence on the estimates of discrimination found in this study.

the applicant's motivation for applying to a specific job opening. Fictitious applicants applied to job openings advertised on frequently used online job portals. In contrast to previous field experiments, we applied for a specific job opening with only one fictitious applicant (Koopmans et al. 2018). This has several advantages, including a lower risk of detection and increased possibilities of varying multiple experimental manipulations without arousing suspicion among employers. To minimize any inconvenience for employers, we immediately withdrew the fictitious applicant from the process (within one day) after an employer contacted the applicant.[21] In total, we applied for 4,211 vacancies in ten different occupations, advertised by organizations that are located throughout the Netherlands.[22]

3.3.2. Measures

The dependent variable indicates whether or not the fictitious applicant received a positive response from an employer (i.e. *callback*). Personal requests for additional information and (pre)invitations to a job interview are coded as a positive response (1). Other employer responses or no response are coded as 0.

To measure racial and ethnic discrimination, we varied the *racial-ethnic background* of fictitious applicants. In correspondence studies, it is important that employers can trace the ethnic origin of fictitious job candidates (Gaddis 2017b). The race or ethnicity of fictitious applicants was signaled with the applicant's first and last name, language skills (i.e., apart from mentioning Dutch, candidates also mentioned the language of the country of origin as a mother tongue), and a passage in the cover letter in which applicants with a migrant background indicated that either their parents or themselves were born abroad, but that they had completed all educational training (including primary school) in the Netherlands, thereby reducing possible employer concerns related to a lack of country-specific human capital (Oreopoulos 2011).

In this study, we examined a total of 36 different origin groups (see Table 3.3). In the analysis, we make use of various group classifications. First, we distinguish between applicants with a native-majority background and applicants with a migration background. Second, within the group of applicants with a migration background, we differentiate between Western and non-Western minorities. Third, we make a distinction between seven regions of origin: Western Europe and North America, Eastern Europe and Russia, Latin America, South Asia, Southeast and East Asia, the Middle East and North Africa, and South and Central Africa.

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21 Field experiments are generally considered as the best method for measuring ethnic discrimination in hiring, yet there are also a number of ethical objections to using field experiments (for an overview, see Zschirnt, 2019b). Before the data collection took place, permission was granted by the Ethical Board of the Faculty of Social Sciences of Utrecht University.

22 In the Appendix, we pay attention to the external validity of our field experiment (see section A3.6.1 and Table A3.7).

Finally, we zoom in on a smaller group of minority groups with a higher share of people in the Netherlands. In doing so, we specifically distinguish between applicants of Moroccan, Turkish, Polish, Bulgarian, Surinamese, and/or Antillean origin. Please note that only the first four minority groups are oversampled in the present research, allowing more refined statistical analyses to be conducted among these specific groups.

In addition to race-ethnicity, we experimentally manipulated four types of information in job applications. Half of the fictitious applicants included a professional *picture*, and the other half did not include a picture. It is noteworthy that, prior to the data collection, all pictures were selected and tested based on (perceived) attractiveness, competence, warmth, and age. Of all applicants, 50 percent included the *average final grade* of their most recently completed education ("grade average: 7.5" [scale ranges from 1 to 10]), and 50 percent did not. In addition, 50 percent of all fictitious candidates indicated that they had a more *social skills* (50 percent did not): applicants described themselves as friendly and sociable people who are attentive to other people's needs. Finally, half of the applicants provided additional information about their good *performance* in previous jobs, and half did not. More concretely, fictitious applicants described themselves as hard-working and as responsible for training new employees in the firm. Also, the cover letter and CV included the extra tasks and responsibilities of the fictitious applicant in previous jobs. For the analysis, we constructed a scale that indicates how much extra information was added to the cover letter and/or the CV. This variable (i.e. *number of information manipulations*) varies between 0 (no information manipulation added) and 4 (all information manipulation added).

Apart from these variables, we included the *gender* and the *religiosity* of the applicant as control variables. These characteristics were also randomly assigned to fictitious job applicants: half of all applicants being women and half of all applicant being religious (i.e., volunteering for a religious youth center). We examined ten different *occupations*: cook, electrician, plumber, carpenter, receptionist, sales assistant, hairdresser, payroll clerk, software developer, and sales representative. These occupations were carefully chosen in order to have sufficient variation with regard to educational levels and interpersonal skills. Because this field experiment was part of a larger international project on employment discrimination, we additionally attempted to include occupations that are internationally comparable. Furthermore, we registered the region in which a vacancy was advertised. We specifically looked at whether racial and ethnic discrimination varies between *provinces* and between more or less urbanized areas. As for the latter, we make a distinction between (a) vacancies offered in the 31 largest municipalities of the Netherlands (*G31*) and other municipalities and (b) between vacancies offered in the four largest municipalities (*G4*) and other municipalities.

All descriptive statistics are shown in Table 3.4.

3.3.3. Analytical strategy

To test our hypotheses, we make use of linear probability models. The likelihood of receiving a callback is regressed on the independent variables and control variables. In addition, we illustrate the findings by means of figures. These figures are based on the estimates of linear probability models and present the predicted probabilities of receiving a positive response from an employer per racial-ethnic group or the discrimination ratio per group (calculated by dividing the callback rate of native-majority candidates by the callback rate of candidates with a [particular] migrant background). In addition to race-ethnicity and the information manipulation, we control for gender, occupation, region, religion, and month and year of the data collection. Furthermore, we control for the perceived fit between the fictitious applicant and the advertisement text. This variable indicates whether there is a good fit between the applicant and the job requirements listed in the job advertisement and/or whether the applicant is slightly under- or overqualified.

The structure of the analysis is as follows: First of all, we look at whether applicants with a migrant origin are discriminated against in the Dutch labor market. We then examine whether racial and ethnic discrimination differs according to region of origin. Finally, we consider whether adding personal information can diminish discrimination against racial-ethnic minorities.

3.4. Results

3.4.1. Does racial-ethnic discrimination vary between minority groups?

First, we analyze whether the likelihood of receiving a callback varies according to ethnic origin (see Table 3.5). We sent a total of 4,211 applications; 1,587 applications received a positive response from an employer (i.e., 38 percent). The results show that the chance of a positive response varies considerably between racial-ethnic minority groups.

Despite having equal qualifications, applicants with a migrant background appear to receive significantly fewer responses than native-majority applicants (Table 3.5, model 1). While taking into account the influence of the control variables, we find that the predicted probability of receiving a positive reaction is 46 percent for applicants of native Dutch origin and 35 percent for applicants with a migrant origin. This difference is approximately eleven percentage points and statistically significant. Thus, in line with previous studies (see also Table 3.2), we also find evidence for the existence of racial-ethnic discrimination in the Dutch labor market.

To test hypotheses 1a and 1b, we examine whether discrimination differs between different racial-ethnic minority groups. First, we make a distinction

between minorities with a Western and non-Western origin (Table 3.5, model 2). It appears that Western minorities are also discriminated against by employers in the Netherlands; the likelihood of receiving a callback for candidates of Western migrant origin is eight percentage points lower than that of native-majority candidates. Western minorities, however, have a significantly greater chance of receiving a positive reaction than non-Western minorities (p < 0.01): 38 percent of applicants with a Western migrant origin received a callback, whereas this was only 33 percent for applicants with a non-Western migrant origin.[23] In short, racial-ethnic minorities are not equally affected by discrimination, which is in line with hypothesis 1b (the racial-ethnic hierarchy hypothesis).

Table 3.3. Racial and ethnic groups examined in the field experiment, number of applications per group, and classification by region of origin

Racial-ethnic origin	Number of applications		Region of origin	
	Absolute	Percentage	Broad classification	Detailed classification
The Netherlands	1,115	26.5	Native-Majority	Native-Majority
Albania	108	2.6	Western migrant origin	Eastern European or Russian origin
Belgium	67	1.6	Western migrant origin	Western European or American origin
Bulgaria	213	5.1	Western migrant origin	Eastern European or Russian origin
China	55	1.3	Non-Western migrant origin	Southeast or East Asian origin
Dutch Antilles	48	1.1	Non-Western migrant origin	Latin American origin
Egypt	63	1.5	Non-Western migrant origin	Middle Eastern and North African origin
Ethiopia	57	1.4	Non-Western migrant origin	South and Central African origin
France	57	1.4	Western migrant origin	Western European or American origin
Germany	49	1.2	Western migrant origin	Western European or American origin
Greece	49	1.2	Western migrant origin	Western European or American origin
India	68	1.6	Non-Western migrant origin	South Asian origin
Indonesia	68	1.6	Western migrant origin	Southeast or East Asian origin

23 Put differently, these results imply that applicants of native-Dutch origin need to send 2.2 resumes to get one callback whereas applicants of Western migrant origin need to send about 2.6 resumes and applicants of non-Western migrant origin need to send 3 resumes.

Table 3.3. Continued

Racial-ethnic origin	Number of applications		Region of origin	
Iran	70	1.7	Non-Western migrant origin	Middle Eastern and North African origin
Iraq	54	1.3	Non-Western migrant origin	Middle Eastern and North African origin
Italy	54	1.3	Western migrant origin	Western European or American origin
Japan	64	1.5	Western migrant origin	Southeast or East Asian origin
Lebanon	42	1.0	Non-Western migrant origin	Middle Eastern and North African origin
Macedonia	46	1.1	Western migrant origin	Eastern European or Russian origin
Malaysia	61	1.5	Non-Western migrant origin	Southeast or East Asian origin
Mexico	57	1.4	Non-Western migrant origin	Latin American origin
Morocco	431	10.2	Non-Western migrant origin	Middle Eastern and North African origin
Nigeria	50	1.2	Non-Western migrant origin	South and Central African origin
Norway	52	1.2	Western migrant origin	Western European or American origin
Pakistan	50	1.2	Non-Western migrant origin	South Asian origin
Poland	241	5.7	Western migrant origin	Eastern European or Russian origin
Romania	50	1.2	Western migrant origin	Eastern European or Russian origin
Russia	57	1.4	Western migrant origin	Eastern European or Russian origin
South Korea	56	1.3	Non-Western migrant origin	Southeast or East Asian origin
Spain	54	1.3	Western migrant origin	Western European or American origin
Surinam	66	1.6	Non-Western migrant origin	Latin American origin
Turkey	424	10.1	Non-Western migrant origin	Middle Eastern and North African origin
Uganda	58	1.4	Non-Western migrant origin	South and Central African origin
United Kingdom	57	1.4	Western migrant origin	Western European or American origin
United States	52	1.2	Western migrant origin	Western European or American origin
Vietnam	48	1.1	Non-Western migrant origin	Southeast or East Asian origin

Source: GEMM, 2019

Table 3.4. Descriptive statistics (*N* = 4.211 applications)

Variable	Proportion / Mean
Positive response from an employer	0.38
Characteristics of applicants	
Race-ethnicity 1	
Migrant origin	0.74
Race-ethnicity 2	
Native-majority	0.27
Western migrant origin	0.32
Non-Western migrant origin	0.42
Race-ethnicity 3	
Native-majority	0.27
Western European or American origin	0.12
Eastern European or Russian origin	0.17
Latin American origin	0.04
South Asian origin	0.03
Southeast or East Asian origin	0.08
Middle Eastern and North African origin	0.26
South and Central African origin	0.04
Race-ethnicity 4 (N=2.538) [a]	
Native-majority	0.44
Polish origin	0.10
Bulgarian origin	0.08
Surinamese origin	0.03
Antillean origin	0.02
Moroccan origin	0.17
Turkish origin	0.17
Information: Picture included	0.51
Information: Grade included	0.51
Information: Social skills included	0.51
Information: Performance included	0.50
Number of information manipulations (*min.* = 1, *max.* = 4; *SD* = 1,02)	2.02
Female	0.49
Religiosity	0.48
Characteristics of job openings	
Occupation	
Cooks	0.19
Electrician	0.04

Table 3.4. Continued

Variable	Proportion / Mean
Plumber	0.03
Carpenter	0.04
Receptionist	0.10
Hairdresser	0.04
Shop assistant	0.12
Payroll clerk	0.16
Software developer	0.14
Sales representative	0.14
Occupation type	
Lower level of education and relatively few interpersonal skills	0.30
Lower level of education and relatively more interpersonal skills	0.26
Higher level of education and relatively few interpersonal skills	0.30
Higher level of education and relatively more interpersonal skills	0.14
Region	
Groningen	0.02
Friesland	0.02
Drenthe	0.02
Overijssel	0.05
Flevoland	0.02
Gelderland	0.11
Utrecht	0.13
Noord-Holland	0.22
Zuid-Holland	0.19
Zeeland	0.01
Noord-Brabant	0.16
Limburg	0.05
G31	0.47
G4	0.22
Perceived advertisement fit	
Underqualified	0.07
Fit	0.79
Overqualified	0.14

[a] *The analysis that examines the effect of race-ethnicity 4 only includes native-majority candidates and candidates of Moroccan, Turkish, Polish, Bulgarian, Surinamese, and Antillean origin; all other racial-ethnic groups are excluded. Source: GEMM, 2019*

Table 3.5. Linear probability model examining the effect of ethnic origin on the likelihood to receive a positive response from an employer

	Model 1	Model 2	Model 3	Model 4
Native-Majority	Ref.	Ref.	Ref.	Ref.
Migrant origin	-0.11**			
	(0.02)			
Western migrant origin		-0.08**		
		(0.02)		
Non-Western migrant origin		-0.13**		
		(0.02)		
Western European or American origin			-0.07**	
			(0.03)	
South Asian origin			-0.08	
			(0.05)	
Eastern European or Russian origin			-0.08**	
			(0.02)	
Southeast or East Asian origin			-0.09**	
			(0.03)	
Latin American origin			-0.13**	
			(0.04)	
South and Central African origin			-0.13**	
			(0.04)	
Middle Eastern and North African origin			-0.14**	
			(0.02)	
Polish origin				-0.06
				(0.04)
Bulgarian origin				-0.11**
				(0.04)
Surinamese origin				-0.10
				(0.06)
Antillean origin				-0.18**
				(0.07)
Moroccan origin				-0.15**
				(0.03)
Turkish origin				-0.14**
				(0.03)
Constant	0.56**	0.56**	0.56**	0.58**
	(0.04)	(0.04)	(0.04)	(0.06)
$N =$	4,211	4,211	4,211	2,538
R^2	0.14	0.14	0.14	0.16

By using a more refined classification of origin groups, we can investigate whether the predicted probability of receiving a callback varies between origin regions (Table 3.5, model 3). The predicted probabilities per region of origin are shown in Figure 3.1. Candidates with a Western European or American origin (39 percent chance of a response) face the lowest levels of discrimination, followed by candidates with a South Asian (38 percent chance), Eastern European, or Russian origin (37 percent chance) and a Southeast or East Asian origin (37 percent chance). However, the probability of receiving a callback is significantly lower for candidates with a Latin American origin (33 percent chance), a South and Central African origin (32 percent chance), or a Middle Eastern and North African origin (31 percent chance).[24] These results support the idea of a racial-ethnic hierarchy in the Dutch labor market and hypothesis 1b (the racial-ethnic hierarchy hypothesis), while refuting hypothesis 1a (the racial-ethnic homophily hypothesis).

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24 This ethnic gap in probabilities is (marginally) significant between applicants of Middle Eastern or North African origin, on the one hand, and applicants of Western European or American origin ($p < 0.01$), applicants of Eastern European or Russian origin ($p < 0.05$), and applicants of Southeast or East Asian origin ($p < 0.10$), on the other.

Figure 3.1. The likelihood to receive a positive response from an employer by region of origin
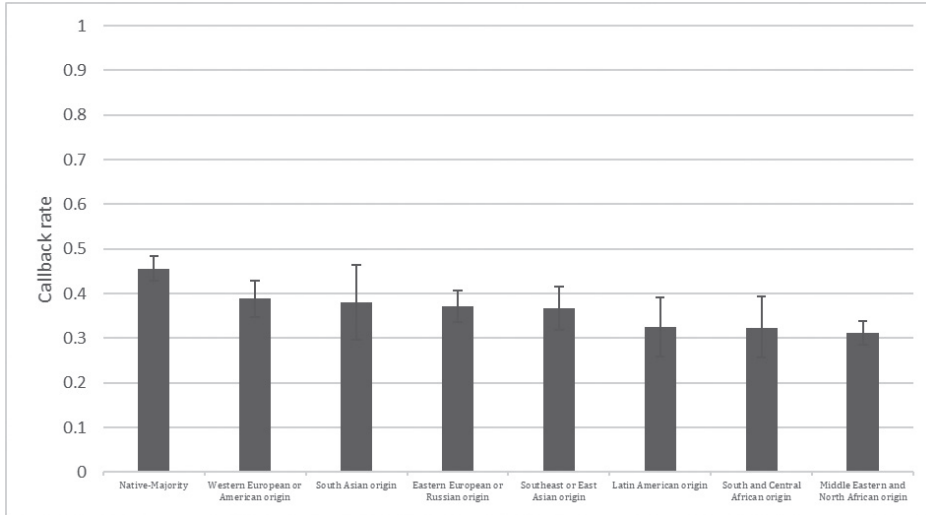
Note: The bars indicate the predicted probability to receive a positive response from an employer by region of origin. 95% confidence intervals are calculated. These estimates are based on a linear probability model that controls for the average final grade of the most recently completed education, social skills, performance, picture, gender, religiosity, occupation fixed effects, month-year fixed effects, province fixed effects, and perceived advertisement fit. Source: GEMM, 2019

In Figure 3.2, we zoom in on the hiring outcomes of the four largest non-Western migrant groups and two important "new" Western migrant groups in the Netherlands (see Table 3.5, model 4). Applicants of Moroccan, Turkish, Bulgarian, and Polish origin are oversampled in our field experiment, allowing us to estimate with more precision the callback probabilities for these four origin groups than for applicants of Antillean and Surinamese origin. Applicants of Moroccan and Turkish origin receive considerably fewer positive responses than applicants with a native-majority origin: the chance of receiving a callback is 31 percent for applicants with a Moroccan origin and 32 percent for applicants with a Turkish origin. The chance of receiving a callback is also very low for applicants of Antillean origin: 27 percent. Applicants of Surinamese origin are also discriminated against, but to a lesser extent (36 percent chance of a positive response) than the aforementioned groups.

It is, then, interesting to compare the chances of these traditional migrant groups with those of Polish and Bulgarian minorities. Strikingly, the likelihood of receiving a callback differs greatly between these two Western minority groups. Whereas applicants of Bulgarian origin have a similar callback rate to applicants of Surinamese origin (35 percent of all cases), we find no significant evidence

for discrimination against applicants with a Polish origin (40 percent chance of receiving a positive response, p > 0.10).[25] This suggests that employers might have more positive images of Polish minorities.

Figure 3.2. The likelihood to receive a positive response from an employer by racial-ethnic origin

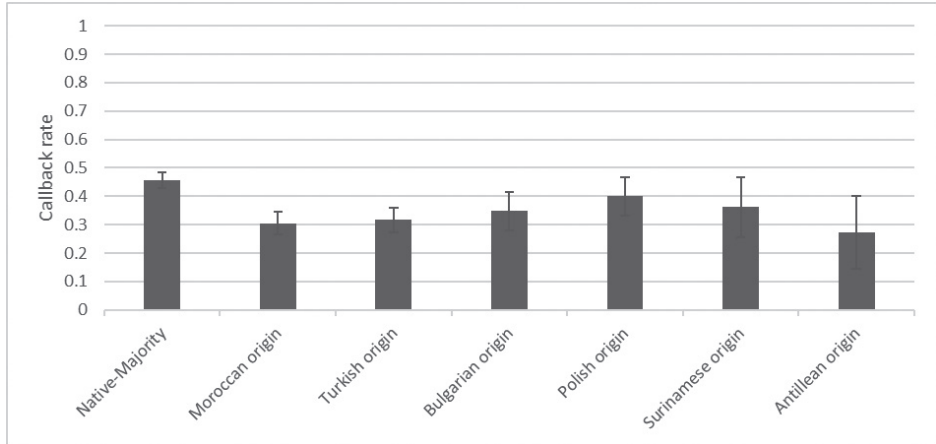*Note: The bars indicate the predicted probability to receive a positive response from an employer by ethnic origin. 95% confidence intervals are calculated. These estimates are based on a linear probability model that controls for the average final grade of the most recently completed education, social skills, performance, picture, gender, religiosity, occupation fixed effects, month-year fixed effects, province fixed effects, and perceived advertisement fit fixed effects. Source: GEMM, 2019*

To examine the robustness of our findings, we investigated whether discrimination patterns vary by gender, occupation, and region. First, it appears that racial and ethnic discrimination does not differ by gender: we do not find a significant interaction between gender and race-ethnicity.[26] We additionally find no significant differences between men and women in the chance of being contacted by employers. Overall, we therefore find no evidence that women are discriminated against in the labor market.

Furthermore, we examined whether discrimination patterns vary between occupations and regions. In order to have sufficient statistical power, we could only distinguish between candidates of native-majority, Western, and non-Western origins. We find no significant interaction between the effects of ethnic origin and

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25 Applicants of Polish origin have a (marginally) significant higher probability of receiving a callback than applicants of Moroccan (p < 0.05), Turkish (p < 0.05), and Antillean origin (p < 0.10).
26 Model 1: $F_{(1, 4162)} = 0.28$, $p = 0.60$; model 2: $F_{(2, 4160)} = 1.50$, $p = 0.22$; model 3: $F_{(7, 4150)} = 1.26$, $p = 0.27$); model 4: $F_{(6, 2479)} = 1.07$, $p = 0.38$.

occupation fixed effects.[27] To further explore whether discrimination rates differ across occupations, we have also classified occupations into four different types of occupations on the basis of required interpersonal skills and educational levels: occupations that require a lower level of education and relatively few interpersonal skills (cook, electrician, plumber, and carpenter); occupations for which lower levels of education and more interpersonal skills are required (receptionist, shop assistant, and hairdresser); occupations requiring a higher level of education and fewer interpersonal skills (payroll clerk and software developer); and occupations that require a higher level of education and more interpersonal skills (sales representative). We find a significant interaction effect between the type of occupation and ethnic origin (native-majority, Western, and non-Western origins). Figure 3.3 shows the discrimination ratios per occupation type. The discrimination ratio is calculated by dividing the predicted callback rate of native-majority applicants by that of applicants with a Western or non-Western origin, respectively. Figure 3.3 shows that non-Western minorities are more discriminated against than Western minorities in three of the four types of occupation. Only among sales representatives (many interpersonal skills and higher education required) did we not find a clear difference in the degree of discrimination between Western and non-Western minorities.

Finally, our analyses indicate no clear differences in the degree of discrimination between regions. In particular, discrimination patterns do not vary systematically between provinces[28] and between (highly) urbanized and less urbanized regions. For example, the effect of ethnic origin does not differ between the 31 largest municipalities (or the 4 largest municipalities) in the Netherlands versus the other municipalities, respectively.[29]

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27 $F(18, 4144) = 1.15$, $p = 0.29$.
28 $F(22, 4140) = 1.00$, $p = 0.46$.
29 G31: $F(2, 4170) = 0.59$, $p = 0.56$; G4: $F(2, 4170) = 1.14$, $p = 0.32$.

Figure 3.3. Discrimination ratio by type of occupation
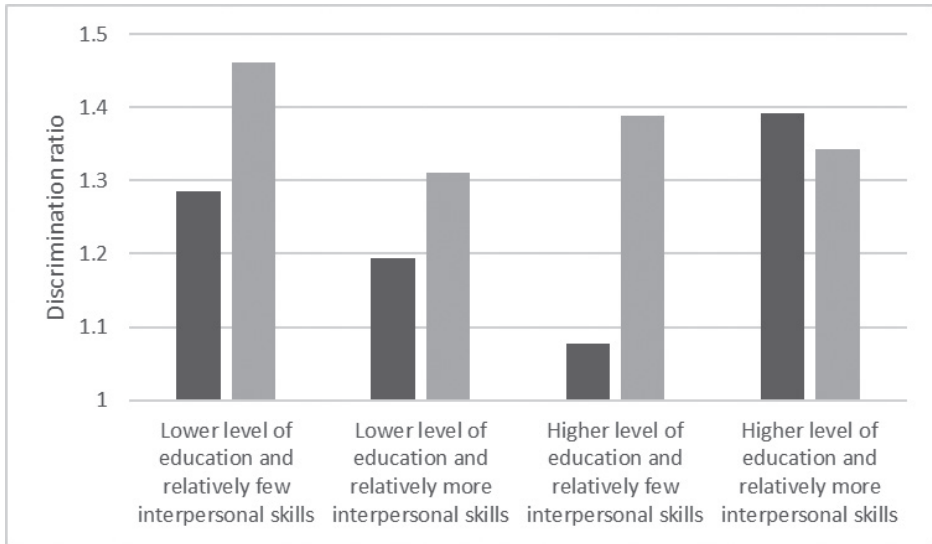
Note: The discrimination ratio is calculated by dividing the predicted probability to receive a positive response from an employer of native-majority applicants by that of applicants with a Western (dark grey bars) or non-Western migrant origin (light grey bars), respectively. The predicted probabilities are based on the results of a linear probability model in which is the likelihood to receive a positive response from an employer is regressed on ethnic origin (native-majority, Western migrant origin, non-Western migrant origin), occupation type (lower level of education and relatively few interpersonal skills; lower level of education and relatively more interpersonal skills; higher level of education and relatively few interpersonal skills; higher level of education and relatively more interpersonal skills), and their interaction. Furthermore, this model controls for the average final grade of the most recently completed education, social skills, performance, picture, gender, religiosity, month-year fixed effects, province fixed effects, and perceived advertisement fit fixed effects. Source: GEMM, 2019

3.4.2. Does extra personal information reduce racial-ethnic discrimination in hiring?

Based on statistical discrimination theory, we expected that discrimination would be lower when employers have more information for assessing the skills and motivation of job applicants. The results of the linear probability models are shown in Table 3.6. Figure 3.4 illustrates these results by showing the effect of adding information on the relative employment chances for applicants of native-majority and Western migrant origins. Similarly, Figure 3.5 shows the effect of this information on callback rates for applicants of native-majority and non-Western migrant origins.

Figures 3.4 and 3.5 show that, irrespective of ethnic origin, the likelihood of receiving a callback increases significantly when job applications contain more information (see also model 1 in Table 3.6). However, adding more information does not lead to a reduction in the level of racial and ethnic discrimination, as shown by the non-significant interactions in model 2 (Table 3.6). Figure 3.4 shows that in job applications in which no additional information was added, applicants of Western origin are about eight percentage points less likely to receive a positive response than applicants of native-majority origin. However, this ethnic gap is also about eight percentage points when job applications contain the maximum amount of information manipulation. Figure 3.5 shows that applicants of non-Western origin are 15 percentage points less likely to receive a response than applicants of native-majority origin if no additional information was added to job applications. In the case that the maximum amount of information manipulation was added, the ethnic gap is slightly smaller, eleven percentage points, but still significant. Thus, it appears that the positive effect of adding information on the likelihood of receiving a callback is not significantly stronger for applicants of non-Western origin compared to applicants of native-majority origin (Table 3.6, model 2). Figure 3.5 also shows that applicants of non-Western origin who included all four types of information manipulation in their job applications have a similar chance of receiving a callback than applicants of native-majority origin sending no extra information (cf. Andriessen et al. 2010). This finding further indicates the magnitude of the disadvantage of non-Western minorities compared to the native-majority population in the Dutch labor market.[30]

In short, we show that Western and non-Western minorities face similar levels of discrimination irrespective of the amount of individual information in CVs or cover letters and, therefore, find no empirical support for hypothesis 2.

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30 In additional analyses, we investigated the separate effects of adding information manipulation (average final grade in most recently completed education, performance, social skills, and a picture). It appears that only the addition of the picture leads to significantly more positive responses ($b = 0.08$; $p < 0.00$). In addition, we find no significant interaction effects between ethnic origin and the different types of information manipulation (average final grade in most recently completed education, performance, social skills, and a picture).

Table 3.6. Linear probability model examining the effect of racial-ethnic origin, the number of information manipulations included, and their interaction on the likelihood to receive a positive response from an employer

	Model 1	Model 2
Native-majority	Ref.	Ref.
Western migrant origin	-0.08**	-0.08
	(0.02)	(0.04)
Non-Western migrant origin	-0.13**	-0.15**
	(0.02)	(0.04)
Number of information manipulations included	0.03**	0.02
	(0.01)	(0.01)
Western migrant origin * Number of information manipulations included		0.00
		(0.02)
Non-Western migrant origin * Number of information manipulations included		0.01
		(0.02)
Constant	0.56**	0.57**
	(0.04)	(0.05)
N	4,211	4,211
R^2	0.14	0.14

*Note: The dependent variable is the likelihood to receive a positive response from an employer. Ref. = reference category. Model 1 examines differences in the likelihood to receive a positive response from an employer between native-majority candidates and candidates with a Western or a non-Western migrant origin. Also, model 1 examines the effect of the number of information manipulations included on the likelihood to receive a positive response from an employer. Model 2 includes the main effects of ethnic origin, the number of information manipulations included and their interaction. All models control for gender, religiosity, occupation fixed effects, month-year fixed effects, province fixed effects, and perceived advertisement fit fixed effects. Standard errors in parentheses. * p < 0.05, ** p < 0.01 (two-sided). Source: GEMM, 2019*

Figure 3.4. The effect of the number of information manipulations included on the likelihood to receive a positive response from an employer for native-majority candidates and candidates with a Western migrant origin
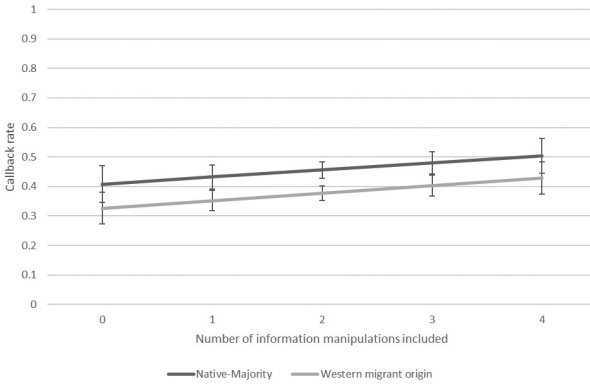
Note: The lines indicate the predicted probability to receive a positive response from an employer by ethnic origin (dark grey line = native-majority; light grey line = Western migrant origin) and the number of information manipulations included. For each racial-ethnic group, 95% confidence intervals are calculated. Estimates are based on a linear probability model that controls for gender, religiosity, occupation fixed effects, month-year fixed effects, province fixed effects, and perceived advertisement fit fixed effects. Source: GEMM, 2019

Figure 3.5. The effect of the number of information manipulations included on the likelihood to receive a positive response from an employer for native-majority candidates and candidates with a non-Western migrant origin
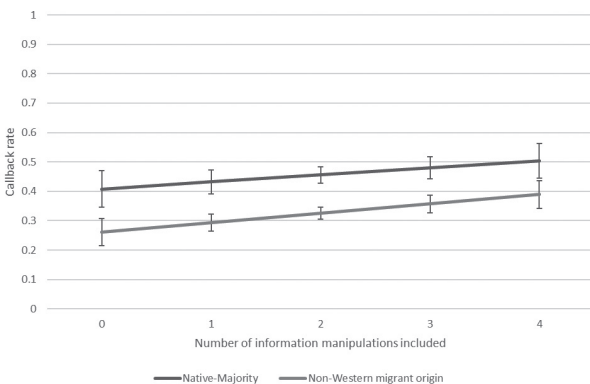
Note: The lines indicate the predicted probability to receive a positive response from an employer by ethnic origin (dark grey line = native-majority; grey line = non-Western migrant origin) and the number of information manipulations included. For each racial-ethnic group, 95% confidence intervals are calculated. Estimates are based on a linear probability model that controls for gender, religiosity, occupation fixed effects, month-year fixed effects, province fixed effects, and perceived advertisement fit fixed effects. Source: GEMM, 2019

3.5. Conclusion

Since Bovenkerk's study in 1977, numerous studies have examined the extent of discrimination against racial and ethnic minorities in the Netherlands using field experiments. More than forty years after Bovenkerk's pioneering work, we present the results of the largest field experiment that has so far been conducted in the Dutch labor market. We focused on job seekers at the start of their working careers (aged 23–25 years, ± 4 years work experience) and investigated how racial and ethnic discrimination varies between racial-ethnic minority groups and to what extent discrimination is attributable to a lack of information in job applications.

In line with earlier research in the Netherlands, we find that applicants of migrant origin receive fewer responses than identically qualified applicants of native-majority origin. On average, applicants of migrant origin are contacted eleven percentage points less than applicants with a native-majority background. In relative terms, the chance that an applicant with a native-majority origin is approached is about 30 percent greater than that for candidates of migrant origin. Importantly, these estimates are very similar to the results found in other large-scale studies in the Netherlands, one or more decades ago (Andriessen et al. 2012; Bovenkerk et al. 1995). Discrimination thus appears to be a persistent social problem in the Dutch labor market.

One important strength of our study is that it examines 35 different racial and ethnic minority groups. This enabled us to demonstrate that discrimination does not affect all minority groups equally. In particular, minorities of Middle Eastern or North African, other African, and Latin American origin face the highest levels of discrimination in the Dutch labor market. These groups receive thirteen to fifteen percentage points fewer responses from Dutch employers than native-majority candidates. In addition, our results show that minorities of European, American, and Asian origin are less likely to receive a callback than native-majority candidates, though these differences appear to be much smaller, namely seven to nine percentage points.

Among the four largest non-Western groups in the Netherlands, minorities of Moroccan, Turkish, and Antillean origin are most severely discriminated against by employers. At the same time, employers seem to be slightly less negative towards minorities of Surinamese origin. This is largely in line with the results of previous qualitative research among employers (Nievers 2010) and quantitative research on differences in perceived discrimination among racial-ethnic minorities (Andriessen et al. 2014).

In the past, most migrants came to the Netherlands as a result of guest worker programs or in the aftermath of decolonization; nowadays, however, migration is partly due to large-scale economic migration from Eastern to Western Europe

(Jennissen et al. 2018). In this study, we therefore focused on two important new migrant groups: the Bulgarians and the Poles (Lubbers and Gijsberts 2016; McGinnity and Gijsberts 2016). Bulgarian minorities face similar levels of discrimination to Surinamese minorities. Furthermore, we find no clear evidence that Polish minorities are discriminated against in the Dutch labor market. This is a striking finding because both Bulgarian and Polish minorities are often portrayed negatively in the media, and many Eastern European minorities are found to experience unfair treatment (Andriessen et al. 2014; Björnsson, Kopsch, and Zoega 2018; McGinnity and Gijsberts 2016). A possible explanation for this result could be that employers experience less cultural or religious distance from European minorities or have a more positive image of the skills and work attachment of, in particular, Polish minorities. Yet, future research is warranted to better understand this result.

Based on these findings, we conclude that there is a racial-ethnic hierarchy in the Dutch labor market. This hierarchy is possibly the result of perceived socioeconomic and cultural differences between racial and ethnic groups (Hagendoorn 1995; Snellman and Ekehammar 2005). Applicants of native-majority origin have by far the greatest chance of being contacted by employers. Despite having identical qualifications, Western minorities receive significantly fewer responses from employers. The groups that deviate most strongly in socioeconomic status and cultural distance from the native Dutch population face the highest levels of discrimination (i.e., minorities of non-Western origin and, in particular, those with an African or Arab origin). Moreover, this racial-ethnic hierarchy appears to be widespread as we hardly notice systematic differences in discrimination patterns between men and women, occupations, and regions.

Our conclusion that discrimination varies between racial-ethnic minority groups is not in line with racial-ethnic homophily theory (Edo et al. 2019; Jacquemet and Yannelis 2012) and previous field experiments on racial and ethnic discrimination in the Netherlands. For example, Andriessen and colleagues (2012) concluded that (p. 260): "In line with earlier Dutch research (Bovenkerk et al., 1995), we found no pronounced differences in discrimination rates between ethnic groups. Apparently, employers distinguish between native Dutch and immigrants, with no further distinctions between different immigrant groups." Previous research arrived at this conclusion based on field experiments in which only a limited number of sizeable non-Western minority groups were examined. However, this selective focus not only ignores the large and growing diversity of residents with a migrant background in the Netherlands (Jennissen et al. 2018) but also overlooks that employers make clear distinctions between Western and non-Western minorities, and possibly draw even more refined ethnic distinctions. An important recommendation for future research is therefore to pay more

attention to the labor market opportunities of migrant groups with various cultural and socioeconomic backgrounds.

In addition to highlighting differences in discrimination rates between racial-ethnic minority groups, we also considered explanations for why these groups are discriminated against. In particular, we investigated an important assumption of statistical discrimination theory (Arrow 1973; Phelps 1972) positing that employers would discriminate less if fictitious applicants disclosed more personal information (Neumark 2018). The underlying idea is that employers will rely less on negative group images or stereotypes if they have more individual information to assess the productivity and motivation of job applicants.

The results of this study indicate that adding multiple forms of individual information (average final grade in most recently completed education, performance, social skills, and a professional picture) leads to an increase in callbacks among all fictitious applicants (regardless of their origin). Likewise, however, it appears that racial and ethnic discrimination does not diminish with the inclusion of additional personal information. This holds for both Western and non-Western minorities.

Altogether, these findings suggest that a lack of personal information about the applicant is not the only or at least not the most important explanation as to why racial and ethnic minorities are discriminated against in the Netherlands. Although the results are not in line with those of Kaas and Manger (2012, Germany), they are in line with those of Andriessen and colleagues (2010, the Netherlands), Agerström and colleagues (2012, Sweden), and Koopmans and colleagues (2018, Germany). In the light of these findings, it therefore seems advisable for future research to focus more on how negative group images/stereotypes and prejudices of employers influence the chances of racial-ethnic minorities in hiring decisions (possibly in combination with other information uncertainties or organizational characteristics; Midtbøen, 2015). In addition, more research should be done to examine whether (different) interventions in the hiring processes can minimize the impact of group preferences.

Although the current study contributes in important ways to the existing literature on racial and ethnic discrimination in the Dutch labor market, we still need to acknowledge some limitations. Despite the large-scale scope of this study, not all segments of the Dutch labor market could be examined. For example, many jobs in the public sector (e.g., education, healthcare) and jobs in the lowest (e.g., bartenders and waitresses, warehouse workers, cleaners) and highest segments (e.g., lawyers, doctors, managers, scientific researchers) of the labor market fall outside the scope of this study. Also, it is unclear whether we would find similar discrimination patterns among, for example, older job seekers; in informal search channels (offline or online); in the final phases of the hiring process (e.g., job

interviews); or in the workplace (i.e., income, promotions). Furthermore, although our manipulations are similar to those used in previous field experiments (Agerström et al. 2012; Koopmans et al. 2018), we cannot exclude the possibility that other information manipulation could be more effective in reducing discrimination. Future research is, therefore, encouraged to examine if and to what extent these limitations might have affected our conclusions.

In summary, we show that Western and non-Western minorities are (to varying degrees) affected by employment discrimination in the Dutch labor market. Furthermore, we find that adding personal information in job applications does not help to reduce racial and ethnic discrimination. Although the testing of adequate policy instruments falls outside the scope of this study, our findings suggest that policymakers should focus more on employers' actions rather than on measures aimed at improving the quality of job applications of racial and ethnic minority job seekers. Indeed, it is difficult for racial-ethnic minorities to hide their ethnic origin (Kang et al. 2016). Likewise, they appear to get fewer chances than native-majority job seekers, even if they provide more information about their capacities, motivation, and personality (Agerström et al. 2012; Andriessen et al. 2010; Koopmans et al. 2018). Despite the dearth of research on the effects of policy interventions to combat discrimination (Neumark 2018), it seems important to pay more attention to interventions aimed at formalizing hiring processes (Midtbøen 2015b), anonymous applications (Krause et al. 2012), or stricter/proactive anti-discrimination policies by governments (Fang et al. 2018).

3.6. Appendix

A3.6.1. External validity of the findings

A major advantage of a field experimental research design over other research designs (e.g. survey and laboratory studies) is the possibility to determine the causal effect of ethnic origin in real hiring situations (Gaddis 2018; Pager 2007). Field experiments thus combine a high degree of internal validity with a high degree of external validity. Despite of this, it is still important to pay attention to the external validity of the findings of field experiments (see also Lancee 2019; Lancee, Birkelund, Coenders, Di Stasio, Fernández Reino, Heath, Koopmans, Larsen, Polavieja, Ramos, Soiné, et al. 2019; Lancee, Birkelund, Coenders, Di Stasio, Fernández Reino, Heath, Koopmans, Larsen, Polavieja, Ramos, Thijssen, et al. 2019).

First, because our aim was to develop high quality CVs and cover letters in order to generate enough responses from employers, we could not investigate whether less qualified candidates face similar levels of discrimination in the labor market. For example, several laboratory studies (Dovidio and Gaertner 2000; Hodson, Dovidio, and Gaertner 2002) find evidence that ethnic or racial minorities face higher levels of discrimination when applicants are not clearly qualified for the job. Thus, because we applied with well-qualified candidates, this might have led to an underestimation of the degree of racial and ethnic discrimination in our study. It is nonetheless important to note that all our analyzes do control for the "fit" between the fictitious applicant and the requirements listed in the job advertisement (cf. Weichselbaumer 2017).

Second, the selection of occupations in this study does not fully reflect the total population of jobs in the Dutch labor market (Statistics Netherlands 2015a). As is shown in Table A3.7, certain sectors of the labor market are overrepresented and other sectors are underrepresented in the field experiment. In particular, we investigated a relatively large share of occupations in the accommodation and food service activities, trade, and information and communication sectors. Table A3.7 further shows that occupations in the public sector (public administration and government services, education and health and welfare care) are underrepresented. The main reason for this is that it is difficult to apply with fictitious applicants in the public sector because of its stricter application procedures and mandatory professional registrations. Previous research (Midtbøen 2016; Zschirnt and Ruedin 2016), however, provides tentative evidence that there is less discrimination in the public sector than in the private sector. Theoretically, this would imply that our estimates of racial and ethnic discrimination might be overestimated due to the under-representation of jobs in the public sector.

Third, although we have tried to select occupations that vary widely with regard to level and field of education, occupations in the lowest (e.g. waitress, bartender, warehouse worker, cleaner) and highest segments (e.g. lawyer, doctor, manager, academic researcher) of the labor market fall outside the scope of this study. One important reason for this is that most of these job openings are not advertised on online job portals but are distributed via informal (mouth to mouth, advertisements in public places) or formal (professional organizations, LinkedIn) social networks. A second important reason for this is the difficulty of developing realistic educational and occupational careers for highly specialized occupations (e.g. academics, lawyers or doctors) or management positions without arousing to much suspicion among employers.

Fourth, it is important to emphasize that we focused on job seekers at the start of their working careers (aged 23–25 years, ± 4 years work experience). The motivation for this was twofold. A practical argument for this choice was related to the difficulty of creating realistic careers for older job seekers. A theoretical argument for investigating this relatively young population is that various studies (Blau and Duncan 1967; Luijkx and Wolbers 2009; Pais 2013) show that the start of a person's career is a critical moment, with potentially lasting (negative) consequences for one's future employment prospects. Indeed, long-term unemployment spells at the start of people's career can have a scarring effect on their labor market outcomes later in life (Luijkx and Wolbers 2009). All in all, this stresses the importance of gaining more insight into the social barriers of people at the start of people's career.

A final limitation with regard to the external validity of this study is related to its focus on the first phase of the hiring process – that is, the screening of potential candidates for a job interview. Although a few studies show that discrimination mainly occurs in the first phases of the hiring process (Blommaert et al. 2014a; Zegers de Beijl 2000), we could not examine the level of discrimination against job seekers with a migrant origin during job interviews or during negotiations about employment conditions. Furthermore, our study could not investigate the extent to which people with a migrant background face discrimination in the workplace, in promotions, or in terminations of employment contracts.

Table A3.7. Statistics per sector: employed persons in the labor force and fictitious applicants in the field experiment

Sector (NACE-code)	Labor Force Survey 2015		Field experiment	
	Absolute	Percentage	Absolute	Percentage
A Agriculture, Forestry and Fishing	179,231	2.33	13	0.31
B Mining and Quarrying	13,839	0.18	0	0.00
C Manufacturing	776,785	10.11	259	6.15
D Electricity, Gas, Steam, and Air Conditioning Supply	26,033	0.34	19	0.45
E Water Supply; Sewerage, Waste Management and Remediation Activities	30,620	0.40	10	0.24
F Construction	401,593	5.23	345	8.19
G Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	1,232,935	16.05	830	19.71
H Transportation and Storage	356,429	4.64	63	1.50
I Accommodation and Food Service Activities	352,430	4.59	909	21.59
J Information and Communication	261,521	3.41	606	14.39
K Financial and Insurance Activities	267,011	3.48	56	1.33
L Real Estate Activities	64,417	0.84	48	1.14
M Professional, Scientific and Technical Activities	588,030	7.66	379	9.00
N Administrative and Support Service Activities	430,921	5.61	159	3.78
O Public Administration and Defense; Compulsory Social Security	494,661	6.44	16	0.38
P Education	561,417	7.31	48	1.14
Q Human Health and Social Work Activities	1,281,099	16.68	146	3.47
R Arts, Entertainment and Recreation	171,904	2.24	94	2.23
S Other Service Activities	180,629	2.35	211	5.01
T Activities of Households as Employers	6,400	0.08	0	0.00
U Activities of Extraterritorial Organizations and Bodies	2,155	0.03	0	0.00

Source: CBS, 2015 & GEMM, 2019

Chapter 4.

Labor market discrimination against Moroccan minorities in the Netherlands and Spain: A cross-national and cross-regional comparison[31]

Abstract

This chapter examines discrimination against job candidates of Moroccan origin in Spain and the Netherlands. By drawing on insights from group threat theory, we specifically examine how latent intergroup conflicts regarding economic goods or cultural values at the regional level are related to discrimination rates of Moroccan minorities in both countries. To this aim, we make use of a cross-national harmonized field experiment with fictitious candidates applying for real job vacancies in Spain and the Netherlands (N = 3,681). We find higher levels of discrimination against job applicants of Moroccan origin in the Netherlands. Whereas job candidates of Moroccan origin are six percentage points less likely to receive a positive response from an employer in Spain, the predicted ethnic gap in callback rates is fourteen percentage points in the Netherlands. Furthermore, while regional differences in discrimination are not related to regional unemployment figures, we do find some evidence that a larger share of Moroccan minorities in the region is linked to heightened discrimination against Moroccan minorities. Altogether, the findings point to the need to give greater weight to the impact of widespread negative beliefs about racial-ethnic minorities and how these beliefs can have a profound adverse impact on the integration of disadvantaged racial and ethnic groups within the labor market.

4.1.   Introduction

In Spain and the Netherlands, many studies show that Moroccan minorities are disadvantaged compared to the majority population in the labor market (Cebolla and Requena 2009; Bernardi, Garrido, and Miyar 2011; Gracia, Vázquez-Quesada, and Van de Werfhorst 2016). It has often been suggested that these differences can partly be explained by a strong bias against Moroccan minorities in hiring decisions. In support of this view, various field experiments in the Netherlands (Andriessen et al. 2012, 2015; Bovenkerk, Gras, and Ramsoedh 1995), in Spain (Prada et al. 1996) and in other countries (e.g. Allasino et al. 2004; Busetta et al. 2018; Capéau et al. 2012; Duguet et al. 2010) demonstrate that equally qualified job candidates of Moroccan origin are less likely to receive a callback than majority candidates.

However, previous field experimental studies have been limited to a small number of regions and mostly to one single country. This is unfortunate because earlier research demonstrates that racial-ethnic penalties in unemployment, as well as negative attitudes towards racial-ethnic minorities – an important determinant for racial and ethnic discrimination in hiring decisions (Blommaert, Van Tubergen, and Coenders 2012) – tend to vary across countries and regions (Ceobanu and Escandell 2010; Czaika and Di Lillo 2018; Schlueter and Wagner 2008; Demireva and Heath 2017). Thus, although there are strong reasons to expect that discrimination rates can vary across national and regional contexts, so far little is known under which regional or national conditions discrimination against Moroccan minorities is most or least prevalent.

In this chapter, we apply a comparative design to analyze regional differences in hiring discrimination in Spain and the Netherlands. We focus on discrimination of applicants of Moroccan origin for several reasons. In both countries, the Moroccan minority population is one of the largest minority groups and strongly disadvantaged in the labor market compared to the majority population. Furthermore, in both countries, public attitudes toward Moroccan minorities tend to be more negative compared to other minority or migrant groups. In survey studies of the Spanish Centre for Sociological Research, Spaniards showed less sympathy with Moroccan minorities than with other minority groups such as Eastern Europeans, Latin Americans, Asians or Sub-Saharan Africans (CIS, 2011). Likewise, in the Netherlands, Moroccan minorities are located at the bottom of the racial-ethnic hierarchy: feelings towards Moroccan minorities are more negative compared to other minority groups in Dutch society, such as Antillean, Polish, Turkish, Surinamese and Chinese minorities (Dagevos and Huijnk 2014). Finally, in recent years concerns about the integration of Muslim minorities have become (more) salient in the public and political discourse in Spain and the Netherlands.

In this study, we aim to contribute to the existing literature in two different ways. First, by drawing on data from a large-scale, cross-national harmonized field experiment (Lancee 2019; Lancee, Birkelund, Coenders, Di Stasio, Fernández Reino, Heath, Koopmans, Larsen, Polavieja, Ramos, Thijssen, et al. 2019), we present evidence of whether and how discrimination rates of applicants of Moroccan origin can vary between countries and regions. In doing so, we focus on jobseekers of Moroccan origin who were either born in Spain/the Netherlands or moved to these countries from Morocco by the age of 6. By studying job applicants who (largely) grew up in the country of residence and have obtained their educational qualifications there, we can analyze whether a minority group that is in the best starting position to integrate into the labor market can be differently affected by discriminatory hiring practices at the national and regional level.

Second, apart from describing variation in discrimination rates across contexts, we also aim to understand these regional patterns. Drawing on insights from group threat theory (Blalock 1967; Blumer 1958; Quillian 1995), we propose that Spain and the Netherlands offer a fruitful case study for exploring how the relative hiring outcomes of Moroccan minorities can be affected by different latent conflicts between racial-ethnic groups at both the country and regional level. The comparison of the regional variations in discrimination in the Netherlands (where there is highly salient public debate on immigration and low levels of unemployment) and in Spain (with low public debate saliency and high levels of unemployment) can shed more light on the socio-spatial processes of integration of the same racial-ethnic minority group in different political and labor market contexts.

Summarizing, we focus on two research questions: *(1) To what extent are applicants of Moroccan origin discriminated against in the Spanish and Dutch labor market, and to what extent do discrimination rates vary across regions? (2) How can we explain these regional patterns in discrimination against Moroccan applicants in Spain and the Netherlands?*

4.2. Moroccan migrants in Spain and the Netherlands

Moroccans are the largest immigrant group in Spain and account for around fifteen percent of the total foreign-born population. Like other migrant groups, their presence is a relatively recent and a new phenomenon in Spain. Due to the poor economic situation in Spain during much of the twentieth century, the inflow of Moroccans migrants was almost negligible before the 1970s. After the crisis of 1973 in Europe the number of consular registrations of Moroccan immigrants increased, especially in Catalonia (Bodega et al. 1995; García and Berriane 2004). However, since the 1990s the number of Moroccan immigrants have been

increasing significantly, leading to a stable and sizeable inflow of relatively young and predominantly male population (see also Table A4.6 in the Appendix) (Cebolla and Requena 2009).

In the Netherlands, the Moroccan immigrant group is the second largest immigrant group, only slightly smaller than the group of Turkish immigrants. Similar to the immigration history of the Turks, the first stream of Moroccan immigrants consisted predominantly of low or unskilled guest-workers who migrated to the Netherlands between late-1960s and mid-1970s to work in physically demanding jobs (De Haas 2007). The second influx took place from the mid-1970s to the late-1980s and was strongly driven by family reunification. In recent decades, however, the immigration of Moroccan migrants has declined sharply and return migration increased. The Moroccan community, which mainly lives in the four largest Dutch cities in the Randstad, has a rather negative public reputation in the Netherlands. It is characterized by large socio-economic disadvantages, is strongly overrepresented in crime figures, and appears to be most susceptible to conservative Salafist ideas (Roex, Van Stiphout, and Tillie, 2010).

4.3. Group threat, discrimination and contextual factors

To explain discrimination against Moroccan minorities, we build on theoretical insights from group threat theory (Blumer 1958; Bobo 1999; Quillian 1995; Riek, Mania, and Gaertner 2006; Scheepers et al. 2002), which argues that members of the majority group will discriminate against racial and ethnic minorities if they experience that the interests of the majority group are threatened by racial and ethnic minorities. Following the seminal work of Blumer (1958), experiencing intergroup conflict is seen as a "collective process". Thus, although employers might not be personally threatened by racial and ethnic minorities, they are thought to identify with their own racial-ethnic group and inclined to protect employment for majority workers. Consequently, discrimination against Moroccan minorities is expected to be higher when employers perceive more group threat from Moroccan minorities.

A distinction is often made between feelings of group threat that arise from conflicts about economic or material goods, such as jobs, wages or house prices, and group threat that arises from conflicts about cultural values and customs (Hainmueller and Hopkins 2014; Schneider 2008). We use this theoretical distinction between economic and cultural group threat to derive hypotheses on how different sources of intergroup conflict may affect levels of discrimination. In section 3.2 we will use this framework to derive testable hypotheses regarding regional differences in discrimination. First, however, we explore various factors that may be relevant for the overall difference in discrimination rate between

Spain and the Netherlands. We acknowledge that it is not possible to rigorously test (competing) hypotheses at the national level since we have only two countries and various national characteristics might have an influence on the discrimination patterns observed. Hence, as for the first part of our research questions – to what extent are applicants of Moroccan origin discriminated at the labor market in Spain and the Netherlands? – our aim is more explorative.

4.3.1. The national context

In our description of the Spanish and Dutch context, we focus on factors that are relevant within the framework of group threat theory. Group threat theory proposes a strong link between racial and ethnic discrimination, perceptions of group threat, and intergroup competition or latent ethnic conflicts in society. One of the core claims of group threat theory is that economic competition from ethnic outgroups will be felt stronger in times of economic scarcity or decline as the struggle for economic goods is more severe between racial-ethnic groups (Quillian 1995). In support of this idea, research shows that a slackening national economy, and resulting feelings of economic scarcity, are important for explaining anti-immigrant attitudes and intergroup prejudice (for an overview, see Ceobanu and Escandell 2010; Krosch, Tyler, and Amodio 2017; Polavieja 2016).

Given the much higher levels of unemployment in Spain (Eurostat, 2018), one would expect that economic group threat is more salient in Spain than in the Netherlands. Eurobarometer surveys indeed show that residents in Spain are significantly more concerned about the national economy and the level of unemployment than Dutch residents. Furthermore, they are more likely to perceive that immigrants take jobs away from majority workers (see Table A4.7 in the Appendix). Hence, one might expect that the rate of discrimination in Spain would be higher as the poorer economic conditions in Spain could foster feelings of economic group threat (Quillian 1995).

Group threat theory does not only draw attention to latent intergroup conflicts about the distribution of economic resources, but also to cultural value disputes between racial-ethnic groups. According to group threat theory, the majority population may feel that their prevailing way of life, national identity, and social cohesion are under pressure as a result of the arrival of immigrants that hold different cultural beliefs and customs (Newman 2013; Sniderman and Hagendoorn 2007). Because of different cultural beliefs (e.g. about the acceptance of homosexuality, gender equality, and the role of religion in daily life) but also because of terrorist attacks and negative attention in news media and the political discourse (Legewie 2013; Norris and Inglehart 2002), employers could perceive cultural group threat from minorities with an Islamic background, such as minorities of Moroccan origin.

One might argue that cultural group threat from Moroccan minorities is more salient in the Netherlands than in Spain. For example, cross-cultural research by Hofstede, Hofstede, and Minkov (2010) indicates stronger cultural dissimilarities between Morocco and the Netherlands than between Morocco and Spain with regard to cultural dimensions as individualism, power distance, masculinity and long-term orientation. Furthermore, the percentage of people who speak Spanish in Morocco is relatively high with about one and a half million people in Morocco having linguistic skills in Spanish (Instituto Cervantes 2017). Arguably, employers in Spain may anticipate less production-inhibiting cultural tensions and communication problems between co-workers of majority and Moroccan origin than those in the Netherlands.

In addition, in recent years the political debate about immigration and integration of Muslim minorities is much more polarized in the Netherlands than in Spain. For example, whereas the Netherlands has seen a clear rise of populist radical right political parties from the turn of the century, such large-scale political movements have until very recently not emerged in Spain (Mudde 2007). Consequently, concerns about the negative impact of immigration and Islamophobia might be more prevalent in the Netherlands. Results from Eurobarometer surveys provide some tentative support of this idea (see Table A4.7 and Table A4.8 in the Appendix). Compared to Spain, residents in the Netherlands hold more negative feelings towards immigrants (especially those outside the European Union), are more likely to perceive that immigrants worsen crime problems, are less positive about the integration of immigrants (both nationally and locally) and consider immigration and terrorism more often as important societal problems. Hence, by adopting a group threat perspective, it thus seems important to distinguish between elements of economic and cultural group threat at the national-level. We return to this issue in our discussion section.

4.3.2. Intergroup conflicts at the regional-level

Following group threat theory, it can be expected that employers will discriminate more strongly against racial and ethnic minorities when the economic circumstances in a region are worse. Employers in regions with poor economic conditions could be more familiar with people who suffer from economic hardship and, therefore, might be more aware of racial-ethnic conflicts about economic goods. Surprisingly, however, research finds inconsistent evidence for the claim that regional variation in economic conditions is associated with negative attitudes towards racial-ethnic minorities (Quillian 1996; Schlueter and Wagner 2008; Tolsma, Lubbers, and Coenders 2008). Furthermore, to the best of our knowledge, only one field experiment directly assessed whether regional unemployment rates are related to racial and ethnic discrimination in hiring. This Dutch study shows,

however, that discrimination was not significantly associated with regional unemployment rates (Blommaert et al. 2013). Yet, in line with group threat theory, we hypothesize that: (H1) *discrimination against job candidates of Moroccan origin is higher in regions with worse economic circumstances.*

In previous research, the relative size of the racial-ethnic minority group in the region has often been regarded as a strong driver of enhanced cultural group threat perceptions and xenophobia (Hopkins 2010; Newman 2013; Savelkoul et al. 2011; Schlueter and Wagner 2008). A higher percentage of racial-ethnic minorities in the region is more socially and physically visible in daily life and might therefore be perceived as more culturally threatening. However, following intergroup contact theory (Allport 1954; Pettigrew and Tropp 2006), a larger outgroup can also increase opportunities for intergroup contact and outgroup familiarity. A large body of research has indeed shown that more intergroup contact is associated with lower prejudice and intergroup hostility (Pettigrew and Tropp 2006). Taking into account the insights of group threat theory and intergroup contact theory, scholars have proposed a non-linear relationship between the relative size of the racial-ethnic minority population in the region and racial-ethnic group threat perceptions (Taylor 1998). For example, both the familiarization hypothesis (Savelkoul et al. 2011; Schneider 2008) and the acculturating context hypothesis (Newman 2013) assume that feelings of cultural group threat will initially rise as a result of increasing immigration, but ultimately decrease when local populations have more positive experiences and (prolonged) contacts with immigrants.

In support of group threat theory, various scholars show that the regional size of the racial-ethnic minority population is positively linked with negative attitudes towards racial-ethnic minorities (Newman 2013; Quillian 1996; Taylor 1998; Weber 2015). Thus far, only a small number of field experiments investigated whether discrimination rates are related to regional indicators for cultural group threat. For example, Gaddis and Ghoshal (2015) observed that a high local concentration of mosques – as an indicator of cultural group threat – was correlated with higher levels of discrimination against Arabic minorities in roommate-wanted advertisements. With respect to labor market outcomes, Blommaert and colleagues (2013) found no effect of the percentage of non-Western minorities on regional differences in racial and ethnic discrimination in the Netherlands. However, Carlsson and Rooth (2012) did find that regional variations in xenophobia – as measured by aggregating individual attitudes to the regional level – was related to more discrimination against Arabic-named job applicants. In line with our theoretical arguments, we expect (H2) *a (decreasing) positive effect of the share of Moroccan minorities in the region on discrimination against job candidates of Moroccan origin.*

4.3.3. The interaction between the local- and the national-level

Whereas various studies have shown that negative attitudes towards racial and ethnic minorities are associated with regional indicators for latent intergroup conflicts, other studies have not found empirical evidence for such relationships (Hopkins 2010). These mixed findings have raised the question as to whether important factors have been neglected in previous research. As Hopkins (2011:501) put it: "If objective conditions alone explained local anxieties about immigration, it is not obvious why we would observe the punctuated patterns of anti-immigrant mobilization that scholars frequently note. At the same time, if subjective perceptions alone explained anxieties about immigration, concern about immigration would not be concentrated in specific localities." In recent years, therefore, many researchers have begun to examine which conditions could moderate the relationship between objective indicators for regional intergroup conflicts and negative attitudes towards racial-ethnic minorities (Hainmueller and Hopkins 2014). Against this background, Hopkins proposed the theory of politicized places (Hopkins 2010, 2011) which contends that salient national debates can have a strong influence on the relationship between regional conflicts and people's attitudes towards racial-ethnic minorities. According to Hopkins, people normally pay limited attention to their local environments; therefore, he proposes that political frames are needed to encourage individuals to link day-to-day experiences with their intergroup attitudes (Hopkins 2011:507). He continues by arguing that once certain negative frames regarding racial-ethnic minorities become more salient in national debates, people might feel more group threat from racial-ethnic minorities in the immediate living environment; conversely, when problems regarding racial-ethnic minorities are not politicized, people's intergroup attitudes might be less affected by local economic or cultural disputes between racial-ethnic groups.

Although the theory of politicized places has been mainly applied to explain negative attitudes towards racial-ethnic minorities, it is interesting to test whether it could also be applied to explain racial-ethnic discrimination in the labor market. On the basis of this theory, one might argue that the relationship between latent regional conflicts about economic goods or cultural values and discrimination depends on the prevailing political frames about racial-ethnic minorities in Spain and the Netherlands. More specifically, based on our exploration of the national context with regard to salient public and political debates about immigration and integration (see also Table A4.7 and Table A4.8 in the Appendix), we expect that latent regional conflicts about scarce economic goods have a stronger influence on discrimination against Moroccan minorities in Spain, whereas in the Netherlands discrimination against Moroccan minorities is likely to be more strongly affected by regional disputes about conflicting cultural values. Hence, we expect that (H3a) *the positive effect of regional unemployment rates on discrimination*

is stronger in Spain than in the Netherlands and (H3b) *that the positive effect of the regional share of Moroccan minorities on discrimination is stronger in the Netherlands than in Spain.*

4.4.   Research design and methods

4.4.1. Experimental design

To test our hypotheses, we conducted a correspondence test in the Netherlands and Spain with a harmonized experimental design (for further details, see Lancee et al. 2019a, b). By sending out fictitious resumes in response to real job offers and randomly assigning racial-ethnic origin to applications of otherwise equally qualified job candidates, we can consider differences in responses from employers as evidence of discriminatory treatment.

The fieldwork took place between October 2016 and May 2018. We sent out fictitious applications to occupations with sufficient variations in skill level and customer contact, a sufficient number of job openings in both countries, and with cross-nationally comparable job requirements. In total, we sent out 3,653 applications: 2,239 in Spain and 1,414 in the Netherlands (Table 4.1). Unlike other experimental designs in which researchers applied with more than one application per job opening, we used an unpaired design (see also Lancee 2019) and applied with a single application to a specific job vacancy. This approach minimizes the risk of detection and allows the manipulation of several treatments simultaneously.

Dependent variable
Callback. Callback is a dummy variable that captures whether a fictitious job applicant received a positive response from the employer (Lancee 2019). A positive response is a reaction in which employers ask for additional information about the candidate or a (pre-)invitation for a job interview (coded as 1). Other reactions or no reaction are coded as zero.

Independent variables
Moroccan origin. Our main variable of interest is the racial-ethnic origin of the fictitious job applicant (Moroccan, Dutch, Spanish or Catalan [see below]), signaled by the name but also by the language skills mentioned in the CV and a passage about one's migrant background in the cover letter. Names were chosen based on the name popularity in the birth cohorts of the fictitious job applicants. We avoided to use names with clear religious connotations such as Mohamed, Christiaan or Jesús. Furthermore, job applicants of Moroccan origin signaled their race-ethnicity by stating in the skills section of the CV that aside from the official language of the country/region of study they also speak (Moroccan) Arabic.

Finally, applicants of Moroccan origin explicitly mentioned in the cover letter that they are either 1.5 generation ("I was born in Morocco, but moved to [region of company] at the age of 6 and all my relevant education and training has been in [Spain/The Netherlands]") or second-generation migrant ("My family is originally from Morocco, but I was born in [region of company] and all my education and training has been in [Spain/The Netherlands]").[32]

Other characteristics at the micro-level. We controlled in our analyses for several other applicant characteristics, namely: phenotype, gender, and religiosity. *Phenotype* was signaled by the picture. Sending resumes with a picture is a relatively accepted practice in The Netherlands and in Spain. We took advantage of this feature and attached pictures with variation in phenotypic appearance of job applicants.[33] All pictures were drawn from a stock photo website and slightly adapted by a professional photographer so that all stock models/job applicants had the same outfit. Furthermore, we experimentally varied whether female applicants of Moroccan origin with a picture wear a headscarf: half of those applicants had a picture with a woman wearing a headscarf, the other half had a picture with a woman not wearing a headscarf. *Gender* was signaled through the pictures and distinguishable male (Mehdi, Said, Jeroen, Álvaro, Jordi) and female (Karima, Rachida, Maaike, Alba, Laia) names. *Religious affiliation* was signaled through the applicant's engagement in a voluntary association (mentioned in the cover letter and the CV). More specifically, half of the applicants volunteered in a religious organization (*religious treatment*: applicants of Moroccan origin listed a Muslim association, whereas majority applicants listed a Christian association) while other the half volunteered in a secular organization (neutral treatment) (see also Di Stasio et al. 2019). Finally, we controlled for job characteristics such as customer contact, required educational skills, and our assessment of the fit between the requirements listed in the job advertisement and the skills and work experience listed in the job applications.

4.4.2. Contextual-level variables

Regions are classified using the Nomenclature of Territorial Units for Statistics scheme of the European Union at the 3-digit level. We focus on the NUTS3-level because labor markets cross municipal borders and people's perceptions about latent regional intergroup conflicts are likely to be influenced by the places where people live and work. Additionally, whereas people's perceptions at lower levels

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32 For a detailed analysis of differences among 1.5- and second-generation migrants, see Veit and Thijssen 2019.

33 Some applications were sent without a picture (10% in Spain, 50% in The Netherlands) to measure the (negative) effect of not including a CV picture on callback rates.

might be heavily affected by selective sorting, such bias is less likely to play a role at higher levels of aggregation.[34] Please note that a number of NUTS3-regions with a low number of observations were grouped together (on the basis of geographical location and historical characteristics) in order to ensure having enough observations to perform multilevel analysis (Maas and Hox 2005). Furthermore, the Spanish cities of Ceuta and Melilla, located in North Africa, were excluded from the analysis because of their unique demographic and geographical characteristics. Lastly, due to the political conflict between the government of Spain and the regional government of Catalonia in 2017-2018 (Spanish constitutional crisis 2017-2018), the Spanish research team decided to slightly alter the set-up of the field experiment in Catalan regions so that half of the majority applicants had clearly-distinguishable Spanish names and the other half had clearly-distinguishable Catalan names. We will return to this issue in the sensitivity analyses.

Unemployment rates. As an indicator for the economic conditions within regions, we use the unemployment rate for each NUTS-3 region (in 2015) provided by Instituto Nacional de Estadística and Statistics Netherlands (Instituto Nacional de Estadistica 2015; Statistics Netherlands 2015b). As can be seen in Figure 4.1, unemployment rates vary notably across regions, although these differences seem to be more pronounced in Spain (ranging from 12 to 37%) than in the Netherlands (ranging from 5.5 to 9%).

Figure 4.1. Regional variation in unemployment rates in 2015
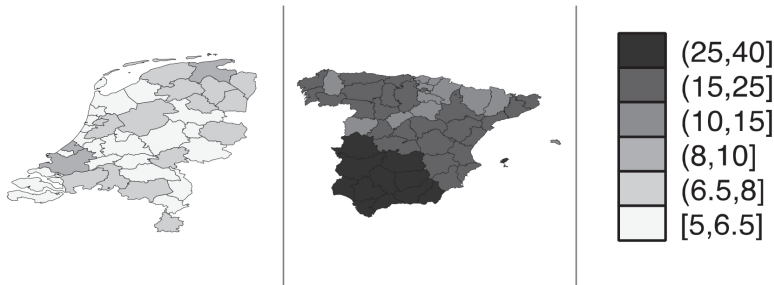
Source: Instituto Nacional de Estadístic, 2015 & Statistics Netherlands, 2015

Outgroup size. This variable is measured by the percentage of residents born in Morocco within a NUTS3-region in Spain in 2015. In the Netherlands, it is

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34 Previous research on intergroup attitudes has also focused on the NUTS3-level (e.g. Savelkoul et al. 2011; Weber 2015). NUTS3-regions are standardized with regard to populations size and consist of 150,000 to 800,000 inhabitants (Eurostat 2018). NUTS3-regions are located between the municipality and the province level. A large proportion of the populations lives and works within the same NUTS3-region, especially those living in the larger municipalities (see e.g. Statistics Netherlands 2017b).

measured by the percentage of residents within a region in 2015 who were born in Morocco or have at least one parent who was born in Morocco. The latter operationalization (including the second generation) follows the definition of people with a migration background of Statistics Netherlands (commonly applied in policies as well as in public and political debates in the Netherlands). These statistics were derived from Instituto Nacional de Estadística and Statistics Netherlands (Instituto Nacional de Estadistica 2015; Statistics Netherlands 2015b). Figure 4.2 depicts the regional variation of Moroccan minorities in both countries. It shows that regions vary considerably with regard to the size of the Moroccan population: between 0.2% and 5.9% in Spain, and between 0.1% and 6.3% in the Netherlands. In Spain, Moroccan minorities are more concentrated in Catalonia and the eastern- and south-eastern coast – a pattern that has been observed since the beginning of the inflows of Moroccan migrants (Bodega et al. 1995; Cebolla and Requena 2009). In the Netherlands, Moroccan minorities mainly live in the Randstad (Noord-Holland, Zuid-Holland, Flevoland, and Utrecht).

Figure 4.2. Regional variation in the relative size of the Moroccan minority population in 2015
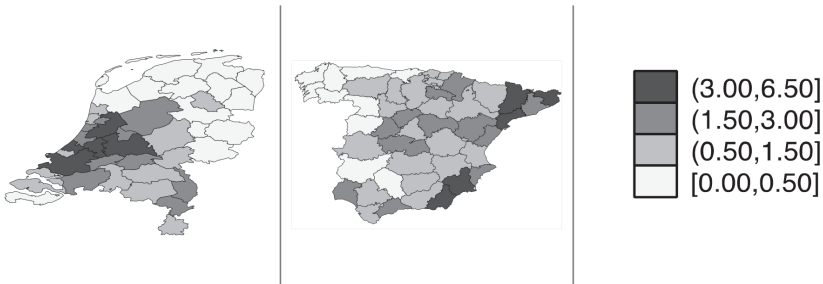
Source: Instituto Nacional de Estadístic, 2015 & Statistics Netherlands, 2015.

Lastly, we created measurements of the absolute changes (in percentage points) in both contextual-level variables over the last five years (2010 to 2015) in order to be able to study the effect of recent changes in unemployment and relative outgroup size (Hopkins 2010; Newman 2013).

All regional variables are centered within each country, so that they reflect differences within the countries; variables are hence not biased by the overall differences between the two countries. Descriptive statistics of the micro- and macro-level variables are displayed in Table 4.1. To test our hypotheses, we applied multilevel modelling (Snijders and Bosker 1999) with two levels, including applicant and job characteristics at the micro-level and regional characteristics at the contextual-level.

Table 4.1. Descriptive statistics

Micro-level characteristics	Spain	The Netherlands
	Mean / Prop.	Mean / Prop.
Callback	0.22	0.48
Moroccan	0.36	0.30
Gender + headscarf included		
Male	46.58	50.64
Female with headscarf	10.81	2.90
Female without headscarf	42.61	46.46
Picture included		
No picture	8.80	45.19
North European	11.17	9.34
Central European	18.13	8.42
South European	27.82	15.77
North African/Turkish	23.18	16.05
East African	10.90	5.23
Religiosity		
Not religious	49.89	48.09
Christian	31.93	36.21
Muslim	18.18	15.70
More customer contact	0.49	0.43
Higher educational skills	0.27	0.48
Advertisement fit		
Fit	36.06	78.57
Underqualified	6.92	7.21
Overqualified	56.99	14.21
$N_{micro\text{-}level}$	2,267	1,414

Contextual-level characteristics	Spain				The Netherlands			
	Mean	SD	Min.	Max.	Mean	SD	Min.	Max.
Outgroup size	1.73	1.24	0.20	4.70	2.03	1.49	0.20	6.30
Change in outgroup size	0.06	0.12	-0.20	0.30	0.12	0.11	0.00	0.30
Unemployment rates	22.27	7.68	12.22	39.59	7.07	1.43	5.60	11.59
Change in unemployment rates	1.77	2.10	-1.66	6.89	1.95	0.50	1.40	3.19
$N_{contextual\text{-}level}$	28				22			

Source: GEMM, 2019

4.5. Findings

4.5.1. Descriptive analysis

A first glance at the descriptive data shows that job applicants of Moroccan origin in the Netherlands are more discriminated against than those in Spain. In Spain, applicants of Moroccan origin are about 9 percentage points less likely to receive a callback than majority applicants (0.25 vs. 0.16). In the Netherlands this difference is 16 percentage points: majority applicants have a callback rate of 0.53 while applicants of Moroccan origin have a callback rate of 0.37 (Table 4.2).

Furthermore, Table 4.2 also shows that for both men and women and across most occupations, Moroccan minorities face higher levels of discrimination in the Netherlands than in Spain. Sales representatives and hairdressers are the exception, though these differences are not particularly large and the number of observations for these occupations is rather low.

Figure 4.3 further shows that in the Netherlands and Spain the gaps in callback rates between majority applicants and applicants of Moroccan origin are higher for female applicants of Moroccan origin wearing headscarves compared to those who do not wear headscarves (cf. Weichselbaumer 2016). This suggests that the larger callback gaps observed for female job applicants (compared to their male counterparts) are partly driven by this additional signal of religiosity.[35]

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35 In light of the Spanish constitutional crisis 2017-2018, it is interesting to observe that the callback rate of job applicants with Catalan names is higher than for those with Spanish names in Catalan regions (especially among male job applicants). This also seems to have consequences for the estimates of discrimination against applicants of Moroccan origin found in Catalonia. In fact, the difference in the callback rate of male applicants of Spanish and Moroccan origin is very small. Consequently, it is important to interpret the smaller racial-ethnic gaps in this region with some caution.

Table 4.2. Overall callback rates by origin group, country, gender, and occupation

	Spain					the Netherlands				
	Callback rate Majority (1)	Callback rate Moroccan (2)	Racial-ethnic gap (1-2)	Majority N	Moroccan N	Callback rate Majority (3)	Callback rate Moroccan (4)	Racial-ethnic gap (3-4)	Majority N	Moroccan N
Aggregated results	24.93	15.72	9.21	1,444	795	52.97	36.58	16.39	993	421
Gender										
Men	22.39	16.36	6.03	774	269	49.41	33.98	15.43	510	206
Women	26.72	15.40	11.32	670	526	56.73	39.07	17.66	483	215
Occupation										
Cook	24.65	20.70	3.95	434	256	77.59	53.40	24.19	241	103
Payroll Clerk	20.43	12.98	7.45	230	131	30.51	15.58	14.93	177	77
Receptionist	14.10	5.63	8.47	156	71	34.29	20.83	13.46	105	48
Sales Representative	34.82	13.89	20.93	112	36	41.78	25.00	16.78	146	60
Software Developer	57.75	51.61	6.14	71	31	80.14	66.67	13.47	146	66
Store Assistant	14.35	7.38	6.97	223	122	31.54	20.00	11.54	130	50
Hairdresser	33.03	14.19	18.84	218	148	62.50	47.06	15.44	48	17

Source: GEMM, 2019

Figure 4.3. Callback rates by racial-ethnic origin, gender, region

Netherlands   Spain (excluding Catalonia)   Catalonia

MEN
Moroccan name — 33%
Dutch name — 49%

MEN
Moroccan name — 17%
Spanish name — 22%

MEN
Moroccan name — 16%
Spanish name — 17%
Catalan name — 30%

WOMEN
Moroccan name with headscarf — 33%
Moroccan name without headscarf — 41%
Dutch name — 57%

WOMEN
Moroccan name with headscarf — 14%
Moroccan name without headscarf — 17%
Spanish name — 26%

WOMEN
Moroccan name with headscarf — 10%
Moroccan name without headscarf — 19%
Spanish name — 24%
Catalan name — 29%

N= 1,414   N= 1,410   N= 829

Source: GEMM, 2019

4.5.2. Multivariate analysis

Table 4.3 presents the results of multilevel models to predict the likelihood to receive a positive callback for candidates of Moroccan origin compared to those with majority origins in the Netherlands and Spain.

As is shown in the empty model (model 0), most of the variance is located at the micro-level. Although the variance at the regional (or macro) level is much smaller, it is significant. The intraclass correlation equals 0.078, indicating that 7.8 per cent of the variance in callbacks is located at the regional-level. Model 1 tests whether there is a difference in the likelihood to receive a positive callback for applicants with a Moroccan or majority background. Overall, applicants of Moroccan origin have a significantly lower likelihood to receive a positive callback compared to equally qualified majority applicants (b = -0.093). Hence, in line with previous field studies (Andriessen et al. 2012; Bovenkerk et al. 1995; Prada et al. 1996), we find significant discrimination against job applicants of Moroccan origin.

In model 2 we test whether this penalty differs between both countries. The main effect of having a Moroccan origin in model 2 now shows the effect in Spain, as this country is coded as the reference category. We find a marginally significant and negative effect for having a Moroccan origin in Spain (b = -0.056). The negative interaction parameter shows that discrimination of applicants of Moroccan origin is significantly higher in the Netherlands (b = -0.082). To illustrate this result, we estimated predicted callback rates per origin group and country. As is shown in Figure 4.4, the predicted racial-ethnic gap in callback rates is six

percentage points in Spain and fourteen percentage points in the Netherlands, indicating a difference of eight percentage points between these two countries.[36]

Figure 4.4. Predicted callback rates by racial-ethnic origin (majority origin vs. Moroccan origin) and country
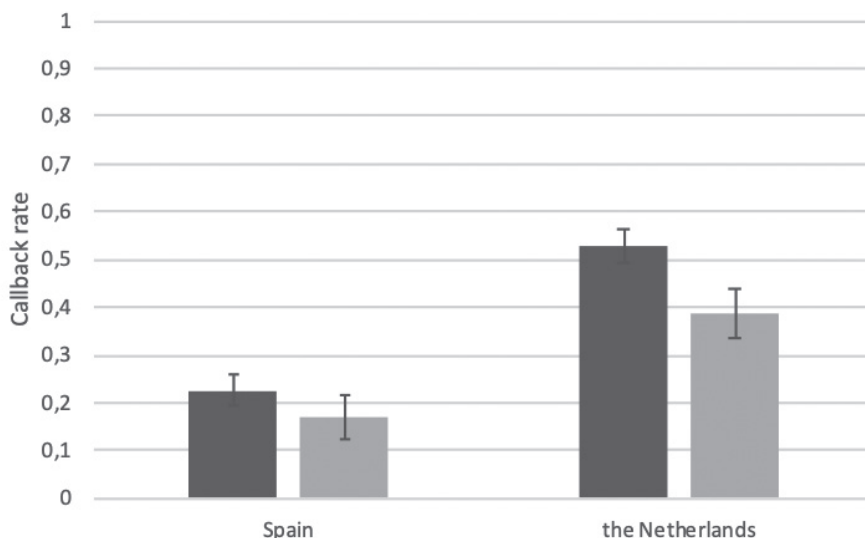
Note: The bars show absolute values; all controls are included. Dark grey bars indicate the share of positive responses for majority job candidates; light grey bars indicate the share of positive responses for job candidates of Moroccan origin. 95% confidence intervals are calculated. Source: GEMM, 2019

In model 3 we include the regional unemployment rates and outgroup size to test hypothesis 1 and 2, respectively. The results indicate that the level of discrimination against job applicants of Moroccan origin is not related to the level of unemployment within a region, as shown by the insignificant interaction between unemployment rates and having a Moroccan origin. The main effect of regional

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36 When comparing the discrimination rate (i.e. the callback rate of applicants of majority origin divided by that of applicants of Moroccan origin) across countries, we observe only a slightly higher level of discrimination in the Netherlands than in Spain: the discrimination rate is 1.35 in the Netherlands and 1.33 in Spain (see also the results of the multilevel logistic regression models in Table A4.17 to Table A4.19 in the Appendix). Given the overall lower callback rate in Spain, however, it can be expected that, relative to native-majorities, Moroccan minorities in Spain have to send a higher number of job applications in order to receive a positive response from an employer than those in the Netherlands. Indeed, these results imply that applicants of native-Spanish origin need to send 4.4 resumes to get one callback whereas applicants of Moroccan origin need to send about 5.9 resumes in Spain; in the Netherlands, applicants of native-Dutch origin need to send 1.9 resumes to get one callback whereas applicants of Moroccan origin need to send about 2.6 resumes.

unemployment rates shows that for both majority applicants and applicants of Moroccan origin the likelihood to receive a callback is significantly lower in regions with higher unemployment rates, hence rejecting hypothesis 1. In model 3, however, we do find support for hypothesis 2: the larger the share of the Moroccan population in a region, the lower the relative likelihood that applicants of Moroccan origin receive a callback. In model 4, we test whether the effect of outgroup size is curvilinear, but we find no evidence for this expectation.

Finally, model 5 investigates whether discrimination of job applicants of Moroccan origin is stronger (weaker) in regions with stronger increases (decreases) in unemployment rates and/or the share of Moroccan minorities in the region between 2010 and 2015. However, we find that discrimination of applicants of Moroccan origin is not related to recent changes in the economic circumstances and relative size of the Moroccan population within regions.

In short, in Table 4.3 we find no support for hypothesis 1 regarding the impact of the regional unemployment, but we do find support for hypothesis 2. In other words, discrimination against job candidates of Moroccan origin does not seem to be related with the economic circumstances of a region. However, we do find more discrimination against job applicants of Moroccan origin in regions with a higher percentage of Moroccan minorities.

Table 4.4 presents the results for Spain and the Netherlands separately. These results illustrate, again, that discrimination against applicants of Moroccan origin is stronger in the Netherlands than in Spain. In Spain, the coefficient for having a Moroccan origin is lower and not statistically significant ($b = -0.046$ in ES; $b = -0.153$ in NL). Furthermore, we find that the level of discrimination is not significantly related to any of the regional characteristics in Spain. In the Netherlands, by contrast, we find a marginally significant relationship between the relative outgroup size and the effect of having a Moroccan origin ($b = -0.028$), indicating that discrimination is stronger in regions with a higher percentage of Moroccan minorities. In Spain, this parameter estimate is in the expected direction though not statistically significant ($b = -0.017$).

Table 4.3. Parameter estimates from multilevel models on the likelihood to receive a positive callback (the Netherlands and Spain), reduced table

	Model 0	Model 1	Model 2	Model 3	Model 4	Model 5
Moroccan (ref = majority)		-0.093*** (0.025)	-0.056~ (0.029)	-0.047 (0.030)	-0.048 (0.030)	-0.055~ (0.031)
Netherlands (ref = Spain)		0.277*** (0.022)	0.302*** (0.024)	0.307*** (0.024)	0.307*** (0.024)	0.301*** (0.025)
Moroccan*Netherlands			-0.082* (0.033)	-0.070* (0.035)	-0.069~ (0.035)	-0.079* (0.036)
Unemployment rates				-0.005* (0.002)	-0.005* (0.002)	
Moroccan* Unemployment rates				0.003 (0.003)	0.003 (0.003)	
Outgroup size				0.006 (0.007)	0.007 (0.011)	
Moroccan*Outgroup size				-0.023* (0.011)	-0.022 (0.017)	
Outgroup size (squared)					-0.001 (0.004)	
Moroccan*Outgroup size (squared)					-0.001 (0.006)	
Change in unemployment rates						0.004 (0.008)
Moroccan*Change in unemployment rates						0.006 (0.011)
Change in outgroup size						-0.013 (0.094)
Moroccan*Change in outgroup size						-0.079 (0.140)
Constant	0.323*** (0.020)	0.248*** (0.029)	0.236*** (0.030)	0.227*** (0.030)	0.227*** (0.030)	0.237*** (0.030)
Variance components						
Micro-level	0.200 (0.005)	0.191 (0.004)	0.190 (0.004)	0.190 (0.004)	0.190 (0.004)	0.190 (0.004)
Contextual-level	0.017 (0.004)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
$N_{micro\text{-}level}$	3,653	3,653	3,653	3,653	3,653	3,653
$N_{contextual\text{-}level}$	50	50	50	50	50	50

*Note: Standard errors in parentheses (two-sided). Model 1: Main effects. Model 2: Two-way interaction with country. Model 3: Two-way interactions with regional characteristics (levels). Model 4: two-way interaction with outgroup size squared. Model 5: two-way interactions with regional characteristics (changes). Parameter estimates in model 1 to 5 are controlled for applicant characteristics (gender, headscarf, picture and phenotype, religiosity) and job characteristics (customer contact, required educational level) as well as an assessment of the fit between the vacancy and the job application. ~ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Source: GEMM, 2019*

In order to illustrate these results for the Netherlands, Figure 4.5 shows the predicted callback rate for applicants of majority and Moroccan origin in regions with the lowest, average and highest percentage of Moroccan minorities. It shows that the gap in callback rates between majority applicants and applicants of Moroccan origin tends to increase with a higher percentage of Moroccan minorities in the region. In particular, the gap between majority job applicants and applicants of Moroccan origin is approximately eight percentage points in regions with the lowest percentage of Moroccan minorities and twenty-five percentage points in regions with the highest percentage of Moroccan minorities.

Finally, in Table 4.5 we test whether the effects of regional characteristics – that is, unemployment rate (model 1), outgroup size (model 2), the change in unemployment rate (model 3), and the change in outgroup size (model 4) on discrimination of candidates of Moroccan origin vary across national contexts. In all models, however, we do not find evidence for such three-way interaction effects. Therefore, we find no support for hypothesis 3a and 3b.

Table 4.4. Parameter estimates from multilevel models on the likelihood to receive a positive callback (per country), reduced table

	Spain				The Netherlands			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Moroccan (ref = majority)	-0.046 (0.031)	-0.040 (0.032)	-0.032 (0.033)	-0.040 (0.033)	-0.153*** (0.041)	-0.131** (0.043)	-0.131** (0.043)	-0.136** (0.043)
Unemployment rates		-0.003 (0.002)	-0.003 (0.002)			-0.028* (0.013)	-0.028* (0.013)	
Moroccan*Unemployment rates		0.002 (0.003)	0.002 (0.003)			0.024 (0.021)	0.024 (0.021)	
Outgroup size		-0.003 (0.011)	-0.006 (0.013)			0.012 (0.010)	0.018 (0.017)	
Moroccan*Outgroup size		-0.017 (0.018)	-0.025 (0.022)			-0.028~ (0.015)	-0.020 (0.027)	
Outgroup size (squared)			0.003 (0.007)				-0.003 (0.006)	
Moroccan*Outgroup size (squared)			0.011 (0.012)				-0.003 (0.009)	
Change in unemployment rates				0.011~ (0.007)				-0.056 (0.037)
Moroccan*Change in unemployment rates				0.002 (0.011)				0.051 (0.056)
Change in outgroup size				-0.140 (0.100)				0.175 (0.167)
Moroccan*Change in outgroup size				0.046 (0.164)				-0.342 (0.247)
Constant	0.167*** (0.038)	0.160*** (0.039)	0.162*** (0.039)	0.162*** (0.039)	0.634*** (0.037)	0.627*** (0.037)	0.627*** (0.037)	0.629*** (0.037)
Variance components								
Micro-level	0.165 (0.005)	0.165 (0.005)	0.165 (0.005)	0.165 (0.005)	0.220 (0.008)	0.219 (0.008)	0.219 (0.008)	0.220 (0.008)
Contextual-level	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.002 (0.001)	0.002 (0.001)	0.001 (0.001)	0.002 (0.001)
$N_{micro-level}$	2,239	2,239	2,239	2,239	1,414	1,414	1,414	1,414
$N_{contextual-level}$	28	28	28	28	22	22	22	22

Note: Standard errors in parentheses (two-sided). Model 1: Main effects. Model 2: Two-way interactions with regional characteristics (levels). Model 3: two-way interaction with outgroup size squared. Model 4: two-way interactions with regional characteristics (changes). Parameter estimates in model 1 to 4 are controlled for applicant characteristics (gender, headscarf, picture and phenotype, religiosity) and job characteristics (customer contact, required educational level) as well as an assessment of the fit between the vacancy and the job application. ~ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. Source: GEMM, 2019

Table 4.5. Parameter estimates from multilevel models on the likelihood to receive a positive callback (the Netherlands and Spain), reduced table

	Model 1	Model 2	Model 3	Model 4
Moroccan (ref = majority)	-0.052~ (0.029)	-0.056~ (0.029)	-0.055~ (0.030)	-0.050 (0.031)
Netherlands (ref = Spain)	0.309*** (0.023)	0.297*** (0.025)	0.299*** (0.024)	0.303*** (0.025)
Moroccan*Netherlands	-0.085* (0.034)	-0.061~ (0.035)	-0.082* (0.034)	-0.075* (0.036)
Unemployment rates	-0.004~ (0.002)			
Moroccan*Unemployment rates	0.002 (0.003)			
Netherlands*Unemployment rates	-0.025* (0.011)			
Moroccan*Netherlands*Unemployment rates	0.018 (0.020)			
Outgroup size		-0.004 (0.013)		
Moroccan*Outgroup size		-0.016 (0.019)		
Netherlands*Outgroup size		0.012 (0.016)		
Moroccan*Netherlands*Outgroup size		-0.010 (0.024)		
Change in unemployment rates			0.007 (0.008)	
Moroccan*Change in unemployment rates			0.002 (0.011)	
Netherlands*Change in unemployment rates			-0.064* (0.033)	
Moroccan*Netherlands*Change in unemployment rates			0.035 (0.052)	
Change in outgroup size				-0.087 (0.116)
Moroccan*Change in outgroup size				0.075 (0.159)
Netherlands*Change in outgroup size				0.220 (0.185)
Moroccan*Netherlands*Change in outgroup size				-0.357 (0.277)
Constant	0.231*** (0.030)	0.235*** (0.030)	0.238*** (0.030)	0.231*** (0.030)

Table 4.5. Continued

	Model 1	Model 2	Model 3	Model 4
Variance components				
Micro-level	0.190 (0.004)	0.190 (0.004)	0.190 (0.004)	0.190 (0.004)
Contextual-level	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
$N_{micro-level}$	3,653	3,653	3,653	3,653
$N_{contextual-level}$	50	50	50	50

Note: Standard errors in parentheses (two-sided). Model 1: three-way interactions with Moroccan, country, and unemployment rates. Model 2: three-way interactions with Moroccan, country, and outgroup size. Model 3: three-way interactions with Moroccan, country, and change in unemployment rates. Model 4: three-way interactions with Moroccan, country, and change in outgroup size. Parameter estimates in model 1 to 5 are controlled for applicant characteristics (gender, headscarf, picture and phenotype, religiosity) and job characteristics (customer contact, required educational level) as well as an assessment of the fit between the vacancy and the job application. ~ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001 Source.: GEMM, 2019

Figure 4.5. Predicted callback rates by racial-ethnic origin (majority origin vs. Moroccan origin) and outgroup size at the regional-level in the Netherlands
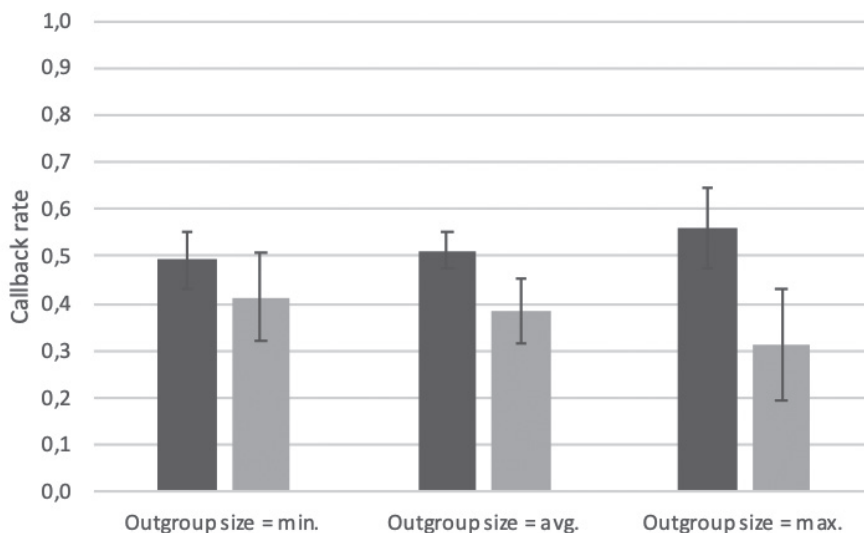
Note: The bars show absolute values; all controls are included. Dark grey bars indicate the share of positive responses for majority job candidates; light grey bars indicate the share of positive responses for job candidates of Moroccan origin. 95% confidence intervals are calculated. Source.: GEMM, 2019

4.5.3. Robustness checks

To ascertain the robustness of our results, we performed several sensitivity analyses (see section A4.7.2 to A4.7.4 in the Appendix). First, we re-ran our models excluding observations from Catalonia (see Tables A4.9 to A4.11) because of the Spanish constitutional crisis 2017-2018. Since we applied with fictitious job candidates who said that they lived and studied in Madrid, this might have affected our results in Catalan regions. Overall, we do not find substantially different results. Once again, we find that discrimination against job applicants of Moroccan origin is higher in the Netherlands than in Spain (Table A4.9, model 3). Likewise, we find a (marginally significant) negative interaction effect between having a Moroccan origin and regional outgroup size (Table A4.9, model 4). However, we find several differences between the results for the full Spanish sample presented in Table 4.4 and those in Table A4.10 which excludes Catalonia. First, after excluding Catalan observations, we find significant discrimination against job applicants of Moroccan origin in the Spanish sample (model 2), probably driven by the fact that the callback rate for applicants with Catalan-sounding names in Catalonia is higher than for those with Spanish-sounding names. Second, while we find no significant interaction effects in Spain between having a Moroccan origin and regional indicators in model 3 and 5, we do observe in model 4 a statistically significant and positive interaction effect between having a Moroccan origin and outgroup size squared. This indicates that in Spain (excluding Catalonia) the relationship between the share of Moroccan minorities and discrimination of job applicants of Moroccan origin is curvilinear, consistent with hypothesis 2. In particular, this suggests that in Spain there is less discrimination of applicants of Moroccan origin in regions with either a relatively-high share of Moroccan minorities and in regions with a relatively-low share of Moroccan minorities, When we formally test for significant differences for each regional effect across both countries (in Table A4.11), we find similar results as presented in the main analyses (in Table 4.5): the relationships between regional indicators for intergroup threat and discrimination against Moroccan minorities do not differ across countries.

Further additional analyses indicate that the results are hardly affected by excluding regions with a low number of observations (less than 45) per region (see Tables A4.12 and A4.13). The conclusions also do not change when we use a narrower definition for a positive response from an employer and only consider an explicit invitation to an interview as a positive response (Tables A4.14 to A4.16).

Finally, largely similar empirical patterns were found by using multilevel logistic regression models instead of standard multilevel regression models (Tables A4.17 to A4.19).

4.6. Discussion

Prior studies have shown that Moroccan minorities are discriminated against in the labor market. This cross-national harmonized field experiment extends these findings, first, by assessing whether discrimination rates vary across two countries and different regions and, secondly, by examining the impact of different potential sources for racial-ethnic conflict (i.e. economic and cultural group threat) at the regional level. By doing so, we aimed to get a better understanding under what circumstances discrimination is more likely to affect the hiring outcomes of Moroccan minorities.

The findings demonstrate that discrimination against job applicants of Moroccan origin varies across both countries. Whereas job candidates of Moroccan origin are six percentage points less likely to receive a positive response from an employer in Spain, the predicted ethnic gap in callbacks is fourteen percentage points – thus, eight percentage points higher in the Netherlands. Hence, in addition to replicating earlier findings on the existence of discrimination against Moroccan minorities, the present study further demonstrates that labor market outcomes of Moroccan minorities vary with the national context in which people live.

Furthermore, we find mixed support for hypotheses deduced from group threat theory that job applicants of Moroccan origin are more discriminated against in regions with circumstances indicative of more economic or cultural competition between racial-ethnic groups. In line with the results of Blommaert and colleagues (2013) we find that regional economic circumstances are not significantly related to discrimination of Moroccan minorities. Neither the level nor change in regional unemployment seem to matter. The findings with regard to the regional outgroup size are different, however. We specifically find that Moroccan minorities are less likely to receive a callback when the relative size of the Moroccan minority population in the region is higher, especially in the Netherlands. More concretely, in the Netherlands, a one percentage point increase in the relative size of the Moroccan minority population is associated with a 2.8 percentage point increase in the gap in callback rates between majority job applicants and job applicants of Moroccan origin. In the robustness analysis, we find some evidence of a decreasing positive effect of outgroup size in Spain after excluding observations from Catalan regions. Altogether, this evidence seems to be in line with group threat theory and demonstrates that the regional context can have an influence on the level of discrimination against Moroccan minorities (cf. Carlsson and Rooth 2012).

Finally, and contradicting the theory of politicized contexts (Hopkins 2010, 2011), we do not find significant support for the idea that the effect of economic

group threat (as indicated by unemployment levels) within regions is stronger in Spain than in the Netherlands, nor that cultural group threat (as indicated by outgroup size) within regions has a significantly stronger impact in the Netherlands than in Spain. Thus, we do not find clear empirical support for the claim that dominant political frames at the national level moderate the relationship between these regional indicators for latent intergroup threats and discrimination in hiring outcomes.

One important finding of this study is that discrimination of applicants of Moroccan origin varies between Spain and the Netherlands. We interpreted these findings through the lens of group threat theory (Blumer 1958; Bobo 1999; Quillian 1995). Following this line of reasoning, employers will discriminate against Moroccan minorities as a result of a collective group process whereby employers protect the interests of the majority group if they perceive that the majority group is being threatened by a racial-ethnic minority group. Considering the differences in national economic circumstances and public and political discourse between Spain and the Netherlands, our findings may suggest that cultural rather than economic competition drives discrimination in hiring outcomes. Indeed, notwithstanding the more prosperous economic circumstances in the Netherlands, employers appear to discriminate more strongly against job applicants of Moroccan origin, possibly indicating a deep cultural divide between majorities and Moroccan minorities in Dutch society (cf. Sniderman and Hagendoorn 2007). Moreover, our findings indicate that particularly in the Netherlands discrimination is stronger in regions with a higher percentage of Moroccan minorities.

Despite these findings, however, it is worthwhile to consider alternative explanations for the observed empirical patterns. In particular, different (perceived) risks of hiring job applicants of Moroccan origin can potentially also explain why discrimination rates are higher in the Netherlands than in Spain. For example, it has been suggested that in highly-protected labor markets, firing costs are higher and, consequently, employers will be more likely to statistically discriminate against racial-ethnic minorities (Kogan 2006). Hence, the higher discrimination rate in the Netherlands may also be explained by the stricter employment protection legislation within this country (OECD 2018). To disentangle these different explanations, it would be interesting to combine the results of this field experiment with a survey among employers. By including questions about employers' views on the perceived risks of hiring minority candidates and their perceptions of cultural or economic competition between racial-ethnic groups, one could obtain a better understanding of the factors that are most important for explaining cross-national differences in racial-ethnic discrimination.

Furthermore, given our interpretation that cultural group threat may be an important driver for discrimination against Moroccan minorities, it would be

interesting to investigate the sources and stability of these group threat perceptions. For instance, is this presumed relationship between discrimination and cultural group threat the result of unwavering cultural dissimilarities (Hofstede et al. 2010) or can this relationship be better understood by investigating how populist radical right parties politicize cultural differences in times of increasing economic growth (Mols and Jetten 2016; Semyonov, Raijman, and Gorodzeisky 2006)?

Regarding regional differences in discrimination of applicants of Moroccan origin, we find evidence for a significant effect of the relative size of the Moroccan population on the level of discrimination against job applicants of Moroccan origin. However, we find no effect of the economic circumstances in the region on discrimination rates. Although other researchers have found similar results, here we would like to note several limitations. First, we focused on regional differences at the NUTS3-level because it seems likely that regional labor markets cover large geographic areas. However, we cannot ignore the possibility that regional indicators for latent intergroup conflicts might be even more relevant at lower geographical scales (Laméris 2018). Furthermore, by grouping together regions with a low number of applications, we made sure that we had enough observations to perform multilevel analyses. Nevertheless, future research could send more job applicants per region in order to detect small but significant differences in callbacks between minority and majority job applicants across different regions. This would also allow researchers to examine non-linear relationships with more empirical precision. A final shortcoming is related to the use of objective and rather general measurements of the economic and demographic regional context. A final interesting avenue for future research could be to develop more precise measures to capture competition between racial-ethnic groups at the regional level (cf. Gaddis and Ghoshal 2015).

In summary, we find higher levels of employment discrimination against Moroccan minorities in the Netherlands than in Spain. Furthermore, we find some evidence for the notion that the percentage of Moroccan minorities in the regional population is (positively) related to the level of discrimination against Moroccan minorities (particularly in the Netherlands). However, regional unemployment levels were not related to hiring discrimination. Altogether, the findings point to the need to give greater weight to the impact of negative beliefs about racial-ethnic minorities and how these beliefs can have a profound adverse impact on the integration of disadvantaged racial-ethnic groups within the labor market.

4.7.   Appendix

A4.7.1. Research context

Table A4.6. Unemployment indicators and composition of the immigrant population in Spain and The Netherlands. Only first generation unless otherwise indicated

	Spain	The Netherlands
Composition of the immigrant population		
- Foreign born population	12.1%	11.7%
- Population born in Morocco	1.8%	1.0%
- Population born in Morocco, among foreign born population	15.0%	8.4%
- Moroccan minorities aged 20-39 years old	44.7%	52.1%
- Male Moroccan minorities	52.1%	51.5%
Unemployment rates		
- Total unemployment rate	17.2%	4.9%
- Unemployment rate of the foreign-born population [1][2]	23.5%	8.5%
- Unemployment rate of the Moroccan-born population [1][2]	38.5%	11.3%
Regional characteristics		
- Regional variation in foreign born population (min. and max.) [1][2]	3.9% (Extremadura) 22.9% (Balearic Islands)	8.4% (Zuidwest-Friesland) 43.7% (the Hague)
- Regional variation in the population born in Morocco (min. and max.) [1][2]	0.4% (Asturias) 5.6% (Murcia)	0.1% (Zuidwest-Friesland) 6.3% (Amsterdam)
- Regional variation in unemployment rates (min. and max.) [1]	10.6% (Navarre) 25.8% (Extremadura)	4.4 (Overig-Zeeland) 8.1 (Groot-Rijnmond)

Note: [1] = Weighted data; [2] = In the Netherlands: first- and second-generation Moroccan minorities. Source: Spanish Labor Force Survey (2nd quarter 2017) and Statistics Netherlands, 2017

Table A4.7. Perceptions on the economy, immigration, and terrorism in Spain and the Netherlands: proportion of respondents that chose the specified answer category

Item	Answer categories	Spain	The Netherlands	Difference

Question: How would you judge the current situation in each of the following?
Answer categories: very good, rather good, rather bad, very bad

Item	Answer categories	Spain	The Netherlands	Difference
The situation of the (NATIONALITY) economy	(Rather or very) bad	0.85	0.09	0.77***
The employment situation in (OUR COUNTRY)	(Rather or very) bad	0.92	0.23	0.69***
Your personal job situation	(Rather or very) bad	0.40	0.14	0.26***
The financial situation of your household	(Rather or very) bad	0.38	0.10	0.28***

Question: What do you think are the two most important issues facing (COUNTRY) at the moment?
Answer categories (max 2. answers): crime, economic situation, rising prices/inflation/cost of living, taxation, unemployment, terrorism, housing, government debt, immigration, health and social security, educational system, pensions, environment/climate/energy issues, other, none

Item	Answer category	Spain	The Netherlands	Difference
Economic situation (country)	Mentioned	0.33	0.09	0.25***
Unemployment (country)	Mentioned	0.63	0.09	0.55***
Terrorism (country)	Mentioned	0.11	0.19	-0.08***
Immigration (country)	Mentioned	0.07	0.37	-0.30***

Question: What do you think are the two most important issues facing (PERSONALLY) at the moment?
Answer categories (max 2. answers): crime, economic situation, rising prices/inflation/cost of living, taxation, unemployment, terrorism, housing, government debt, immigration, health and social security, educational system, pensions, environment/climate/energy issues, other, none.

Item	Answer category	Spain	The Netherlands	Difference
Economic situation (personally)	Mentioned	0.15	0.05	0.10***
Unemployment (personally)	Mentioned	0.25	0.06	0.19***
Financial situation household (personally)	Mentioned	0.12	0.15	0.04*
Terrorism (personally)	Mentioned	0.03	0.05	-0.02*
Immigration (personally)	Mentioned	0.02	0.06	-0.05***

Table A4.7. Continued

Item	Answer categories	Spain	The Netherlands	Difference

Question: Please tell me whether each of the following statements evokes a positive or negative feeling for you.
Answer categories: very positive, fairly positive, fairly negative, very negative

Item	Answer categories	Spain	The Netherlands	Difference
Immigration of people from other EU Member States	(Fairly or very) negative	0.23	0.32	-0.09***
Immigration of people from outside the EU	(Fairly or very) negative	0.39	0.52	-0.13***

*Note: Own calculations. ~ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001 Source: Eurobarometer 87.3, 2017 (May 2017)*

Table A4.8. Perceptions on the integration of immigrants and the impact of immigrants on society in Spain and the Netherlands: proportion of respondents that chose the specified answer category

Item	Answer categories	Spain	The Netherlands	Difference

Question: Generally speaking, how successful or not is the integration of most immigrants living…
Answer categories: very successful, fairly successful, not very successful, not at all successful

Item	Answer categories	Spain	The Netherlands	Difference
In (OUR COUNTRY)	(Very or fairly) successful	0.62	0.44	0.18***
In the city or area where you live	(Very or fairly) successful	0.75	0.58	0.16***

Table A4.8. Continued

Item	Answer categories	Spain	The Netherlands	Difference

Question: There are different views regarding the impact of immigrants on society in (OUR COUNTRY). To what extent do you agree or disagree with each of the following statements? Overall, immigrants…
Answer categories: totally agree, tend to agree, tend to disagree, totally disagree.

Item	Answer categories	Spain	The Netherlands	Difference
Have an overall positive impact on the (NATIONAL) economy	(Tend to or totally) agree	0.67	0.59	0.09***
Help to fill jobs for which it's hard to find workers in (OUR COUNTRY)	(Tend to or totally) agree	0.81	0.84	-0.03
Bring new ideas and/ or boost innovation in (OUR COUNTRY)	(Tend to or totally) agree	0.64	0.65	-0.01
Are a burden on our welfare system	(Tend to or totally) agree	0.44	0.57	-0.13***
Take jobs away from workers in (OUR COUNTRY)	(Tend to or totally) agree	0.49	0.16	-0.33***
Worsen the crime problems in (OUR COUNTRY)	(Tend to or totally) agree	0.52	0.60	-0.08***
Enrich (NATIONAL) cultural life (art, music, food etc.)	(Tend to or totally) agree	0.71	0.84	-0.13***

*Note: Own calculations. ~ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001*
Source: Special Eurobarometer 470, 2018 (October 2017)

A4.7.2. Results of sensitivity analyses excluding observations from Catalonia

Table A4.9. Parameter estimates from multilevel models on the likelihood to receive a positive callback (the Netherlands and Spain, excluding observations from Catalonia), reduced table

	Model 0	Model 1	Model 2	Model 3	Model 4	Model 5
Moroccan		-0.116***	-0.070*	-0.074*	-0.074*	-0.069*
(ref = majority)		(0.028)	(0.034)	(0.034)	(0.034)	(0.035)
Netherlands		0.280***	0.308***	0.305***	0.305***	0.307***
(ref = Spain)		(0.024)	(0.027)	(0.027)	(0.027)	(0.028)
Moroccan*Netherlands			-0.085*	-0.059	-0.059	-0.081*
			(0.036)	(0.039)	(0.039)	(0.038)
Unemployment rates				-0.005~	-0.005~	
				(0.002)	(0.002)	
Moroccan*Unemployment rates				0.003	0.003	
				(0.003)	(0.003)	
Outgroup size				0.004	0.006	
				(0.008)	(0.013)	
Moroccan*Outgroup size				-0.023~	-0.022	
				(0.012)	(0.020)	
Outgroup size (squared)					-0.001	
					(0.005)	
Moroccan*Outgroup size (squared)					-0.000	
					(0.007)	
Change in unemployment rates						0.005
						(0.009)
Moroccan*Change in unemployment rates						0.005
						(0.012)
Change in outgroup size						0.003
						(0.108)
Moroccan*Change in outgroup size						-0.084
						(0.153)
Constant	0.330***	0.260***	0.244***	0.243***	0.243***	0.245***
	(0.022)	(0.033)	(0.034)	(0.034)	(0.034)	(0.034)
Variance components						
Micro-level	0.206	0.194	0.193	0.193	0.193	0.193
Contextual-level	0.018	0.001	0.001	0.001	0.001	0.001
$N_{micro-level}$	2,852	2,852	2,852	2,852	2,852	2,852
$N_{contextual-level}$	46	46	46	46	46	46

Note: Standard errors in parentheses (two-sided). Model 1: Main effects. Model 2: Two-way interaction with country. Model 3: Two-way interactions with regional characteristics (levels). Model 4: two-way interaction with outgroup size squared. Model 5: two-way interactions with regional characteristics (changes). Parameter estimates in model 1 to 5 are controlled for applicant characteristics (gender, headscarf, picture and phenotype, religiosity) and job characteristics (customer contact, required educational level) as well as an assessment of the fit between the vacancy and the job application. ~ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. Source: GEMM, 2019

Table A4.10. Parameter estimates from multilevel models on the likelihood to receive a positive callback (Spanish sample only, excluding observations from Catalonia), reduced table

	Model 0	Model 1	Model 2	Model 3	Model 4
Moroccan		-0.077*	-0.077*	-0.054	-0.072~
(ref = majority)		(0.037)	(0.038)	(0.040)	(0.038)
Unemployment rates			-0.002	-0.002	
			(0.002)	(0.002)	
Moroccan*Unemployment rates			0.001	0.002	
			(0.003)	(0.003)	
Outgroup size			-0.025	-0.016	
			(0.018)	(0.019)	
Moroccan*Outgroup size			-0.005	-0.021	
			(0.028)	(0.029)	
Outgroup size (squared)				-0.019	
				(0.012)	
Moroccan*Outgroup size (squared)				0.037*	
				(0.019)	
Change in unemployment rates					0.012
					(0.008)
Moroccan*Change in unemployment rates					-0.000
					(0.012)
Change in outgroup size					-0.181
					(0.118)
Moroccan*Change in outgroup size					0.106
					(0.186)
Constant	0.204***	0.149**	0.140**	0.129**	0.145**
	(0.012)	(0.048)	(0.048)	(0.049)	(0.048)
Variance components					
Micro-level	0.164	0.160	0.160	0.158	0.160
Contextual-level	0.000	0.000	0.000	0.000	0.000
$N_{micro-level}$	1,438	1,438	1,438	1,438	1,438
$N_{contextual-level}$	24	24	24	24	24

Note: Standard errors in parentheses (two-sided). Model 1: Main effects. Model 2: Two-way interactions with regional characteristics (levels). Model 3: two-way interaction with outgroup size squared. Model 4: two-way interactions with regional characteristics (changes). Parameter estimates in model 1 to 4 are controlled for applicant characteristics (gender, headscarf, picture and phenotype, religiosity) and job characteristics (customer contact, required educational level) as well as an assessment of the fit between the vacancy and the job application. ~ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. Source: GEMM, 2019

Table A4.11. Parameter estimates from multilevel models on the likelihood to receive a positive callback (the Netherlands and Spain, excluding observations from Catalonia), reduced table.

	Model 1	Model 2	Model 3	Model 4
Moroccan	-0.069*	-0.069*	-0.070*	-0.066~
(ref = majority)	(0.034)	(0.035)	(0.035)	(0.034)
Netherlands	0.309***	0.313***	0.306***	0.306***
(ref = Spain)	(0.026)	(0.028)	(0.027)	(0.027)
Moroccan*Netherlands	-0.084*	-0.063	-0.083*	-0.074~
	(0.036)	(0.039)	(0.037)	(0.038)
Unemployment rates	-0.003			
	(0.002)			
Moroccan*Unemployment rates	0.001			
	(0.003)			
Netherlands*Unemployment rates	-0.025*			
	(0.012)			
Moroccan*Netherlands*Unemployment rates	0.019			
	(0.020)			
Outgroup size		-0.034~		
		(0.020)		
Moroccan*Outgroup size		0.005		
		(0.028)		
Netherlands*Outgroup size		0.042~		
		(0.022)		
Moroccan*Netherlands*Outgroup size		-0.031		
		(0.031)		
Change in unemployment rates			0.009	
			(0.009)	
Moroccan*Change in unemployment rates			-0.001	
			(0.012)	
Netherlands*Change in unemployment rates			-0.066~	
			(0.034)	
Moroccan*Netherlands*Change in unemployment rates			0.038	
			(0.053)	
Change in outgroup size				-0.087
				(0.147)
Moroccan*Change in outgroup size				0.101
				(0.190)
Netherlands*Change in outgroup size				0.216
				(0.209)
Moroccan*Netherlands*Change in outgroup size				-0.386
				(0.298)
Constant	0.245***	0.233***	0.244***	0.242***
	(0.033)	(0.034)	(0.034)	(0.034)
Variance components				
Micro-level	0.193	0.193	0.193	0.193
Contextual-level	0.001	0.001	0.001	0.001
$N^{micro-level}$	2,852	2,852	2,852	2,852
$N^{contextual-level}$	46	46	46	46

Note: Standard errors in parentheses (two-sided). Model 1: three-way interactions with Moroccan, country, and unemployment rates. Model 2: three-way interactions with Moroccan, country, and outgroup size. Model 3: three-way interactions with Moroccan, country, and change in unemployment rates. Model 4: three-way interactions with Moroccan, country, and change in outgroup size. Parameter estimates in model 1 to 5 are controlled for applicant characteristics (gender, headscarf, picture and phenotype, religiosity) and job characteristics (customer contact, required educational level) as well as an assessment of the fit between the vacancy and the job application. ~ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. Source.: GEMM, 2019

A4.7.3. Results of sensitivity analyses excluding regions with a low number of observations

Table A4.12. Parameter estimates from multilevel models on the likelihood to receive a positive callback (the Netherlands and Spain, excluding observations from regions with less than 45 observations), reduced table

	Model 0	Model 1	Model 2	Model 3	Model 4	Model 5
Moroccan		-0.093***	-0.054	-0.041	-0.042	-0.059
(ref = majority)		(0.028)	(0.033)	(0.035)	(0.036)	(0.040)
Netherlands		0.290***	0.315***	0.322***	0.324***	0.312***
(ref = Spain)		(0.027)	(0.029)	(0.029)	(0.029)	(0.033)
Moroccan*Netherlands			-0.083*	-0.068~	-0.067	-0.066
			(0.037)	(0.041)	(0.042)	(0.047)
Unemployment rates				-0.006~	-0.006~	
				(0.003)	(0.003)	
Moroccan*Unemployment rates				0.003	0.003	
				(0.004)	(0.004)	
Outgroup size				0.007	0.013	
				(0.008)	(0.014)	
Moroccan*Outgroup size				-0.025*	-0.023	
				(0.013)	(0.021)	
Outgroup size (squared)					-0.003	
					(0.005)	
Moroccan*Outgroup size (squared)					-0.001	
					(0.007)	
Change in unemployment rates						0.002
						(0.011)
Moroccan*Change in unemployment rates						0.009
						(0.015)
Change in outgroup size						-0.002
						(0.117)
Moroccan*Change in outgroup size						-0.178
						(0.167)
Constant	0.360***	0.251***	0.238***	0.225***	0.223***	0.241***
	(0.029)	(0.034)	(0.035)	(0.035)	(0.035)	(0.037)
Variance components						
Micro-level	0.203	0.192	0.192	0.191	0.191	0.192
Contextual-level	0.018	0.001	0.001	0.001	0.001	0.001
$N_{micro-level}$	2,838	2,838	2,838	2,838	2,838	2,838
$N_{contextual-level}$	25	25	25	25	25	25

Note: Standard errors in parentheses (two-sided). Model 1: Main effects. Model 2: Two-way interaction with country. Model 3: Two-way interactions with regional characteristics (levels). Model 4: two-way interaction with outgroup size squared. Model 5: two-way interactions with regional characteristics (changes). Parameter estimates in model 1 to 5 are controlled for applicant characteristics (gender, headscarf, picture and phenotype, religiosity) and job characteristics (customer contact, required educational level) as well as an assessment of the fit between the vacancy and the job application. ~ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. Source: GEMM, 2019

Table A4.13. Parameter estimates from multilevel models on the likelihood to receive a positive callback (the Netherlands and Spain, excluding observations from regions with less than 45 observations), reduced table

	Model 1	Model 2	Model 3	Model 4
Moroccan (ref = majority)	-0.051 (0.035)	-0.051 (0.034)	-0.055 (0.039)	-0.060 (0.039)
Netherlands (ref = Spain)	0.326*** (0.028)	0.312*** (0.031)	0.310*** (0.031)	0.314*** (0.032)
Moroccan*Netherlands	-0.087* (0.039)	-0.057 (0.041)	-0.083˜ (0.042)	-0.059 (0.045)
Unemployment rates	-0.004 (0.003)			
Moroccan*Unemployment rates	0.001 (0.004)			
Netherlands*Unemployment rates	-0.027* (0.013)			
Moroccan*Netherlands*Unemployment rates	0.022 (0.021)			
Outgroup size		0.008 (0.016)		
Moroccan*Outgroup size		-0.021 (0.025)		
Netherlands*Outgroup size		-0.002 (0.019)		
Moroccan*Netherlands*Outgroup size		-0.005 (0.029)		
Change in unemployment rates			0.007 (0.011)	
Moroccan*Change in unemployment rates			-0.000 (0.015)	
Netherlands*Change in unemployment rates			-0.063˜ (0.037)	
Moroccan*Netherlands*Change in unemployment rates			0.047 (0.056)	
Change in outgroup size				-0.072 (0.148)
Moroccan*Change in outgroup size				-0.069 (0.201)
Netherlands*Change in outgroup size				0.175 (0.226)

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Table A4.13. Continued

	Model 1	Model 2	Model 3	Model 4
Moroccan*Netherlands*Change in outgroup size				-0.196 (0.326)
Constant	0.233*** (0.034)	0.234*** (0.035)	0.244*** (0.036)	0.234*** (0.037)
Variance components				
Micro-level	0.192	0.192	0.192	0.192
Contextual-level	0.001	0.001	0.001	0.001
$N_{micro\text{-}level}$	2,838	2,838	2,838	2,838
$N_{contextual\text{-}level}$	25	25	25	25

Note: Standard errors in parentheses (two-sided). Model 1: three-way interactions with Moroccan, country, and unemployment rates. Model 2: three-way interactions with Moroccan, country, and outgroup size. Model 3: three-way interactions with Moroccan, country, and change in unemployment rates. Model 4: three-way interactions with Moroccan, country, and change in outgroup size. Parameter estimates in model 1 to 5 are controlled for applicant characteristics (gender, headscarf, picture and phenotype, religiosity) and job characteristics (customer contact, required educational level) as well as an assessment of the fit between the vacancy and the job application. ~ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001 Source.: GEMM, 2019

A4.7.3. Results of sensitivity analyses using an alternative definition for callback rate

Table A4.14. Parameter estimates from multilevel models on the likelihood to receive an invitation using a narrower definition of callback rate (the Netherlands and Spain), reduced table

	Model 0	Model 1	Model 2	Model 3	Model 4	Model 5
Moroccan		-0.090***	-0.060*	-0.052~	-0.051~	-0.059~
(ref = majority)		(0.024)	(0.028)	(0.029)	(0.030)	(0.030)
Netherlands		0.190***	0.211***	0.214***	0.215***	0.207***
(ref = Spain)		(0.021)	(0.024)	(0.024)	(0.024)	(0.025)
Moroccan*Netherlands			-0.068*	-0.052	-0.053	-0.067~
			(0.033)	(0.034)	(0.035)	(0.036)
Unemployment rates				-0.004~	-0.004~	
				(0.002)	(0.002)	
Moroccan*Unemployment rates				0.002	0.002	
				(0.003)	(0.003)	
Outgroup size				0.009	0.011	
				(0.007)	(0.011)	
Moroccan*Outgroup size				-0.026*	-0.027	
				(0.011)	(0.017)	
Outgroup size (squared)					-0.001	
					(0.004)	
Moroccan*Outgroup size (squared)						
Change in unemployment rates						0.003
						(0.007)
Moroccan*Change in unemployment rates						0.006
						(0.011)
Change in outgroup size						0.041
						(0.092)
Moroccan*Change in outgroup size						-0.054
						(0.138)
Constant	0.280***	0.249***	0.239***	0.230***	0.229***	0.241***
	(0.015)	(0.029)	(0.029)	(0.029)	(0.029)	(0.030)
Variance components						
Micro-level	0.193	0.184	0.184	0.184	0.184	0.184
Contextual-level	0.007	0.001	0.001	0.001	0.001	0.001
$N_{micro-level}$	3,653	3,653	3,653	3,653	3,653	3,653
$N_{contextual-level}$	50	50	50	50	50	50

*Note: Standard errors in parentheses (two-sided). Model 1: Main effects. Model 2: Two-way interaction with country. Model 3: Two-way interactions with regional characteristics (levels). Model 4: two-way interaction with outgroup size squared. Model 5: two-way interactions with regional characteristics (changes). Parameter estimates in model 1 to 5 are controlled for applicant characteristics (gender, headscarf, picture and phenotype, religiosity) and job characteristics (customer contact, required educational level) as well as an assessment of the fit between the vacancy and the job application. ~ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. Source: GEMM, 2019*

Table A4.15. Parameter estimates from multilevel models on the likelihood to receive an invitation using a narrower definition of callback rate (the Netherlands and Spain), reduced table

	Spain					The Netherlands				
	Model 0	Model 1	Model 2	Model 3	Model 4	Model 0	Model 1	Model 2	Model 3	Model 4
Moroccan (ref = majority)		-0.047 (0.031)	-0.040 (0.031)	-0.032 (0.032)	-0.040 (0.033)		-0.146*** (0.040)	-0.123** (0.042)	-0.123** (0.042)	-0.132** (0.042)
Unemployment rates			-0.002 (0.002)	-0.002 (0.002)				-0.019 (0.013)	-0.019 (0.013)	
Moroccan*Unemployment rates			0.002 (0.003)	0.002 (0.003)				0.023 (0.020)	0.023 (0.020)	
Outgroup size			0.002 (0.010)	0.001 (0.013)				0.013 (0.010)	0.020 (0.017)	
Moroccan*Outgroup size			-0.024 (0.018)	-0.034 (0.021)				-0.029* (0.014)	-0.023 (0.026)	
Outgroup size (squared)				0.001 (0.007)					-0.003 (0.006)	
Moroccan*Outgroup size (squared)				0.013 (0.012)					-0.002 (0.008)	
Change in unemployment rates					0.010 (0.007)					-0.046 (0.036)
Moroccan*Change in unemployment rates					0.001 (0.011)					0.060 (0.055)
Change in outgroup size					-0.114 (0.099)					0.275~ (0.160)

Table A4.15. Continued

	Spain					The Netherlands				
	Model 0	Model 1	Model 2	Model 3	Model 4	Model 0	Model 1	Model 2	Model 3	Model 4
Moroccan*Change in outgroup size					0.067 (0.162)					-0.296 (0.241)
Constant	0.209*** (0.009)	0.159*** (0.038)	0.152*** (0.038)	0.153*** (0.039)	0.157*** (0.039)	0.378*** (0.017)	0.559*** (0.036)	0.551*** (0.036)	0.551*** (0.036)	0.552*** (0.036)
Variance components										
Micro-level	0.166	0.162	0.161	0.161	0.161	0.234	0.211	0.210	0.210	0.210
Contextual-level	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.002	0.002	0.002
$N_{micro-level}$	2,239	2,239	2,239	2,239	2,239	1,414	1,414	1,414	1,414	1,414
$N_{contextual-level}$	28	28	28	28	28	22	22	22	22	22

*Note: Standard errors in parentheses (two-sided). Model 0: Main effects. Model 1: Main effects. Model 2: Two-way interactions with regional characteristics (levels). Model 3: two-way interaction with outgroup size squared. Model 4: two-way interactions with regional characteristics (changes). Parameter estimates in model 1 to 4 are controlled for applicant characteristics (gender, headscarf, picture and phenotype, religiosity) and job characteristics (customer contact, required educational level) as well as an assessment of the fit between the vacancy and the job application. ~ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. Source: GEMM, 2019*

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Table A4.16. Parameter estimates from multilevel models on the likelihood to receive an invitation using a narrower definition of callback rate (the Netherlands and Spain), reduced table.

	Model 1	Model 2	Model 3	Model 4
Moroccan (ref = majority)	-0.057* (0.029)	-0.059* (0.028)	-0.058~ (0.030)	-0.053~ (0.030)
Netherlands (ref = Spain)	0.217*** (0.023)	0.206*** (0.024)	0.208*** (0.024)	0.210*** (0.024)
Moroccan*Netherlands	-0.070* (0.033)	-0.046 (0.035)	-0.068* (0.034)	-0.065~ (0.036)
Unemployment rates	-0.003 (0.002)			
Moroccan*Unemployment rates	0.001 (0.003)			
Netherlands*Unemployment rates	-0.017 (0.011)			
Moroccan*Netherlands*Unemployment rates	0.017 (0.019)			
Outgroup size		0.001 (0.012)		
Moroccan*Outgroup size		-0.023 (0.019)		
Netherlands*Outgroup size		0.010 (0.015)		
Moroccan*Netherlands*Outgroup size		-0.004 (0.023)		
Change in unemployment rates			0.007 (0.007)	
Moroccan*Change in unemployment rates			0.002 (0.010)	
Netherlands*Change in unemployment rates			-0.051 (0.032)	
Moroccan*Netherlands*Change in unemployment rates			0.045 (0.052)	
Change in outgroup size				-0.066 (0.111)
Moroccan*Change in outgroup size				0.088 (0.156)
Netherlands*Change in outgroup size				0.296~ (0.177)

Table A4.16. Parameter estimates from multilevel models on the likelihood to receive an invitation using a narrower definition of callback rate (the Netherlands and Spain), reduced table.

	Model 1	Model 2	Model 3	Model 4
Moroccan*Netherlands*Change in outgroup size				-0.313 (0.273)
Constant	0.235*** (0.029)	0.236*** (0.029)	0.241*** (0.029)	0.234*** (0.030)
Variance components				
Micro-level	0.184	0.184	0.184	0.184
Contextual-level	0.001	0.001	0.001	0.001
$N_{micro\text{-}level}$	3,653	3,653	3,653	3,653
$N_{contextual\text{-}level}$	50	50	50	50

Note: Standard errors in parentheses (two-sided). Model 1: three-way interactions with Moroccan, country, and unemployment rates. Model 2: three-way interactions with Moroccan, country, and outgroup size. Model 3: three-way interactions with Moroccan, country, and change in unemployment rates. Model 4: three-way interactions with Moroccan, country, and change in outgroup size. Parameter estimates in model 1 to 5 are controlled for applicant characteristics (gender, headscarf, picture and phenotype, religiosity) and job characteristics (customer contact, required educational level) as well as an assessment of the fit between the vacancy and the job application. ~ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001 Source.: GEMM, 2019

A4.7.4. Results of sensitivity analyses using logistic regression models

Table A4.17. Parameter estimates from multilevel logistic regression models on the likelihood to receive an invitation (the Netherlands and Spain), reduced table

	Model 0	Model 1	Model 2	Model 3	Model 4	Model 5
Moroccan		-0.481***	-0.387*	-0.347*	-0.344*	-0.375*
(ref = majority)		(0.132)	(0.163)	(0.170)	(0.172)	(0.173)
Netherlands		1.330***	1.378***	1.414***	1.418***	1.373***
(ref = Spain)		(0.111)	(0.122)	(0.122)	(0.124)	(0.128)
Moroccan*Netherlands			-0.173	-0.106	-0.109	-0.154
			(0.176)	(0.187)	(0.189)	(0.194)
Unemployment rates				-0.026*	-0.026*	
				(0.012)	(0.012)	
Moroccan*Unemployment rates				0.010	0.010	
				(0.019)	(0.019)	
Outgroup size				0.028	0.036	
				(0.035)	(0.056)	
Moroccan*Outgroup size				-0.118*	-0.124	
				(0.058)	(0.091)	
Outgroup size (squared)					-0.003	
					(0.020)	
Moroccan*Outgroup size (squared)					0.003	
					(0.032)	
Change in unemployment rates						0.022
						(0.040)
Moroccan*Change in unemployment rates						0.057
						(0.065)
Change in outgroup size						-0.081
						(0.473)
Moroccan*Change in outgroup size						-0.562
						(0.771)
Constant	-0.802***	-1.166***	-1.192***	-1.247***	-1.250***	-1.190***
	(0.100)	(0.150)	(0.153)	(0.155)	(0.155)	(0.156)
Variance components						
Micro-level	-	-	-	-	-	-
Contextual-level	0.384	0.023	0.024	0.018	0.017	0.024
$N_{micro-level}$	3,653	3,653	3,653	3,653	3,653	3,653
$N_{contextual-level}$	50	50	50	50	50	50

*Note: Standard errors in parentheses (two-sided). Model 1: Main effects. Model 2: Two-way interaction with country. Model 3: Two-way interactions with regional characteristics (levels). Model 4: two-way interaction with outgroup size squared. Model 5: two-way interactions with regional characteristics (changes). Parameter estimates in model 1 to 5 are controlled for applicant characteristics (gender, headscarf, picture and phenotype, religiosity) and job characteristics (customer contact, required educational level) as well as an assessment of the fit between the vacancy and the job application. ~ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. Source: GEMM, 2019*

Table A4.18. Parameter estimates from multilevel logistic regression models on the likelihood to receive an invitation (the Netherlands and Spain), reduced table

	Spain					The Netherlands				
	Model 0	Model 1	Model 2	Model 3	Model 4	Model 0	Model 1	Model 2	Model 3	Model 4
Moroccan (ref = majority)		-0.280 (0.195)	-0.251 (0.202)	-0.199 (0.207)	-0.237 (0.208)		-0.690*** (0.188)	-0.586** (0.196)	-0.588** (0.196)	-0.611** (0.196)
Unemployment rates			-0.017 (0.011)	-0.017 (0.011)				-0.122* (0.060)	-0.123* (0.059)	
Moroccan*Unemployment rates			0.007 (0.020)	0.008 (0.020)				0.109 (0.096)	0.108 (0.096)	
Outgroup size			-0.014 (0.061)	-0.033 (0.077)				0.052 (0.046)	0.083 (0.079)	
Moroccan*Outgroup size			-0.139 (0.123)	-0.196 (0.136)				-0.131~ (0.068)	-0.093 (0.124)	
Outgroup size (squared)				0.017 (0.040)					-0.013 (0.026)	
Moroccan*Outgroup size (squared)				0.090 (0.078)					-0.015 (0.040)	
Change in unemployment rates					0.062 (0.038)					-0.244 (0.167)
Moroccan*Change in unemployment rates					0.037 (0.069)					0.225 (0.258)
Change in outgroup size					-0.772 (0.591)					0.804 (0.758)

Table A4.18. Continued

	Spain					The Netherlands				
	Model 0	Model 1	Model 2	Model 3	Model 4	Model 0	Model 1	Model 2	Model 3	Model 4
Moroccan*Change in outgroup size					0.027 (1.082)					-1.574 (1.133)
Constant	-1.286*** (0.051)	-1.599*** (0.239)	-1.640*** (0.242)	-1.629*** (0.243)	-1.628*** (0.244)	-0.104 (0.072)	0.595*** (0.168)	0.563*** (0.168)	0.562*** (0.167)	0.571*** (0.168)
Variance components										
Micro-level	-	-	-	-	-	-	-	-	-	-
Contextual-level	0.000	0.000	0.000	0.000	0.000	0.038	0.043	0.034	0.028	0.040
$N_{micro-level}$	2,239	2,239	2,239	2,239	2,239	1,414	1,414	1,414	1,414	1,414
$N_{contextual-level}$	28	28	28	28	28	22	22	22	22	22

*Note: Standard errors in parentheses (two-sided). Model 1: Main effects. Model 2: Two-way interactions with regional characteristics (levels). Model 3: two-way interaction with outgroup size squared. Model 4: two-way interactions with regional characteristics (changes). Parameter estimates in model 1 to 4 are controlled for applicant characteristics (gender, headscarf, picture and phenotype, religiosity) and job characteristics (customer contact, required educational level) as well as an assessment of the fit between the vacancy and the job application. ~ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. Source: GEMM, 2019*

Table A4.19. Parameter estimates from multilevel logistic regression models on the likelihood to receive an invitation (the Netherlands and Spain), reduced table.

	Model 1	Model 2	Model 3	Model 4
Moroccan (ref = majority)	-0.370* (0.169)	-0.390* (0.164)	-0.367* (0.170)	-0.352* (0.175)
Netherlands (ref = Spain)	1.419*** (0.118)	1.358*** (0.124)	1.360*** (0.123)	1.394*** (0.127)
Moroccan*Netherlands	-0.181 (0.182)	-0.073 (0.184)	-0.187 (0.182)	-0.152 (0.193)
Unemployment rates	-0.021~ (0.012)			
Moroccan*Unemployment rates	0.003 (0.020)			
Netherlands*Unemployment rates	-0.098~ (0.055)			
Moroccan*Netherlands*Unemployment rates	0.074 (0.096)			
Outgroup size		-0.019 (0.067)		
Moroccan*Outgroup size		-0.134 (0.121)		
Netherlands*Outgroup size		0.058 (0.079)		
Moroccan*Netherlands*Outgroup size		0.020 (0.138)		
Change in unemployment rates			0.038 (0.040)	
Moroccan*Change in unemployment rates			0.030 (0.062)	
Netherlands*Change in unemployment rates			-0.268~ (0.155)	
Moroccan*Netherlands*Change in unemployment rates			0.119 (0.257)	
Change in outgroup size				-0.520 (0.616)
Moroccan*Change in outgroup size				0.398 (0.960)
Netherlands*Change in outgroup size				1.111 (0.919)

Table A4.19. Continued

	Model 1	Model 2	Model 3	Model 4
Moroccan*Netherlands*Change in outgroup size				-1.601 (1.457)
Constant	-1.223*** (0.153)	-1.200*** (0.154)	-1.184*** (0.154)	-1.224*** (0.157)
Variance components				
Micro-level	-	-	-	-
Contextual-level	0.012	0.024	0.022	0.022
$N_{micro-level}$	3,653	3,653	3,653	3,653
$N_{contextual-level}$	50	50	50	50

Note: Standard errors in parentheses (two-sided). Model 1: three-way interactions with Moroccan, country, and unemployment rates. Model 2: three-way interactions with Moroccan, country, and outgroup size. Model 3: three-way interactions with Moroccan, country, and change in unemployment rates. Model 4: three-way interactions with Moroccan, country, and change in outgroup size. Parameter estimates in model 1 to 5 are controlled for applicant characteristics (gender, headscarf, picture and phenotype, religiosity) and job characteristics (customer contact, required educational level) as well as an assessment of the fit between the vacancy and the job application. ~ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001 Source.: GEMM, 2019

Chapter 5.

Discrimination against Turkish minorities in Germany and the Netherlands: Field experimental evidence on the effect of diagnostic information on labor market outcomes[37]

Abstract

Previous studies have found that the labor market outcomes of Turkish minorities are slightly better in Germany than in the Netherlands. In this chapter we test one of the explanations: differences in racial and ethnic discrimination in hiring. We use a harmonized field experiment to test whether discrimination against job candidates of Turkish origin (age 23-25) varies across Germany and the Netherlands, while holding individual characteristics of job seekers constant. We find that, compared to majority candidates, job candidates of Turkish origin are on average eleven percentage points less likely to receive a positive callback. Moreover, we find that discrimination against Turkish minorities is significantly higher in the Netherlands than in Germany. In Germany, job candidates of Turkish origin are five percentage points less likely to receive a callback than equally qualified majority candidates, whereas in the Netherlands this gap is fifteen percentage points. However, the presented evidence does not support the often-mentioned argument that the amount of diagnostic information in application materials explains why discrimination against Turkish minorities is lower in Germany. Overall, adding diagnostic information has little effect on the relative employment chances of job applicants of Turkish origin, both in Germany and the Netherlands.

5.1. Introduction

In this study, we assess differences in the level of hiring discrimination against Turkish minorities between Germany and the Netherlands. Turkish minorities in Germany and the Netherlands share a similar migration history. Many came during the guest worker programs in the 1960s and 1970s or as family migrants in the late 1970s and 1980s (Akgunduz 1993). In both countries, Turkish minorities attract much attention from the public and policy makers partly because these groups face substantial disadvantage in the labor market (e.g. Fleischmann and Höhne 2013; Gracia et al. 2016; Huijnk and Andriessen 2016; Luthra 2013). A small number of studies compared the employment positions of Turkish minorities cross-nationally. Interestingly, these studies find evidence that the relative employment position of Turkish minorities in Germany is slightly better than it is in the Netherlands (e.g. Dagevos et al. 2006; Euwals et al. 2007; Heath et al. 2008; Van Tubergen 2006). This raises the question as to why that is the case and whether this might be due to different levels of racial-ethnic discrimination in hiring decisions.

So far, previous research has paid little attention to these questions. The handful of studies that has investigated differences in the relative employment positions of Turkish minorities in Germany and the Netherlands could not properly assess whether employment discrimination influences Turkish minorities differently in both countries. The racial-ethnic gaps found both within as well as between countries could be affected by unmeasured productivity-relevant characteristics of individuals —such as differences in career aspirations, cognitive skills, or social networks— but also by differences in survey methodologies (Pager and Shepherd 2008; Van Tubergen 2006). Field experiments circumvent the problem with unobserved heterogeneity by comparing the employment chances of equally qualified, fictitious job candidates from different racial-ethnic groups (Pager and Shepherd 2008). Using field experimental data, several studies find evidence of discrimination against people with a Turkish background in Germany and the Netherlands (Andriessen 2012; Andriessen et al. 2012; Goldberg et al. 1995; Kaas and Manger 2012; Koopmans et al. 2018; Panteia 2015; Schneider et al. 2014; Weichselbaumer 2016). However, in these field experiments scholars used different research designs, focused on different segments of the labor market, and moreover they were conducted in different time periods (Zschirnt and Ruedin 2016). It is therefore difficult to make comparisons between studies, let alone to draw firm conclusions about the possible differential impact of discrimination on economic outcomes of Turkish minorities across countries.

In this study, we aim to contribute to this stream of research in two important ways. First, we analyze data from a cross-nationally harmonized correspondence

study that was conducted in Germany and the Netherlands (Lancee, Birkelund, Coenders, Di Stasio, Fernández Reino, Heath, Koopmans, Larsen, Polavieja, Ramos, Soiné, et al. 2019). By employing the same field experimental design, we can more strictly compare discrimination rates of Turkish minorities – 1.5[th] and 2nd generation, young jobseekers with few years of work experience – in the first stages of the hiring process between two important destination societies for Turkish migrants, while ruling out that individual characteristics of jobseekers affect the estimates of discrimination. Therefore, the findings of this study can add to our understanding of how characteristics of the destination country, and more specifically, the different "modes of incorporation" (Portes, Fernández-Kelly, and Haller 2009; Portes and Rumbaut 2001) affect the employment chances of a similar origin group in different national contexts.

Second, in addition to describing cross-national differences in the level of hiring discrimination against Turkish minorities in Germany and the Netherlands, we focus on one potential factor affecting these differences: the amount of information provided in application documents. Recently, it has been proposed that racial and ethnic discrimination is lower in countries where job applicants are required to send detailed personal information in job applications (Weichselbaumer 2017; Zschirnt and Ruedin 2016). Because of the large amount of personal information available to employers, they would rely less on group characteristics to assess individual job candidates (Arrow 1973; Phelps 1972), and hence overall discrimination rates are expected to be lower. As application documents in Germany provide more detailed information about job applicants than those in the Netherlands, employers in Germany are expected to discriminate less against job applicants of Turkish origin. To empirically test whether these information deficiencies in resumes can affect cross-national differences in discrimination rates against Turkish minorities, we experimentally vary the amount of personal information provided in the application documents (cf. Agerström et al. 2012; Kaas and Manger 2012). By doing so, we can analyze (1) whether adding personal information in resumes reduces racial-ethnic discrimination in hiring and (2) whether this effect is stronger in the Netherlands (a hiring context where less individual information is available to employers) than in Germany (a hiring context where more individual information is available to employers). Moreover, we manipulated three types of information across resumes: the picture on the CV, the average final grade in educational training, and the performance in previous job. By varying these types of information, we respond to recent calls to examine how the presence of different forms of information affect racial and ethnic discrimination in hiring decisions (Bertrand and Duflo 2017).

This chapter proceeds as follows. First, we review previous research on the impact of personal information on racial and ethnic discrimination and elaborate

how this might affect cross-national differences in discrimination rates of Turkish minorities. Then, we present the data and methods and the empirical results and conclude by discussing the implications and limitations of the findings.

5.2.   Theoretical background

An increasing volume of studies have been published that examined racial and ethnic discrimination in hiring using field experiments (Bertrand and Duflo 2017; Guryan and Charles 2013). A recent meta-analytical analysis by Zschirnt and Ruedin (2016) indicates that racial and ethnic minority job candidates are 49 percent less likely to receive a callback than majority candidates. Furthermore, this study finds that compared to other OECD countries, such as the Netherlands, discrimination rates are lower in German-speaking countries. This effect remains significant even after controlling for differences in occupational skill levels tested in different field experiments. In this regard, Zschirnt and Ruedin indicate that there could be a relationship between the amount of personal information provided to employers in German-speaking countries and the level of employment discrimination, lending support to statistical discrimination theory.

Statistical discrimination theory (Arrow 1973; Phelps 1972) presumes a direct link between the quantity and quality of the available information in resumes and the existence of racial and ethnic discrimination in recruitment decisions. According to the theory, employers strive to select the best candidate for an open job position but have incomplete information about the true productivity of applicants because application documents only provide a vague idea of what someone's qualities and knowledge are. Employers consequently use group characteristics in recruitment decisions because the level of productivity of a group is supposedly predictive for the productivity of an individual job applicant. Because employers often have the impression that racial and ethnic minority groups are, on average, less productive than the majority group, the productivity of the racial and ethnic minority candidate is valued lower than that of the native candidate. This leads to racial and ethnic discrimination in hiring decisions.

From statistical discrimination theory it can be derived that racial and ethnic discrimination will decrease when employers have more information about job applicants' skills, and work experiences. In this specific respect, Zschirnt and Ruedin (2016) point to an important difference between German-speaking countries and other countries, such as the Netherlands, that could be relevant for explaining variation in discrimination rates cross-nationally: the norms regarding job applications. In contrast to other countries, in German-speaking countries there are strict norms about which documents and information job applicants have to provide (Weichselbaumer 2017; Zschirnt and Ruedin 2016). In addition

to a CV with information about their educational and professional trajectory and a cover letter, job applicants in Germany must add copies of their school and training certificates, a picture, and sometimes even a reference letter from previous employer(s). As a result, employers in Germany have more information about job candidates than those in the Netherlands, suggesting that employers in Germany should rely less on group information and stereotypes in recruitment decisions.

One important drawback of the analysis of Zschirnt and Ruedin (2016) is that they did not compare the same racial-ethnic minority group across countries. Accordingly, one reason why they might have found lower discrimination rates in German-speaking countries could be cross-national differences in the selection of examined racial-ethnic minority groups. However, by focusing on Turkish minorities, this study compares the same minority group in two different countries and consequently provides more valid insights regarding the impact of the national context. That being said, in line with aforementioned theoretical and empirical arguments, we expect that (H1): *Job candidates of Turkish origin face more discrimination in the Netherlands than in Germany.*

In our field experiment, we used similar application materials in Germany and the Netherlands. One difference is, however, that German application materials must also include school leaving certificates from high school and vocational training, resulting in a higher baseline level of personal information in Germany. Given these differences in baseline characteristics, this allows us to investigate whether the negative effect of adding individual information on racial and ethnic discrimination differs between Germany and the Netherlands. However, before deriving clear theoretical expectations, we first discuss previous research on the effects of individual information on racial and ethnic discrimination in decision-making processes.

The effectiveness of adding information to reduce racial and ethnic discrimination has been subject to an increasing body of research. First, several laboratory experiments show that providing decision-makers with more personal information reduces discrimination against ethnic or racial minorities (Lane 2016). For example, Rubinstein, Jussim, and Stevens (2018) find that personal information has a strong positive impact on personal evaluations and decreases biases resulting from racial stereotypes. This holds particularly true for personal information that is diagnostic – that is, highly predictive information – for the dimension that is evaluated. In a series of experiments, subjects were asked to evaluate the college applications of Black and White candidates. The subjects were randomly assigned to three conditions: one in which no personal information was provided, one in which only the name and demographic information was provided (little diagnostic), and one in which educationally-relevant information was provided (e.g. test results on cognitive skills: highly diagnostic). In these experiments, the

authors find that explicit and implicit stereotype bias was lower when subjects were given more diagnostic information about the candidates (Rubinstein et al. 2018). In addition, Castillo and Petrie (2010) and Masclet, Peterle, and Larribeau (2013) observe that the introduction of diagnostic information about ability and competitiveness strongly diminishes racial and ethnic discrimination in public goods games and recruitment tasks, respectively, suggesting that discrimination is to a large extent attributed to incomplete information.

Field studies, too, have examined whether racial and ethnic discrimination is lower when fictitious applicants for a job or an apartment introduce more personal information in their application materials. Experimental studies on racial and ethnic discrimination in the housing market and sharing economy, however, yield inconsistent evidence (for an overview, see Flage 2018). For example, analyzing data from a field experiment on racial and ethnic discrimination in the Swedish housing market, Ahmed, Andersson, and Hammarstedt (2010) find no evidence that discrimination is lower when fictive housing seekers provide diagnostic personal information (age, relationship status, educational and occupational background, smoking behavior, and availability of references) when applying for an apartment. In the United States, Ewens, Tomlin, and Wang (2014) obtain similar results regarding the effect of adding personal information on racial discrimination in the rental apartment market. In contrast, Cui, Li, and Zhang (2017) find that discrimination decreases when a higher level of diagnostic information is available to potential hosts on Airbnb. Discrimination was only reduced when positive or negative (online) reviews by others were available while self-claimed personal information did not reduce racial discrimination.

Furthermore, a small number of studies investigated the effect of providing diagnostic individuating information on racial and ethnic discrimination in hiring. Kaas and Manger (2012) studied the chances of applicants with typically Turkish-sounding and German-sounding names in their search for student internships. They provide tentative evidence suggesting that racial-ethnic discrimination decreases when application documents include a reference letter that provides diagnostic information about the personality of the job applicant. By contrast, a Swedish experiment by Agerström and colleagues (2012) shows that adding personal information that signals a warm personality and competence increases callback rates for native applicants as well as for job applicants with Arabic-sounding names alike; thus, not decreasing discrimination. One important shortcoming of both studies is that the information manipulations used are not completely independent of other resume characteristics (CV type and hobbies, respectively). Strictly speaking, both studies could not test whether the returns to the inclusion of information differs causally between majority and minority job applicants. Lastly, by drawing on data of a correspondence study in Mexico, Arceo-Gomez

and Campos-Vazquez (2014) analyzed racial gaps in callbacks using application materials with and without a picture. Among women, they find that white and mestizo (mixed-race, light-brown skin) applicants are more likely to receive a callback than indigenous applicants (dark-brown) and applicants without a picture. Among men, however, no differences were found across the four groups. These findings provide mixed evidence but suggest that the inclusion of a picture could also lead to more discrimination based on the phenotype of an applicant.

In summary, previous research on hiring discrimination provides inconsistent results, possibly because scholars did not always use completely randomized designs. By using a completely randomized design, we therefore test whether (H2): *Adding diagnostic information in resumes decreases discrimination against job candidates of Turkish origin*. And finally, given the baseline differences in the amount of personal information in the German and Dutch application materials, we also investigate whether (H3): *Adding diagnostic information in resumes decreases discrimination against job candidates of Turkish origin more strongly in the Netherlands than in Germany*.

5.3. Data and methods

5.3.1. Data

In this study, we examine discrimination rates in Germany and the Netherlands by drawing upon data from a cross-nationally harmonized correspondence study that was collected between November 2016 and October 2017 (Lancee, Birkelund, Coenders, Di Stasio, Fernández Reino, Heath, Koopmans, Larsen, Polavieja, Ramos, Soiné, et al. 2019). To make applications comparable, all application materials were standardized with similar cover letters and CV's across countries. The cover letter includes information about the job applicant's age (23-25), contact details (e.g. postal and email address, telephone number), prior education and work experience (e.g. prior jobs & tasks), and the applicant's motivation to apply for a new job. All job applicants were employed at the time of applying, although this was not emphasized in the CV or cover letter. Fictitious job applicants applied to job positions (low to medium-skilled jobs, see below) that were posted on the most commonly used online job portals. We made use of an unpaired design: only one application was send to a company (cf. Weichselbaumer 2017). This decreases the risk of detection but also enables the researcher to accommodate a range of different experimental treatments (see also Lancee, 2019). Lastly, to minimize the burden for employers, we kindly withdrew the application (within one day) after the employer contacted the job applicant. In total, we sent out 1,587 applications: 652 in Germany and 935 in the Netherlands (see Table 5.1).

For a more elaborate discussion of the data, please see the Introduction of this special issue (Lancee 2019), the GEMM codebook (Lancee, Birkelund, Coenders, Di Stasio, Fernández Reino, Heath, Koopmans, Larsen, Polavieja, Ramos, Soiné, et al. 2019), and the technical report (Lancee, Birkelund, Coenders, Di Stasio, Fernández Reino, Heath, Koopmans, Larsen, Polavieja, Ramos, Thijssen, et al. 2019).

Dependent variable

Callback. The dependent variable is whether the fictitious applicant received a positive callback. Specifically, we coded personal requests for additional information, and (pre-) invitations for a job interview as 1; no positive responses or no responses at all were coded as 0. In total, 813 (351 in Germany, 462 in the Netherlands) applications received a positive response from an employer (51.2%). There are no significant differences regarding absolute callback rates between Germany and the Netherlands. This signals equally favorable economic conditions in both countries and that application materials were of comparable quality.

Independent variables

Turkish origin. Turkish origin was randomly assigned to the application materials, although majority job candidates are slightly oversampled compared to candidates of Turkish origin (approximately 70% is native majority, 30% is Turkish minority). Recent research shows that correspondence test in the past did not always clearly signal the racial-ethnic origin of the applicant (Gaddis 2017b). To ensure that employers could clearly identify the racial-ethnic origin of the applicant, we signaled origin in a number of ways: (1) by a job applicant's first- and last name, (2) by indicating next to German/Dutch also Turkish as a mother tongue, and (3) by adding a passage in which the minority candidate states that he or she has a Turkish background but completed all education in Germany or the Netherlands. The latter was done to exclude the possibility that employers would be less inclined to invite job applicants of Turkish origin for lacking country-specific human capital (Oreopoulos 2011).

Diagnostic personal information. We also examine the impact of adding diagnostic information in resumes in Germany and the Netherlands by manipulating three types of information in resumes: picture, grades, and labor market performance. However, it is important to note that the baseline level of diagnostic information is higher for job applications in Germany where it is common to include school leaving certificates from high school and vocational training.

    Picture. In Germany, almost all applications included a picture of the applicant (approximately 80% of all applications) as this is the norm when applying

for a job. In the Netherlands, however, it is less common to include a picture. We therefore included a picture for a smaller subset of job candidates (approximately 35% of all applications). For the Netherlands, it is therefore interesting to consider the consequence of adding a picture. On the one hand, the inclusion of a picture may trigger discrimination against Turkish minorities by raising the salience of the applicant's Turkish origin (cf. Arceo-Gomez and Campos-Vazquez 2014; Weichselbaumer 2016, 2017). On the other hand, a picture might also provide individuating information that weakens the effect of group characteristics and racial-ethnic stereotypes (Rubinstein et al. 2018; Tjaden, Schwemmer, and Khadjavi 2018).

Grades. In both countries, we randomly varied whether or not the average final grade was added to application materials as an indicator for a job applicant's productivity. The average final grade was mentioned in the CV (i.e. a good grade) in approximately 50 percent of all applications. In Germany the applications also included school and job training certificates, while in the Netherlands no school leaving certificates were added as this would be a violation of application norms. Therefore, the inclusion of grades in the CV is presumably less distinctive in Germany than it is in the Netherlands.

Performance. In both countries, we randomly assigned whether job applicants provided additional diagnostic information about their job performance (50% of all applications). In the additional information condition, job applicants described themselves as being a hard-working person who is responsible for training new employees. Furthermore, in the cover letter and CV, job applicants listed additional tasks and responsibilities they took over in their prior job. This information manipulation is comparable with manipulations used in previous research (see Agerström et al., 2012).

Control variables

We include the following variables as controls: *Gender* was randomly assigned to fictitious job applicants (approximately 50% of all fictitious job applicants was male, 50% was female). We further control for *occupations* by including fixed effects for cook, payroll clerk, receptionist, sales representative, software developer, store assistant, and hairdresser. We also take into account the effect of *perceived advertisement fit*. Perceived advertisement fit is based on perceptions of the fit between a fictitious job candidate and the requirements mentioned in the job advertisement and was coded in three categories: the job candidate is slightly underqualified; a decent fit between the candidate and the job requirements, or the candidate is slightly overqualified. All descriptive information is displayed in Table 5.1.

Table 5.1. Descriptive statistics (proportions)

	Germany	The Netherlands
Callback	0.54	0.49
Turkish origin	0.31	0.29
Picture included	0.79	0.36
Grade included	0.49	0.52
Performance included	0.50	0.52
Female	0.49	0.47
Advertisement fit		
Fit	0.71	0.81
Underqualified	0.13	0.09
Overqualified	0.17	0.10
Occupation		
Cook	0.17	0.28
Payroll clerk	0.13	0.18
Receptionist	0.16	0.09
Sales representative	0.15	0.14
Software developer	0.16	0.15
Store assistant	0.15	0.13
Hairdresser	0.08	0.03
N micro-level	652	935

Source: GEMM, 2019

5.3.2. Methods

To test our hypotheses, we estimate linear probability regression models. First, we investigate whether the likelihood to receive a callback from an employer depends on the ethnic origin of the job candidate, the country, and the interaction term between both variables (see Table 5.2). Subsequently, we examine whether the provision of diagnostic information (i.e. picture, grade, or performance) affects ethnic gaps in callbacks and furthermore whether these effects vary between the Netherlands and Germany (see Table 5.3 and 5.4). By doing so, we include the two-way interaction term between the specific information treatment and having a Turkish origin (Table 5.3), and the three-way interaction term between the specific information treatment, Turkish origin, and country in addition to the main effects (Table 5.4). In all models, we control for gender, perceived advertisement fit, and occupation fixed-effects.

5.4. Results

In model 1 of Table 5.2 we estimate the effect of having a Turkish origin on the likelihood to receive a callback for the full sample (Germany and Netherlands)

with country fixed-effects and the control variables gender, advertisement fit, and occupation fixed-effects. Model 1 shows that applicants of Turkish origin are less likely to receive a positive response than majority applicants. This statistically significant difference of eleven percentage points shows that job applicants of Turkish origin are discriminated against.

Figure 5.1. Callback rate by racial-ethnic origin and country
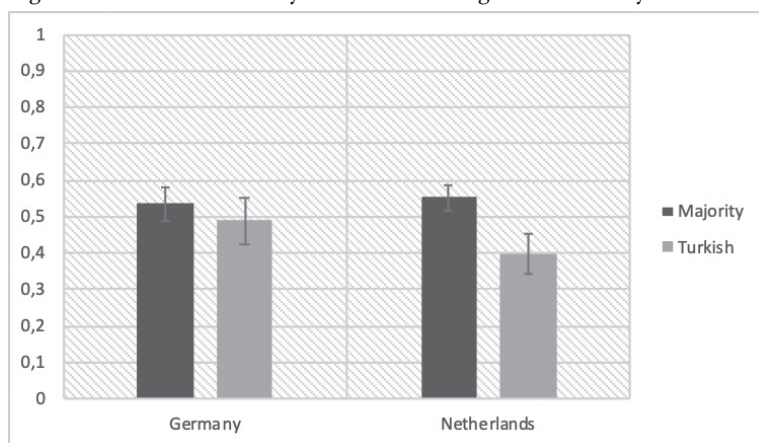
Note: The bars show absolute callback rates; all controls are included. Dark grey bars indicate the share of positive responses for majority job applicants; light grey bars indicate the share of positive responses for job applicants of Turkish origin. 95% confidence intervals are calculated. Source: GEMM, 2019

In model 2 (Table 5.2) we include an interaction term between having a Turkish origin and country to test our first hypothesis, contending that the penalty for having a Turkish origin is larger in the Netherlands than it is in Germany. Based on model 2, we predict the probability to receive a positive callback for majority job candidates and candidates of Turkish origin in both Germany and the Netherlands (see Figure 5.1). In Germany, 53 percent of the majority candidates received a positive response from the employer, while this was only the case in 49 percent of the cases for the candidates of Turkish origin. The likelihood to receive a positive callback for candidates of Turkish origin is approximately five percentage points lower than that of majority job candidates. The magnitude of this negative effect is comparable with those reported in previous studies in Germany (e.g. Kaas and Manger 2012; Koopmans et al. 2018; Weichselbaumer 2016), although not statistically significant. This result stands in contrast to the Netherlands where the probability to receive a positive response is 55 percent for majority candidates, and 40 percent for candidates of Turkish origin. This gap of about 15 percentage points is almost three times the size of the gap in Germany. Moreover, the negative interaction

effect between having a Turkish origin and country is statistically significant at p<0.05, and thus provides empirical support for hypothesis 1.[38][39]

Regarding the second and third hypotheses, we test whether racial and ethnic discrimination is reduced when jobseekers introduce more diagnostic personal information in their resumes and whether this effect varies across countries. In Table 5.3, we first investigate the effects of adding a picture on the CV, including a good average final grade in the CV, and providing performance information, both in the full sample (model 1 to 3), and the country sample (model 4 to 6 for Germany, and model 7 to 9 for the Netherlands)

As Table 5.3 shows, adding more diagnostic personal information to resumes does not decrease discrimination rates in the full sample (model 1 to 3). Only in model 1, we find a marginally significant interaction effect between having a Turkish origin and picture, indicating that the callback gap between majority candidates and candidates of Turkish origin slightly decreases when a picture is included. However, this interaction effect as well as the interaction terms between the other types of information and Turkish origin are not statistically significant in the separate analyses for Germany (model 4 to 6) and the Netherlands (model 7 to 9).[40] Furthermore, Table 5.4 indicates no

statistically significant interaction terms between having a Turkish origin, information, and country. Hence, we find no support for hypothesis 2 and 3.[41]

Table 5.2. Linear probability regression predicting the likelihood to receive a callback

	Model 1 Full sample	Model 2 Full sample + interaction	Model 3 Germany	Model 4 the Netherlands
Turkish	-0.108***	-0.046	-0.060	-0.153***
(ref = majority)	(0.025)	(0.039)	(0.039)	(0.032)
Netherlands	-0.015	0.018		
(ref = Germany)	(0.026)	(0.030)		
Turkish * Netherlands		-0.106*		
		(0.051)		
Picture included	0.089***	0.090***	0.031	0.117***
(ref = no picture included)	(0.025)	(0.025)	(0.043)	(0.030)
Grade included	-0.034	-0.033	0.022	-0.057~
(ref = no grade included)	(0.023)	(0.023)	(0.036)	(0.029)
Performance included (ref = no performance included)	0.026	0.026	0.024	0.023
	(0.023)	(0.023)	(0.036)	(0.029)
Female	0.086***	0.087***	0.124***	0.054~
(ref = male)	(0.023)	(0.023)	(0.036)	(0.029)
Advertisement fit (ref = fit)				
Underqualified	-0.092**	-0.097**	0.047	-0.223***
	(0.035)	(0.035)	(0.050)	(0.045)
Overqualified	0.040	0.039	0.022	0.025
	(0.037)	(0.037)	(0.056)	(0.051)
Occupation fixed Effects	Yes	Yes	Yes	Yes
Constant	0.668***	0.648***	0.600***	0.710***
	(0.042)	(0.043)	(0.066)	(0.041)
N =	1,587	1,587	652	935
R^2	0.193	0.196	0.191	0.232

Note: Standard errors in parentheses (two-sided). Model 1 and model 2 present the results of the full sample. Model 3 only uses observations of the German field experiment, while model 4 only uses observations of the Dutch field experiment. ~ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. Source: GEMM, 2019

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41 Additional analyses reveal no substantially different patterns when combining all information variables in one scale (Min. =0 information treatments included; Max. =3 information treatments included) (see Table A5.9) or using the narrower definition of a callback (see Table A5.10 and Table A5.11). Finally, the results are highly similar when using multilevel-analysis (see Table A5.12 and Table A5.13 in the Appendix). For these analyses, we structured the GEMM-data hierarchically, with job applications nested in NUTS3-regions.

Table 5.3. Linear probability regression examining the interaction effect between information condition and Turkish origin

	Full sample			Germany			The Netherlands		
	Model 1 + two-way interaction with picture	Model 2 + two-way interaction with grade	Model 3 + two-way interaction with performance	Model 4 + two-way interaction with picture	Model 5 + two-way interaction with grade	Model 6 + two-way interaction with performance	Model 7 + two-way interaction with picture	Model 8 + two-way interaction with grade	Model 9 + two-way interaction with performance
Turkish (ref = majority)	-0.153*** (0.036)	-0.094** (0.035)	-0.143*** (0.036)	-0.110 (0.081)	-0.030 (0.053)	-0.112* (0.056)	-0.182*** (0.040)	-0.149** (0.047)	-0.176*** (0.047)
Netherlands (ref = Germany)	-0.016 (0.026)	-0.015 (0.026)	-0.015 (0.026)						
Picture included (ref = no picture included)	0.062* (0.029)	0.089*** (0.025)	0.088*** (0.025)	0.007 (0.052)	0.029 (0.043)	0.025 (0.043)	0.093** (0.035)	0.117*** (0.030)	0.117*** (0.030)
Grade included (ref = no grade included)	-0.033 (0.023)	-0.025 (0.027)	-0.033 (0.023)	0.023 (0.036)	0.042 (0.044)	0.024 (0.036)	-0.056~ (0.029)	-0.055 (0.034)	-0.057~ (0.029)
Performance included (ref = no performance included)	0.025 (0.023)	0.026 (0.023)	0.007 (0.027)	0.022 (0.036)	0.023 (0.036)	-0.006 (0.043)	0.023 (0.029)	0.023 (0.029)	0.011 (0.034)
Female (ref = male)	0.089*** (0.023)	0.087*** (0.023)	0.086*** (0.023)	0.126*** (0.036)	0.125*** (0.036)	0.123*** (0.036)	0.055~ (0.029)	0.054~ (0.029)	0.053~ (0.029)
Advertisement fit (ref = fit)									

Table 5.3. Continued

	Full sample			Germany			The Netherlands		
	Model 1 + two-way interaction with picture	Model 2 + two-way interaction with grade	Model 3 + two-way interaction with performance	Model 4 + two-way interaction with picture	Model 5 + two-way interaction with grade	Model 6 + two-way interaction with performance	Model 7 + two-way interaction with picture	Model 8 + two-way interaction with grade	Model 9 + two-way interaction with performance
Underqualified	-0.092**	-0.092**	-0.094**	0.050	0.048	0.046	-0.223***	-0.223***	-0.225***
	(0.035)	(0.035)	(0.035)	(0.051)	(0.050)	(0.050)	(0.045)	(0.045)	(0.045)
Overqualified	0.040	0.040	0.039	0.020	0.025	0.021	0.027	0.025	0.024
	(0.037)	(0.037)	(0.037)	(0.056)	(0.056)	(0.055)	(0.051)	(0.051)	(0.051)
Occupation fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Turkish * picture included	0.087~			0.065			0.084		
	(0.050)			(0.093)			(0.068)		
Turkish * grade included		-0.029			-0.064			-0.007	
		(0.050)			(0.078)			(0.065)	
Turkish * performance included			0.065			0.098			0.042
			(0.050)			(0.078)			(0.065)
Constant	0.683***	0.663***	0.678***	0.619***	0.589***	0.619***	0.719***	0.709***	0.716***
	(0.042)	(0.042)	(0.042)	(0.070)	(0.068)	(0.067)	(0.041)	(0.042)	(0.042)
N =	1,587	1,587	1,587	652	652	652	935	935	935
R^2	0.195	0.193	0.194	0.192	0.192	0.193	0.234	0.232	0.233

*Note: Standard errors in parentheses (two-sided). Model 1, 4, and 7 include the interaction term between picture and Turkish origin. Model 2, 5, and 8 include the interaction term between grade and Turkish origin. Model 3, 6, and 9 include the interaction term between performance and Turkish origin. ~ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Source: GEMM, 2019*

Table 5.4. Linear probability regression examining the interaction effect between information condition, Turkish origin, and country

	Model 1 + three-way interaction with picture	Model 2 + three-way interaction with grade	Model 3 + three-way interaction with performance
Turkish (ref = majority)	-0.074 (0.083)	-0.022 (0.054)	-0.104˜ (0.056)
Netherlands (ref = Germany)	-0.044 (0.051)	0.063 (0.039)	0.011 (0.040)
Turkish * Netherlands	-0.104 (0.093)	-0.124˜ (0.071)	-0.068 (0.074)
Picture included (ref = no picture included)	0.018 (0.052)	0.088*** (0.025)	0.088*** (0.025)
Grade included (ref = no grade included)	-0.031 (0.023)	0.028 (0.044)	-0.032 (0.023)
Performance included (ref = no performance included)	0.025 (0.023)	0.025 (0.023)	-0.001 (0.043)
Female (ref = male)	0.090*** (0.023)	0.087*** (0.023)	0.086*** (0.023)
Advertisement fit (ref = fit)			
Underqualified	-0.097** (0.035)	-0.094** (0.035)	-0.098** (0.035)
Overqualified	0.039 (0.037)	0.037 (0.037)	0.038 (0.037)
Occupation fixed effects	Yes	Yes	Yes
Turkish * picture included	0.032 (0.094)		
Netherlands * picture included	0.080 (0.063)		
Turkish * Netherlands * picture included	0.046 (0.116)		
Turkish * grade included		-0.047 (0.078)	
Netherlands * grade included		-0.090 (0.055)	

Table 5.4. Continued

	Model 1 + three-way interaction with picture	Model 2 + three-way interaction with grade	Model 3 + three-way interaction with performance
Turkish * Netherlands * grade included		0.033 (0.102)	
Turkish * performance included			0.110 (0.078)
Netherlands * performance included			0.012 (0.055)
Turkish * Netherlands * performance included			-0.073 (0.102)
Constant	0.706*** (0.055)	0.618*** (0.046)	0.663*** (0.046)
$N =$	1,587	1,587	1,587
R^2	0.198	0.197	0.197

*Note: Standard errors in parentheses (two-sided). Model 1 includes the interaction term between picture, country and Turkish origin. Model 2 includes the interaction term between grade, country, and Turkish origin. Model 3 includes the interaction term between performance, country and Turkish origin. ˜ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. Source: GEMM, 2019*

5.5. Discussion and conclusion

In this study, we contribute to the literature by investigating hiring discrimination against Turkish minorities in Germany and in the Netherlands. Whereas previous research documents more unfavorable relative employment positions of Turkish minorities in the Netherlands than in Germany (Euwals et al. 2007; Heath et al. 2008; Van Tubergen 2006), it could not adequately indicate whether this pattern might be due to different levels of racial and ethnic discrimination. By using a harmonized correspondence study (Lancee, Birkelund, Coenders, Di Stasio, Fernández Reino, Heath, Koopmans, Larsen, Polavieja, Ramos, Thijssen, et al. 2019), we analyzed whether job candidates of Turkish origin are treated differently in Germany than in the Netherlands in isolation of potential confounding individual characteristics. This design enables us to test whether racial and ethnic discrimination has the potential to hinder the integration of one of the largest non-western minority groups in Europe in two major destination countries.

One central finding of this study is that discrimination rates vary between Germany and the Netherlands. In particular, we find that job applicants with

a Turkish background in the Netherlands are significantly more disadvantaged than those in Germany. In the Netherlands, job candidates of Turkish origin are 15 percentage points less likely to receive a positive callback than majority job candidates. In Germany the difference is five percentage points and although the effect sizes are comparable with those reported in previous field experiments (Kaas and Manger 2012; Koopmans et al. 2018; Weichselbaumer 2016), we do not find clear evidence that job candidates with a Turkish background have significantly lower chances of receiving a callback than majority candidates in Germany. Moreover, the results indicate a substantial cross-national difference in discrimination rates: the ethnic gap in callback rates is almost eleven percentage points higher in the Netherlands than it is in Germany. This study therefore sheds more light on how the relative employment position of young, qualified Turkish minorities could be differently affected by the barriers imposed by employers in two different national contexts.

A second important finding relates to a potential explanation for these cross-national differences in discrimination rates. In particular, the finding that discrimination against job candidates of Turkish origin is higher in the Netherlands than in Germany aligns with the idea that overall discrimination rates are lower in German-speaking countries because of the vast amount of personal information provided in job applications (Weichselbaumer 2017; Zschirnt and Ruedin 2016). According to this idea derived from statistical discrimination theory (Arrow 1973; Phelps 1972), employers in German-speaking countries need to resort less to (negative) group characteristics to evaluate the productivity and motivation of individual job applicants, which in turn results in lower levels of racial-ethnic discrimination in hiring decisions as employers have more diagnostic information at their hand to assess the fit of the individual applicant. In this study, we aimed to test this argument empirically by examining whether a larger amount of diagnostic personal information in resumes decreases discrimination against applicants of Turkish origin generally, but particularly in the Netherlands where less extensive application documents are the norm and hence the baseline level of personal information is lower. However, despite varying different types of information in the CV and cover letter (more diagnostic as well as less diagnostic information), we do not find clear evidence that the provision of additional diagnostic personal information reduces discrimination against Turkish job candidates in the Netherlands or in Germany.

Together, these empirical findings are in line with the results of the meta-analytical review by Zschirnt and Ruedin (2016), but also leave open an important question as to why employment discrimination against Turkish minorities is

higher in the Netherlands than in Germany.[42] Theoretically, one reason why we did not find strong effects of adding personal information in the Netherlands or in Germany could be the strength of the information treatments. However, the fact that these treatments are similar to those used in previous field experiments (Agerström et al. 2012; e.g. Kaas and Manger 2012; Koopmans et al. 2018), and that many of these studies also find inconsistent evidence with regard to the added value of this information for minority applicants, makes us consider a few alternative explanations that might also have face validity. First, there is the possibility that individual information does actually matter, but that due to the application norms in Germany and the Netherlands, we were not able to directly measure the effect of the type of information that is most important for explaining country differences in discrimination rates, namely sending copies of school reports and diplomas. These official documents potentially offer employers more reliable and verifiable information about job applicants than manipulations of the average final grade and past performance (and to a lesser extent the picture on the CV). Thus, sending copies of school and training certificates could give employers an extra positive signal about the reliability of the personal information provided, possibly reducing the weight of race-ethnicity in hiring decisions.

A radically different interpretation of these findings – and one in line with taste-based theories of discrimination (Becker 1957) – could be that differences in conscious or unconscious prejudice or negative stereotypes (Bertrand and Duflo 2017; Quillian 2006) can explain the different levels of racial-ethnic discrimination in Germany and the Netherlands (see also Di Stasio et al. 2019). Yet, survey research does not clearly indicate that levels of prejudice and negative stereotypes about Turkish minorities are more prevalent in the Netherlands than in Germany (European Commission 2018; Wike, Stokes, and Simmons 2017). In fact, there are reasons to suspect that the Turkish minorities could be more stigmatized in Germany as they are the largest and most negatively viewed racial-ethnic minority group (e.g. Schaeffer 2013). In the Netherlands, likewise, other racial-ethnic minority groups – such as Moroccan or Antillean minorities – are often perceived more negatively than Turkish minorities (Huijnk and Andriessen 2016).

Alternatively, it is also possible that levels of prejudice and negative stereotypes do not differ that much between the two countries, but that cross-national differences in discrimination rates could be accounted by variation in the opportunity structures for racial and ethnic discrimination in hiring (c.f. Petersen and Saporta 2004). For instance, Midtbøen (2015) argues that more formalized recruitment procedures minimize biases of first impressions in hiring. Perhaps the extensive application procedures in Germany can be considered as an indicator of more

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42 Notably, Ramos, Thijssen, and Coenders (this issue) also find a greater ethnic penalty in callback rates in the Netherlands.

formalized hiring procedures in German-speaking countries. Therefore, more bureaucratization in German companies might be related with more formalized hiring procedures, potentially leading to lower discrimination rates.

To separate these different explanations, future research should focus more on how employers collect and evaluate information about job applicants (Bartoš et al. 2016; Bills et al. 2017). For example, future research could examine employers' hiring practices and intergroup attitudes from a cross-national perspective and relate these to estimates of racial and ethnic discrimination found in field experiments. In addition, one could develop organizational interventions in which the degree of formalization of hiring procedures or the amount of information available (e.g. copies of school reports and diplomas) is varied to examine their causal effects on discriminatory behavior in hiring decisions. Finally, we acknowledge several limitations regarding the external validity of the findings. It is important to note that we focused on the relative hiring outcomes of young job applicants (age 23-25) with little work experience (four years), who applied for a limited number of occupations in the middle segment of the labor market – this excludes jobs in the very lowest (cleaners, waiters, warehouse worker) or the very highest segments of the labor market (lawyer, managers, doctors) – in the initial phase of the hiring process. Therefore, it would be worthwhile to examine if and how these, and other boundary conditions might have affected our main conclusions.

To close, we believe that our findings are relevant for policy makers, especially in the Netherlands. We show that the level of discrimination against Turkish minorities varies across destination countries and is higher in the Netherlands than in Germany. Moreover, we find that the amount of diagnostic personal information in resumes plays a more limited role than has been suggested recently (Kaas and Manger 2012; Zschirnt and Ruedin 2016). Altogether, these insights suggest that policy makers should focus more on the demand side of the hiring process (e.g. employer behavior and labor market institutions) in developing interventions aimed at combating racial and ethnic discrimination in the labor market than on the supply side (e.g. characteristics of application documents).

5.6. Appendix

Table A5.5. Linear probability regression examining the interaction effect between gender, Turkish origin, and country

	Full sample		Germany	The Netherlands
	Model 1 + two-way interaction with gender	Model 2 + three-way interaction with gender	Model 3 + two-way interaction with gender	Model 4 + two-way interaction with gender
Turkish	-0.108**	-0.084	-0.100~	-0.123**
(ref = majority)	(0.033)	(0.053)	(0.053)	(0.043)
Netherlands	-0.015	0.031		
(ref = Germany)	(0.026)	(0.039)		
Picture included	0.089***	0.089***	0.034	0.116***
(ref = no picture included)	(0.025)	(0.025)	(0.043)	(0.030)
Grade included	-0.034	-0.032	0.022	-0.055~
(ref = no grade included)	(0.023)	(0.023)	(0.036)	(0.029)
Performance included (ref = no	0.026	0.027	0.023	0.023
performance included)	(0.023)	(0.023)	(0.036)	(0.029)
Female	0.086**	0.104*	0.097*	0.072*
(ref = male)	(0.027)	(0.043)	(0.043)	(0.034)
Advertisement fit (ref = fit)				
Underqualified	-0.092**	-0.099**	0.048	-0.222***
	(0.035)	(0.035)	(0.051)	(0.045)
Overqualified	0.040	0.039	0.024	0.026
	(0.037)	(0.037)	(0.055)	(0.051)
Occupation fixed effects	Yes	Yes	Yes	Yes
Turkish * Female	0.000	0.091	0.088	-0.066
	(0.051)	(0.078)	(0.077)	(0.065)
Turkish * Netherlands		-0.038		
		(0.068)		
Netherlands * Female		-0.027		
		(0.055)		
Turkish * Netherlands * Female		-0.160		
		(0.102)		
Constant	0.668***	0.640***	0.610***	0.700***
	(0.042)	(0.045)	(0.066)	(0.042)
N =	1,587	1,587	652	935
R^2	0.193	0.198	0.193	0.233

*Note: Standard errors in parentheses (two-sided). Model 1 and model 2 present the results of the full sample. Model 3 only uses observations of the German field experiment, while model 4 only uses observations of the Dutch field experiment. ~ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001 Source: GEMM, 2019*

Table A5.6. Linear probability regression predicting the likelihood to receive a callback excluding observation from East Germany

	Model 1 Full sample	Model 2 Full sample + interaction	Model 3 Germany	Model 4 the Netherlands
Turkish (ref = majority)	-0.108*** (0.026)	-0.035 (0.042)	-0.049 (0.042)	-0.153*** (0.032)
Netherlands (ref = Germany)	-0.024 (0.027)	0.012 (0.031)		
Turkish * Netherlands		-0.118* (0.053)		
Picture included (ref = no picture included)	0.087*** (0.026)	0.088*** (0.026)	0.021 (0.046)	0.117*** (0.030)
Grade included (ref = no grade included)	-0.042~ (0.023)	-0.042~ (0.023)	0.007 (0.039)	-0.057~ (0.029)
Performance included (ref = no performance included)	0.029 (0.024)	0.030 (0.024)	0.033 (0.039)	0.023 (0.029)
Female (ref = male)	0.084*** (0.023)	0.085*** (0.023)	0.123** (0.039)	0.054~ (0.029)
Advertisement fit (ref = fit)				
Underqualified	-0.109** (0.036)	-0.114** (0.036)	0.024 (0.055)	-0.223*** (0.045)
Overqualified	0.042 (0.039)	0.042 (0.038)	0.024 (0.060)	0.025 (0.051)
Occupation fixed effects	Yes	Yes	Yes	Yes
Constant	0.682*** (0.044)	0.658*** (0.045)	0.609*** (0.073)	0.710*** (0.041)
N =	1,501	1,501	566	935
R^2	0.188	0.191	0.172	0.232

*Note: Standard errors in parentheses (two-sided). Model 1 and model 2 present the results of the full sample. Model 3 only uses observations of the German field experiment, while model 4 only uses observations of the Dutch field experiment. ~ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ Source: GEMM, 2019*

Table A5.7. Linear probability regression predicting the likelihood to receive an invitation (narrower definition of a callback)

	Model 1 Full sample	Model 2 Full sample + interaction	Model 3 Germany	Model 4 the Netherlands
Turkish (ref = majority)	-0.112*** (0.025)	-0.059 (0.039)	-0.071~ (0.039)	-0.148*** (0.031)
Netherlands (ref = Germany)	0.040 (0.026)	0.067* (0.030)		
Turkish * Netherlands		-0.090~ (0.050)		
Picture included (ref = no picture included)	0.087*** (0.025)	0.088*** (0.025)	0.042 (0.043)	0.112*** (0.031)
Grade included (ref = no grade included)	-0.045* (0.023)	-0.044~ (0.023)	-0.034 (0.036)	-0.043 (0.030)
Performance included (ref = no performance included)	-0.015 (0.023)	-0.015 (0.023)	0.001 (0.036)	-0.028 (0.029)
Female (ref = male)	0.045* (0.023)	0.045* (0.023)	0.047 (0.036)	0.042 (0.029)
Advertisement fit (ref = fit)				
Underqualified	-0.118*** (0.034)	-0.122*** (0.034)	-0.058 (0.052)	-0.168*** (0.044)
Overqualified	0.049 (0.037)	0.048 (0.037)	0.065 (0.055)	0.016 (0.051)
Occupation fixed effects	Yes	Yes	Yes	Yes
Constant	0.550*** (0.043)	0.533*** (0.044)	0.522*** (0.069)	0.615*** (0.043)
N =	1,587	1,587	652	935
R^2	0.149	0.151	0.128	0.182

*Note: Standard errors in parentheses (two-sided). Model 1 and model 2 present the results of the full sample. Model 3 only uses observations of the German field experiment, while model 4 only uses observations of the Dutch field experiment. ~ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001 Source: GEMM, 2019*

Table A5.8. Multilevel-linear probability regression predicting the likelihood to receive a callback

	Model 1 Full sample	Model 2 Full sample + interaction	Model 3 Germany	Model 4 the Netherlands
Turkish (ref = majority)	-0.111*** (0.025)	-0.047 (0.038)	-0.062 (0.039)	-0.159*** (0.032)
Netherlands (ref = Germany)	-0.025 (0.028)	0.009 (0.032)		
Turkish * Netherlands		-0.111* (0.050)		
Picture included (ref = no picture included)	0.093*** (0.025)	0.094*** (0.025)	0.033 (0.044)	0.124*** (0.030)
Grade included (ref = no grade included)	-0.031 (0.023)	-0.031 (0.023)	0.020 (0.036)	-0.052˜ (0.029)
Performance included (ref = no performance included)	0.030 (0.023)	0.030 (0.023)	0.027 (0.036)	0.027 (0.029)
Female (ref = male)	0.087*** (0.023)	0.088*** (0.023)	0.123*** (0.036)	0.057˜ (0.029)
Advertisement fit (ref = fit)				
Underqualified	-0.094* (0.038)	-0.099** (0.038)	0.042 (0.055)	-0.227*** (0.053)
Overqualified	0.039 (0.036)	0.038 (0.036)	0.016 (0.052)	0.036 (0.049)
Occupation fixed effects	Yes	Yes	Yes	Yes
Constant	0.663*** (0.042)	0.642*** (0.043)	0.598*** (0.067)	0.689*** (0.043)
Variance components				
Micro-level	0.200	0.199	0.201	0.190
Contextual-level	0.002	0.002	0.000	0.002
$N_{micro-level}$	1,561	1,561	647	914
$N_{contextual-level}$	315	315	276	39

*Note: Standard errors in parentheses (two-sided). Model 1 and model 2 present the results of the full sample. Model 3 only uses observations of the German field experiment, while model 4 only uses observations of the Dutch field experiment. ˜ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001 ˜ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001 Source: GEMM, 2019*

Table A5.9. Linear probability regression examining the interaction effect between information scale, Turkish origin, and country

	Full sample		Germany	The Netherlands
	Model 1 + two-way interaction with information-scale	Model 2 + three-way interaction with information-scale	Model 3 + two-way interaction with information-scale	Model 4 + two-way interaction with information-scale
Turkish (ref = majority)	-0.180*** (0.053)	-0.114 (0.087)	-0.114 (0.086)	-0.210** (0.068)
Netherlands (ref = Germany)	-0.045⁻ (0.024)	-0.021 (0.059)		
Information scale	0.009 (0.016)	0.012 (0.025)	0.015 (0.025)	0.015 (0.021)
Female (ref = male)	0.085*** (0.023)	0.086*** (0.023)	0.125*** (0.036)	0.049⁻ (0.029)
Advertisement fit (ref = fit)				
Underqualified	-0.093** (0.035)	-0.097** (0.035)	0.048 (0.051)	-0.226*** (0.046)
Overqualified	0.039 (0.037)	0.038 (0.037)	0.020 (0.056)	0.031 (0.051)
Occupation fixed effects	Yes	Yes	Yes	Yes
Turkish * information scale	0.045 (0.030)	0.037 (0.044)	0.030 (0.044)	0.038 (0.042)
Turkish * Netherlands		-0.084 (0.111)		
Netherlands * information scale		0.002 (0.032)		
Turkish * Netherlands * information scale		-0.005 (0.061)		
Constant	0.715*** (0.043)	0.695*** (0.056)	0.621*** (0.069)	0.714*** (0.044)
N =	1,587	1,587	652	935
R^2	0.188	0.189	0.192	0.218

*Note: Standard errors in parentheses (two-sided). Model 1 and model 2 present the results of the full sample. Model 3 only uses observations of the German field experiment, while model 4 only uses observations of the Dutch field experiment. ⁻ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$⁻ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ Source: GEMM, 2019*

Table A5.10. Linear probability regression examining the interaction effect between information condition and Turkish origin on the likelihood to receive an invitation (narrower definition of a callback)

	Full sample			Germany			The Netherlands		
	Model 1 + two-way interaction with picture	Model 2 + two-way interaction with grade	Model 3 + two-way interaction with performance	Model 4 + two-way interaction with picture	Model 5 + two-way interaction with grade	Model 6 + two-way interaction with performance	Model 7 + two-way interaction with picture	Model 8 + two-way interaction with grade	Model 9 + two-way interaction with performance
Turkish	-0.151***	-0.099**	-0.162***	-0.123	-0.003	-0.149**	-0.167***	-0.176***	-0.175***
(ref = majority)	(0.034)	(0.035)	(0.035)	(0.078)	(0.054)	(0.056)	(0.038)	(0.045)	(0.047)
Netherlands	0.039	0.040	0.039						
(ref = Germany)	(0.026)	(0.026)	(0.026)						
Picture included	0.064*	0.087***	0.085***	0.017	0.039	0.034	0.097**	0.112***	0.112***
(ref = no picture included)	(0.029)	(0.025)	(0.025)	(0.055)	(0.043)	(0.043)	(0.037)	(0.031)	(0.031)
Grade included	-0.044~	-0.037	-0.044~	-0.033	0.011	-0.031	-0.042	-0.058	-0.043
(ref = no grade included)	(0.023)	(0.027)	(0.023)	(0.036)	(0.044)	(0.036)	(0.030)	(0.036)	(0.030)
Performance included	-0.016	-0.016	-0.043	-0.002	-0.002	-0.045	-0.028	-0.028	-0.042
(ref = no performance included)	(0.023)	(0.023)	(0.027)	(0.036)	(0.036)	(0.043)	(0.029)	(0.029)	(0.035)
Female	0.046*	0.045*	0.044~	0.048	0.047	0.044	0.043	0.041	0.042
(ref = male)	(0.023)	(0.023)	(0.023)	(0.037)	(0.036)	(0.036)	(0.029)	(0.029)	(0.029)
Advertisement fit									
(ref = fit)									
Underqualified	-0.117***	-0.117***	-0.120***	-0.055	-0.056	-0.059	-0.168***	-0.170***	-0.171***
	(0.034)	(0.034)	(0.034)	(0.053)	(0.052)	(0.052)	(0.044)	(0.044)	(0.044)

Table A5.10. Continued

	Full sample			Germany			The Netherlands		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
	+ two-way interaction with picture	+ two-way interaction with grade	+ two-way interaction with performance	+ two-way interaction with picture	+ two-way interaction with grade	+ two-way interaction with performance	+ two-way interaction with picture	+ two-way interaction with grade	+ two-way interaction with performance
Overqualified	0.049	0.050	0.048	0.063	0.071	0.064	0.018	0.016	0.016
	(0.037)	(0.037)	(0.037)	(0.055)	(0.055)	(0.054)	(0.051)	(0.051)	(0.051)
Occupation fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Turkish * picture included	0.075			0.067			0.054		
	(0.049)			(0.090)			(0.067)		
Turkish * grade included		-0.025			-0.143~			0.054	
		(0.049)			(0.078)			(0.063)	
Turkish * performance included			0.094~			0.148~			0.049
			(0.049)			(0.077)			(0.063)
Constant	0.563***	0.546***	0.565***	0.542***	0.497***	0.550***	0.620***	0.623***	0.622***
	(0.044)	(0.044)	(0.044)	(0.074)	(0.071)	(0.070)	(0.044)	(0.044)	(0.044)
$N =$	1,587	1,587	1,587	652	652	652	935	935	935
R^2	0.150	0.149	0.151	0.128	0.132	0.133	0.182	0.183	0.182

*Note: Standard errors in parentheses (two-sided). Model 1, 4, and 7 include the interaction term between picture and Turkish origin. Model 2, 5, and 8 include the interaction term between grade and Turkish origin. Model 3, 6, and 9 include the interaction term between performance and Turkish origin. ~ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ Source: GEMM, 2019*

Table A5.11. Linear probability regression examining the interaction effect between information condition, Turkish origin, and country on the likelihood to receive an invitation (narrower definition of a callback)

	Model 1 + three-way interaction with picture	Model 2 + three-way interaction with grade	Model 3 + three-way interaction with performance
Turkish (ref = majority)	-0.111 (0.078)	0.003 (0.054)	-0.143** (0.054)
Netherlands (ref = Germany)	0.006 (0.053)	0.103* (0.040)	0.068˜ (0.041)
Turkish * Netherlands	-0.054 (0.087)	-0.180* (0.070)	-0.033 (0.072)
Picture included (ref = no picture included)	0.017 (0.054)	0.086*** (0.025)	0.085*** (0.025)
Grade included (ref = no grade included)	-0.043˜ (0.023)	0.004 (0.044)	-0.043˜ (0.023)
Performance included (ref = no performance included)	-0.017 (0.023)	-0.017 (0.023)	-0.042 (0.043)
Female (ref = male)	0.047* (0.023)	0.045* (0.023)	0.044˜ (0.023)
Advertisement fit (ref = fit)			
Underqualified	-0.121*** (0.034)	-0.121*** (0.034)	-0.123*** (0.034)
Overqualified	0.048 (0.037)	0.050 (0.037)	0.048 (0.037)
Occupation fixed effects	Yes	Yes	Yes
Turkish * picture included	0.063 (0.090)		
Netherlands * picture included	0.081 (0.065)		
Turkish * Netherlands * picture included	-0.015 (0.112)		
Turkish * grade included		-0.129˜ (0.077)	
Netherlands * grade included		-0.070 (0.056)	
Turkish * Netherlands * grade included		0.183˜ (0.100)	

Table A5.11. Continued

	Model 1 + three-way interaction with picture	Model 2 + three-way interaction with grade	Model 3 + three-way interaction with performance
Turkish * performance included			0.158* (0.077)
Netherlands * performance included			-0.003 (0.056)
Turkish * Netherlands * performance included			-0.108 (0.100)
Constant	0.591*** (0.057)	0.508*** (0.048)	0.548*** (0.048)
$N =$	1,587	1,587	1,587
R^2	0.152	0.153	0.154

Note: Standard errors in parentheses (two-sided). Model 1 includes the interaction term between picture, country and Turkish origin. Model 2 includes the interaction term between grade, country, and Turkish origin. Model 3 includes the interaction term between performance, country and Turkish origin. ˜ p < 0.10, ˚ p < 0.05, ˚˚ p < 0.01, ˚˚˚ p < 0.001. Source: GEMM, 2019

Table A5.12. Multilevel-linear probability regression examining the interaction effect between information condition and Turkish origin.

	Full sample			Germany			The Netherlands		
	Model 1 + two-way interaction with picture	Model 2 + two-way interaction with grade	Model 3 + two-way interaction with performance	Model 4 + two-way interaction with picture	Model 5 + two-way interaction with grade	Model 6 + two-way interaction with performance	Model 7 + two-way interaction with picture	Model 8 + two-way interaction with grade	Model 9 + two-way interaction with performance
Turkish	-0.161***	-0.095**	-0.148***	-0.109	-0.033	-0.112*	-0.196***	-0.151**	-0.186***
(ref = majority)	(0.036)	(0.035)	(0.036)	(0.080)	(0.053)	(0.056)	(0.039)	(0.046)	(0.047)
Netherlands	-0.026	-0.025	-0.025						
(ref = Germany)	(0.028)	(0.028)	(0.028)						
Picture included	0.064*	0.093***	0.092***	0.010	0.032	0.028	0.095**	0.124***	0.124***
(ref = no picture included)	(0.029)	(0.025)	(0.025)	(0.056)	(0.044)	(0.044)	(0.036)	(0.030)	(0.030)
Grade included	-0.030	-0.022	-0.031	0.022	0.040	0.022	-0.052~	-0.048	-0.052~
(ref = no grade included)	(0.023)	(0.027)	(0.023)	(0.036)	(0.043)	(0.036)	(0.029)	(0.035)	(0.029)
Performance included	0.029	0.030	0.009	0.025	0.026	-0.003	0.028	0.027	0.013
(ref = no performance included)	(0.023)	(0.023)	(0.027)	(0.036)	(0.036)	(0.043)	(0.029)	(0.029)	(0.035)
Female	0.089***	0.088***	0.086***	0.124***	0.123***	0.121***	0.059*	0.057~	0.056~
(ref = male)	(0.023)	(0.023)	(0.023)	(0.036)	(0.036)	(0.036)	(0.029)	(0.029)	(0.029)
Advertisement fit (ref = fit)									
Underqualified	-0.094*	-0.093*	-0.095*	0.046	0.043	0.042	-0.228***	-0.227***	-0.229***
	(0.038)	(0.038)	(0.038)	(0.055)	(0.055)	(0.055)	(0.053)	(0.053)	(0.054)
Overqualified	0.040	0.040	0.039	0.014	0.019	0.015	0.040	0.036	0.035
	(0.036)	(0.036)	(0.036)	(0.052)	(0.052)	(0.052)	(0.049)	(0.049)	(0.049)

Table A5.12. Continued

	Full sample			Germany			The Netherlands		
	Model 1 + two-way interaction with picture	Model 2 + two-way interaction with grade	Model 3 + two-way interaction with performance	Model 4 + two-way interaction with picture	Model 5 + two-way interaction with grade	Model 6 + two-way interaction with performance	Model 7 + two-way interaction with picture	Model 8 + two-way interaction with grade	Model 9 + two-way interaction with performance
Occupation fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Turkish * picture included	0.095~ (0.050)			0.061 (0.092)			0.106 (0.067)		
Turkish * grade included		-0.033 (0.050)			-0.060 (0.077)			-0.016 (0.064)	
Turkish * performance included			0.069 (0.050)			0.096 (0.077)			0.050 (0.064)
Constant	0.679*** (0.043)	0.657*** (0.043)	0.673*** (0.043)	0.616*** (0.072)	0.587*** (0.068)	0.616*** (0.068)	0.698*** (0.043)	0.686*** (0.044)	0.696*** (0.043)
Variance components									
Micro-level	0.200	0.200	0.200	0.200	0.200	0.200	0.189	0.190	0.190
Contextual-level	0.002	0.002	0.002	0.000	0.000	0.000	0.002	0.002	0.002
$N_{micro\text{-}level}$	1,561	1,561	1,561	647	647	647	914	914	914
$N_{contextual\text{-}level}$	315	315	315	276	276	276	39	39	39

Note: Standard errors in parentheses (two-sided). Model 1, 4, and 7 include the interaction term between picture and Turkish origin. Model 2, 5, and 8 include the interaction term between grade and Turkish origin. Model 3, 6, and 9 include the interaction term between performance and Turkish origin. ~ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ Source: GEMM, 2019

Table A5.13. Multilevel-linear probability regression examining the interaction effect between information condition, Turkish origin, and country

	Model 1 + three-way interaction with picture	Model 2 + three-way interaction with grade	Model 3 + three-way interaction with performance
Turkish (ref = majority)	-0.069 (0.080)	-0.025 (0.053)	-0.103~ (0.055)
Netherlands (ref = Germany)	-0.051 (0.056)	0.049 (0.042)	0.003 (0.042)
Turkish * Netherlands	-0.121 (0.090)	-0.123~ (0.071)	-0.079 (0.073)
Picture included (ref = no picture included)	0.024 (0.055)	0.092*** (0.025)	0.093*** (0.025)
Grade included (ref = no grade included)	-0.029 (0.023)	0.025 (0.043)	-0.030 (0.023)
Performance included (ref = no performance included)	0.029 (0.023)	0.029 (0.023)	0.002 (0.043)
Female (ref = male)	0.090*** (0.023)	0.088*** (0.023)	0.087*** (0.023)
Advertisement fit (ref = fit)			
Underqualified	-0.100** (0.038)	-0.096* (0.038)	-0.100** (0.038)
Overqualified	0.040 (0.036)	0.036 (0.036)	0.037 (0.036)
Occupation fixed effects	Yes	Yes	Yes
Turkish * picture included	0.023 (0.091)		
Netherlands * picture included	0.074 (0.066)		
Turkish * Netherlands * picture included	0.073 (0.114)		
Turkish * grade included		-0.044 (0.076)	
Netherlands * grade included		-0.080 (0.055)	
Turkish * Netherlands * grade included		0.024 (0.100)	

Table A5.13. Continued

	Model 1 + three-way interaction with picture	Model 2 + three-way interaction with grade	Model 3 + three-way interaction with performance
Turkish * performance included			0.106 (0.077)
Netherlands * performance included			0.011 (0.055)
Turkish * Netherlands * performance included			-0.061 (0.101)
Constant	0.699*** (0.059)	0.615*** (0.047)	0.656*** (0.047)
Variance components			
Micro-level	0.199	0.199	0.199
Contextual-level	0.002	0.002	0.002
$N_{micro\text{-}level}$	1,561	1,561	1,561
$N_{contextual\text{-}level}$	315	315	315

*Note: Standard errors in parentheses (two-sided). Model 1 includes the interaction term between picture, country and Turkish origin. Model 2 includes the interaction term between grade, country, and Turkish origin. Model 3 includes the interaction term between performance, country and Turkish origin. ˜ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. Source: GEMM, 2019*

Chapter 6.

Is there evidence for statistical discrimination against racial-ethnic minorities in hiring? Evidence from a cross-national field experiment[43]

Abstract

While statistical discrimination theory has often been proposed as an important explanation for racial and ethnic discrimination in hiring, research that empirically scrutinizes its underlying assumptions is either scant or provides mixed results. To test its assumptions, we combine data from a cross-national field experiment with secondary data indicative of the average labor productivity of racial-ethnic minority groups. We find hardly evidence that adding diagnostic personal information reduces discrimination against racial-ethnic minorities. Furthermore, we do not find an association between discrimination levels and language similarity or the socioeconomic resources of minority groups in the country of destination. However, our findings do show that the socioeconomic development of the country of origin is negatively associated with discrimination levels. Finally, the impact of these indicators of labor productivity is generally not moderated by the amount of diagnostic personal information. Taken together, these findings question the validity of several core assumptions of statistical discrimination theory.

6.1. Introduction

Study upon study has shown that racial and ethnic minorities[44] are being discriminated against in hiring (Quillian et al. 2017, 2019; Zschirnt and Ruedin 2016). Recent studies further indicate that some racial-ethnic minority groups face higher levels of discrimination than others (Ahmad 2019; Booth et al. 2012; Weichselbaumer 2017; Zschirnt 2019b). While its existence has been frequently demonstrated, the mechanisms generating (differences in) discrimination rates against racial-ethnic minorities are strongly debated (Bertrand and Duflo 2017; Neumark 2018; Quillian 2006).

Theorists have suggested that – in addition to irrational racial or ethnic tastes, prejudice, and group interests – economic rationality and information deficiencies may also explain racial and ethnic discrimination in hiring (Baumle and Fossett 2005; Guryan and Charles 2013). According to economic models of statistical discrimination theory (Aigner and Cain 1977; Arrow 1973; Phelps 1972; Schwab 1986) – originally proposed by Kenneth Arrow and Edmund Phelps – employers systematically prefer racial-ethnic majority over minority job applicants due to imperfect information in the recruitment process and the negative group beliefs employers have regarding the hard and soft skills of racial and ethnic minorities.

There is a great body of research on statistical discrimination theory (Bertrand and Duflo 2017; Guryan and Charles 2013), but the literature to date has mainly focused on two separate channels supposedly leading to hiring discrimination of racial-ethnic minorities. One strand of research focuses on whether hiring discrimination is affected by information deficiencies and, more specifically, by the (lack of) personal information on labor productivity. Yet, only a few studies find that adding diagnostic personal information eliminated discrimination against racial-ethnic minorities (Baert and Vujić 2016; Kaas and Manger 2012). Most studies, by contrast, find no effect of information (Agerström et al. 2012; Bertrand and Mullainathan 2004; Gaddis 2015; Koopmans et al. 2018; Nunley et al. 2015; Oreopoulos 2011; Vernby and Dancygier 2019). Although these findings appear to be largely inconsistent with statistical discrimination theory, it is still possible that these variations in study outcomes are driven by differences in field experimental designs, the selected minority groups, or national contexts.

A second strand of research has been concerned with assessing how discriminatory hiring practices are related to the group beliefs of employers. Surprisingly, however, statistical discrimination theory's assumption that group averages labor productivity affect employers' hiring practices has received much less scholarly attention (Midtbøen 2014; Pager and Karafin 2009; Quillian 2006). A small but

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44 In this study, we focus on racial-ethnic minorities with a migrant background – that is, those whose parents or themselves were born abroad.

growing number of qualitative studies examined whether and how group beliefs of employers are linked with the negative recruitment outcomes of racial-ethnic minorities (Bonoli and Hinrichs 2012; Friberg and Midtbøen 2018, 2019; Imdorf 2017; Midtbøen 2014; Moss and Tilly 2001; Neckerman and Kirschenman 1991; Pager and Karafin 2009; Waldinger and Lichter 2003). These studies indicate that employers base their hiring decisions on more objective assessments of performance and risk as well as on prejudiced attitudes towards racial-ethnic minorities. While these qualitative studies provide valuable insights, research is lacking that quantitatively assesses whether actual hiring outcomes can be linked to group indicators of productivity and which of these indicators are most important for explaining racial and ethnic discrimination in the labor market (cf. Quillian 2006).

In this study, our aim is to empirically scrutinize the assumptions of statistical discrimination theory. Using original data from a cross-national comparative field experiment in Germany, the Netherlands, Norway, Spain and the United Kingdom (Lancee, Birkelund, Coenders, Di Stasio, Fernández Reino, Heath, Koopmans, Larsen, Polavieja, Ramos, Thijssen, et al. 2019), we seek to advance previous research in three important and innovative ways. First, we randomly varied the racial and ethnic origin of fictive job applicants and three types of diagnostic information about individual productivity in resumes to test whether racial and ethnic discrimination is indeed lower once fictive job applicants include more diagnostic personal information about their labor productivity in application materials. Specifically, we experimentally manipulated whether or not the average final grade was mentioned, whether or not job applicants describe themselves as a person with strong social skills, and whether or not applicants list additional skills and extra responsibilities in their prior job. Studying multiple information manipulations in different national contexts, enables us to provide a more definitive answer as to whether (and which type of) added diagnostic personal information leads to a reduction of racial and ethnic discrimination.

Second, we undertake – to the best of our knowledge – the first empirical investigation of the relationship between discrimination and group averages of labor productivity in multiple countries. In each of the five countries in our study, we examine 30 racial-ethnic minority groups with varying socioeconomic backgrounds and matched them with three group indicators of the average labor productivity: (1) a measure combining aggregated information about educational and employment outcomes of racial-ethnic minority groups in the country of destination (OECD 2010), (2) a measure of similarity between the language of the destination country and the dominant language in the country of origin (Holman et al. 2011), and (3) a measure capturing the average level of socioeconomic development in the country of origin – that is, the Human Development Index (HDI) (United Nations Development Programme 2018). This makes it possible to distinguish

between indicators related to the group productivity of racial-ethnic minority groups in the country of destination and indicators of group productivity linked to the country of origin. By distinguishing between these proximate (indicator 1) and more distant (indicator 2 and 3) indicators of group productivity, we shed more light on the relative importance of different aspects of labor productivity in explaining racial and ethnic discrimination in hiring outcomes (cf. Friberg and Midtbøen 2018; Midtbøen 2014).

Third, whereas previous theorizing suggests that the effect of averages of group productivity on racial and ethnic discrimination is contingent on the availability of diagnostic information about individual productivity (Arrow 1973; Phelps 1972; Zschirnt and Ruedin 2016), this idea has not been explicitly addressed in prior research. In particular, it has been suggested that economically-rational employers rely less on group statistics once they have more and reliable personal information to infer the individual productivity of job applicants (Crawford et al. 2011; Guryan and Charles 2013; Rubinstein et al. 2018). Consequently, employers' concerns regarding individual productivity might depend on the amount of diagnostic personal information available and, likewise, the strength of the effect of diagnostic personal information can be affected by the content of the beliefs about the racial-ethnic minority group. Hence, we contribute to literature by integrating insights of two separate strands of research and empirically testing whether the effects of group productivity weaken if resumes contain more diagnostic personal information.

Hence, the research question we set out to answer is: *to what extent is discrimination against (different) racial and ethnic minority groups in Germany, the Netherlands, Norway, Spain and the United Kingdom affected by the (independent and/or interactive) effects of (the amount of) diagnostic personal information and group averages of labor productivity?*

In answering this research question, we focus on a specific group of job seekers. First, we examine job seekers at the start of their working careers (aged 23–25 years, ± 4 years work experience) because prior research indicates that prolonged unemployment spells in the beginning of people's careers are associated with an increased risk of unemployment later in life (Luijkx and Wolbers 2009). Current ethnic disadvantages might accordingly have important consequences for future labor market inequalities. Second, we study racial-ethnic minority candidates who were raised and obtained all their education and previous job experience in the country of study. We therefore investigate racial-ethnic minority applicants who should be in the same position to successfully realize their preferred career path as their majority counterparts. Uncertainty about educational degrees and work experience obtained abroad is not an issue in this study (cf. Oreopoulos 2011).

6.2. Theoretical background

Statistical discrimination theory posits that discrimination "is based on rational decisions by maximizing actors who are guided by empirically informed assessments of productivity and risk" (Baumle and Fossett 2005:1251). The literature has focused on two mechanisms that explain why employers discriminate against racial and ethnic minorities: (1) employers are faced with (more or less) information uncertainties in hiring processes (information uncertainty); and (2) employers base their decisions on their information about the productivity of racial and ethnic groups (group productivity). In the following, we discuss whether and how these different mechanisms are backed up by theoretical and empirical insights.

6.2.1. The effect of diagnostic personal information

One branch of research has focused on the impact of information uncertainty on hiring outcomes (Bertrand and Duflo 2017; Neumark 2018). Information uncertainty arises, for example, because CVs and cover letters contain too little or unreliable information about the job applicant, and there is a lack of time and monetary resources to conduct an extensive assessment of the full pool of job applicants (e.g. screening, training, and dismissal costs) (Baumle and Fossett 2005; Midtbøen 2014). According to statistical discrimination theory (Arrow 1973; Phelps 1972), employers use group membership as a readily available and inexpensive proxy for the (unobserved) productivity of job applicants and a way to minimize the risk of making wrong hiring decisions. Consequently, discrimination is expected to be higher when employers have little information about the productivity of job applicants; conversely, if employers have perfect information about the productivity of the job seeker, they will not discriminate on the basis of race-ethnicity (Guryan and Charles 2013).

A growing number of studies have investigated whether discrimination is related to information uncertainty, and specifically tested whether discrimination is lower when more individual information was available (Bertrand and Duflo 2017; Neumark 2018). Support for this line of reasoning was found in studies on racial and ethnic discrimination in laboratory experiments (Lane 2016), the rental housing market (Auspurg, Schneck, and Hinz 2019; Flage 2018), and the sharing economy (Kas, Corten, and Rijt 2019; Tjaden et al. 2018).

Studies on employment discrimination, however, find much less support for this argument. For example, several studies compared the level of discrimination among applicants with lower and higher quality educational credentials (Bertrand and Mullainathan 2004; Gaddis 2015; Nunley et al. 2015; Oreopoulos 2011), but find no evidence of lower discrimination rates when job applicants signal higher levels of competence and commitment. Besides manipulating the quality of

educational qualifications, studies experimentally varied information about productivity-relevant characteristics of job applicants, such as descriptions about one's personality (Agerström et al. 2012), out of work activities (Baert and Vujić 2016), language skills (Oreopoulos 2011), the average final grade in education (Koopmans et al. 2018; Thijssen et al. 2019), additional tasks and responsibilities in previous job(s) (Andriessen et al. 2010; Thijssen et al. 2019; Vernby and Dancygier 2019), or reference letters from previous employers (Kaas and Manger 2012; Koopmans et al. 2018). The majority of studies find no evidence that discrimination decreased with the addition of personal information (Agerström et al. 2012; Andriessen et al. 2010; Koopmans et al. 2018; Oreopoulos 2011; Vernby and Dancygier 2019); only a few studies indicate that adding personal information eliminated racial and ethnic discrimination (Baert and Vujić 2016; Kaas and Manger 2012).

One interpretation of these results is that the impact of information is limited; however, the absence of corroborative evidence might also be due to differences in, for instance, the experimental manipulations used, the selection of racial-ethnic minority groups, or the national context. To provide a more comprehensive test, we independently manipulated different types of information in application materials. Furthermore, rather than examining which type of information can minimalize racial-ethnic biases in hiring, we also assess the effect of adding a greater amount of individual information in resumes because recent psychological research suggests that increases in the overall diagnosticity of personal information might have a stronger influence on discrimination (Rubinstein 2018; Rubinstein et al. 2018). In line with statistical discrimination theory, we hypothesize that: (H1) *Discrimination against racial-ethnic minority job candidates is lower when resumes contain more diagnostic personal information about labor productivity.*

6.2.2. The effect of group productivity

In contrast to information uncertainties, there is much less scholarly attention to the influence of group images or stereotypes that employers have regarding the average labor productivity of racial and ethnic groups. This is nonetheless a crucial aspect in Arrow's (1973) and Phelps' (1972) original formulations of statistical discrimination theory. In particular, it has been argued that if economically-rational employers hold beliefs that members of racial-ethnic minority groups have lower productivity than those of racial-ethnic majority groups, they will discriminate against racial-ethnic minority job seekers. While some theorists have proposed and tested more flexible interpretations (Altonji and Pierret 2001; Bartoš et al. 2016), most argue that employers should act on the basis of 'true stereotypes' – that is, group beliefs which are based on actual performance differences between racial and ethnic groups (Aigner and Cain 1977; Schwab 1986). In the words of Baumle and Fossett (2005, p. 1254): "If the employer … chooses applicants on

the basis of race or some other group membership and group membership is in fact uncorrelated with unmeasured productivity or risk, the employer is choosing arbitrarily among otherwise similar candidates ... ".

A small body of qualitative research has studied whether and how hiring practices of employers could be affected by the content of group images about racial and ethnic groups (Bonoli and Hinrichs 2012; Friberg and Midtbøen 2018, 2019; Imdorf 2017; Midtbøen 2014; Moss and Tilly 2001; Neckerman and Kirschenman 1991; Nievers 2010; Oreopoulos 2011; Pager and Karafin 2009; Waldinger and Lichter 2003). These studies find that (some) employers hold rigid, negative attitudes towards racial and ethnic minorities, systematically overestimate negative incidents with racial and ethnic minority workers, and/or apply double hiring standards (Midtbøen 2014; Moss and Tilly 2001; Pager and Karafin 2009; Waldinger and Lichter 2003). However, this research also finds evidence that employers prefer majority over minority job candidates because of average skill differences between groups. That is, employers often express concerns about the attachment to work, language proficiency, work ethic, commitment, and professional appearance of racial and ethnic minorities, resulting in trouble avoidance and exclusionary practices (Imdorf 2017; Midtbøen 2014; Moss and Tilly 2001; Neckerman and Kirschenman 1991; Nievers 2010; Oreopoulos 2011; Pager and Karafin 2009). As summarized by Midtbøen (2015, p. 208): "Indeed, many employers display both negative attitudes and crude stereotypes of racial and ethnic minorities, and they clearly express strategies for risk minimization".

While these studies provide interesting insights, we still do not know whether and which group beliefs are most relevant for explaining hiring discrimination against racial and ethnic minorities. Indeed, various studies have shown that there is not always a clear link between what employers say they do and what they actually do (Pager and Quillian 2005). Relatedly, and equally important, previous research has also not been able to assess whether and to what extent employers' information about racial and ethnic minority groups is consistent with objective skill differences between racial and ethnic groups (Pager and Karafin 2009).

The question as to whether employers' assessments are based on valid empirical representations touches upon an old but ongoing debate among psychologists concerning the (in)accuracy of stereotypes about ethnic or racial groups (Allport 1954; Brigham 1971; Dixon 2017; Fiske 1998; Jussim, Crawford, and Rubinstein 2015). On the one hand, scholars view stereotypes as "poorly founded beliefs about members of the target group" (Quillian, 2006, p. 300) which can exist without any realistic basis or "kernel of truth" (Brigham 1971; Fiske 1998; LaPiere 1936). On the other hand, a recent series of studies contends that stereotypes can correspond largely with observed differences between racial and ethnic groups (Arkes and Tetlock 2004; Jussim et al. 2009, 2015; Stevens et al.

2018) and use more neutral definitions of stereotypes such as "a general belief about groups" (Ashmore and Del Boca 1981; Jussim et al. 2015). For example, a recent overview article by Jussim and colleagues (2009, p. 221) concludes that "the scientific evidence provides more evidence of accuracy than of inaccuracy in social stereotypes. The most appropriate generalization based on the evidence is that people's beliefs about groups are usually moderately to highly accurate, and are occasionally highly inaccurate". Hence, it is apparent that this debate will not be settled soon (Dixon 2017).

This debate about the (in)accuracy of group beliefs or stereotypes also indicates that it is insightful to investigate whether hiring outcomes are related to indicators of group performance. In accordance with statistical discrimination theory, it can be expected that economically-rational employers base their hiring decisions on information about the average productivity of racial-ethnic groups. In this study, we therefore complement earlier qualitative findings by testing whether and to what extent objective group characteristics correlate with discrimination rates. In doing so, we strictly follow statistical discrimination theory and assume that employers rely on (available) statistics indicative of the average labor productivity of racial and ethnic groups. We specifically expect that: (H2) *Discrimination against racial-ethnic minority job candidates is lower when they belong to racial-ethnic groups with higher levels of labor productivity.*

As indicated by Friberg and Midtbøen (2018:1465): "The economic model may seem straight forward, but in reality the term on which it all hinges – skills – is rather vague and may refer to a wide variety of knowledge, characteristics and competencies that are not easily conceptualized or measured (Moss and Tilly2001)". Indeed, employers' concerns about unobserved productivity might be related to, for example, professionalism, trustworthiness, the quality of social networks, communication problems due to language dissimilarity, trainability, or work attachment. Therefore, we test this hypothesis by looking at different aspects of the average productivity of racial and ethnic minority groups. Following previous studies on the socioeconomic integration of immigrants (Levels, Dronkers, and Kraaykamp 2008; Van Tubergen et al. 2004), we assume that employers hold more positive images regarding racial-ethnic minority groups (1) with higher levels of education and labor participation in the country of destination (i.e. higher levels of socioeconomic resources), (2) with an origin language that is more similar to that of the majority in the country of destination (i.e. greater language similarity), or (3) that originated from countries of origin with a higher level of socioeconomic development. In the measurement section, we come back to this issue.

6.2.3. The interactive effects of diagnostic personal information and group productivity

One could argue that the impact of group productivity is contingent on the availability of diagnostic information about individual job applicants. In particular, the more diagnostic personal information is available, the less uncertainty employers experience, and the less likely they are to resort to group information.

This line of reasoning is consistent with psychological models that assume that the effect of stereotypes and group images is dependent on the amount of diagnostic personal information (Crawford et al. 2011; Rubinstein 2018; Rubinstein et al. 2018). The diagnosticity and judgment task model contends that although group images can influence person perception, individual information has an equally important and in most instances even a stronger impact than group images (Rubinstein 2018; Rubinstein et al. 2018). This model specifically expects that only if individual information is absent or lowly diagnostic, people will rely on stereotypes; conversely, when individual information is highly diagnostic, stereotypes should play no part in decision making.

The diagnosticity and judgment task model thus shows strong similarities with statistical discrimination theory and provides an additional theoretical argument to expect that presence of diagnostic information affects the relationship between (beliefs about) group productivity and hiring discrimination. Therefore, we derive the following hypothesis: (H3) *The negative effect of group productivity on discrimination against racial-ethnic minority job candidates is weaker when resumes contain more diagnostic information about the productivity of the individual applicant.*

6.3. Data and methods

6.3.1. Data

We apply data from a cross-nationally comparative correspondence test on hiring discrimination against racial-ethnic minorities in five countries (Germany, the Netherlands, Norway, Spain, and United Kingdom) (Lancee 2019; Lancee, Birkelund, Coenders, Di Stasio, Fernández Reino, Heath, Koopmans, Larsen, Polavieja, Ramos, Thijssen, et al. 2019). In this field experiment, fictitious applicants applied to real vacancies posted on online job boards in the period between November 2016 and April 2018.

To compare discrimination rates across countries, similar occupations were examined in all countries, namely: cook, payroll clerk, receptionist, sales representative, software developer, and store assistant. These occupations were chosen to have variation in educational and interpersonal skills. The CVs and cover letters were standardized cross-nationally. In order to construct realistic cover letters

and CVs, resumes of real job seekers were used as examples, and experienced recruiters were asked to evaluate the newly constructed application materials. The cover letter provided reasons to apply for a job position, while the CV includes background information – such as the applicant's age (23-25), postal and e-mail address, telephone number – the educational degrees obtained, and information about previous job positions and employers (4 years work experience). To take into account the country-specific labor market context, application documents were slightly adapted per country.

In contrast to many previous field experiments, we used an unpaired design (cf. Koopmans et al. 2018; Weichselbaumer 2017). This means that we applied with only one fictitious job applicant per job opening. The unpaired design provides increased possibilities of varying multiple experimental manipulations, lowers the risk of detection, and minimizes any inconveniences for employers and actual job applicants (Lancee 2019).

6.3.2. Measurements

Dependent variable (at application-level)
Responses from employers were tracked by matching mail, voice, or email messages to resumes. The dependent variable indicates whether the applicant received a positive response from an employer (callback) – that is, a message in which the employer clearly expressed his or her interest in the candidate (e.g. personal requests for additional information and (pre-)invitations to a job interview; all coded as 1). Messages without concrete request for additional personal information, rejections, or no messages are coded as 0.

Independent variables (at application-level)
Racial-ethnic background. We distinguished between native-majority candidates and candidates with a racial-ethnic minority origin. Furthermore, we varied the country of origin of candidates with a minority background. In total, 31 racial-ethnic groups were simultaneously examined in all countries. This selection comprises the largest racial-ethnic minority groups per country and groups of varying socioeconomic status. Within each country several groups were over-sampled: 25 percent of all applicants had a native-majority origin and 25 percent of all applicants are member of one of the most sizeable or historically well-established minority groups. Table 6.1 displays the number of observations per racial-ethnic group and per country of study. In each of the five countries, there is one racial-ethnic majority group and 30 racial-ethnic minority origin groups. Thus, at the group-level (level-2), we have 150 race-ethnicity-country observations (discrimination rate per group).

In correspondence tests on racial and ethnic discrimination, it is important that employers can trace the race-ethnicity of the fictitious job candidate (Gaddis 2017b). Accordingly, racial-ethnic origin was conveyed by the candidate's first and last name (signaled in the cover letter and CV), the language skills mentioned in the CV (apart from mentioning the language of the country of destination as their mother tongue, minority candidates also mentioned their origin language as a second mother tongue), and an additional passage in the cover letter of minority candidates stating that either their parents and/or him/herself were born abroad, but that the candidate completed all educational training in the country of study. Hence, on the basis of these different signals in resumes, employers should be able to identify the specific racial-ethnic origin of job candidates.

Table 6.1. Overview of the number of observations by racial-ethnic group and country of study

Racial-ethnic background	All countries	Germany	the Nether-lands	Norway	Spain	United Kingdom
Albania	336	41	92	29	95	79
Bulgaria	321	49	153	31	55	33
China	247	45	49	23	78	52
Egypt	231	37	60	25	61	48
Ethiopia	213	39	47	22	67	38
France	217	36	49	24	62	46
Germany	851	717	42	28	21	43
Greece	240	51	42	24	71	52
India	231	48	53	27	55	48
Indonesia	214	34	62	28	49	41
Iran	228	39	59	25	54	51
Iraq	248	49	50	30	53	66
Italy	222	46	52	24	60	40
Japan	238	38	57	19	58	66
Lebanon	432	316	34	14	23	45
Mexico	252	42	56	37	68	49
Morocco	946	51	378	9	454	54
Netherlands	1,161	52	982	23	53	51
Nigeria	639	87	47	34	59	412
Norway	627	35	48	456	49	39
Pakistan	806	47	44	223	59	433

Table 6.1. Continued

Racial-ethnic background	All countries	Germany	the Netherlands	Norway	Spain	United Kingdom
Poland	341	43	179	29	53	37
Romania	207	35	43	25	55	49
Russia	210	42	56	22	44	46
South Korea	220	52	51	19	51	47
Spain	1,133	42	49	33	964	45
Turkey	840	328	375	28	65	44
Uganda	187	35	48	21	44	39
United Kingdom	958	37	53	25	57	786
United States	228	40	46	25	59	58
Vietnam	199	50	40	21	48	40
Total	13,423	2,603	3,396	1,403	3,044	2,977

Source: GEMM, 2019

Personal information about individual productivity. To investigate the effect of adding diagnostic individual information, three features were experimentally varied across the resumes.

Grade. We systematically varied whether or not the average final grade in education was mentioned in the CV. Half of the applications mentioned no grade and half of the applicants mentioned a good grade, thereby indicating (good) cognitive skills and motivation.[45]

Performance. Half of the candidates had resumes without extra information about their labor skills and responsibilities in previous jobs. The other half had resumes that included an additional passage in the cover letter and extra information in the CV. In this passage, candidates describe themselves as someone who can perform under pressure, is motivated to acquire new skills, and was assigned more responsibilities by the previous employers. Furthermore, bullet points were added to the CV to signal these additional responsibilities.

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45 In a few countries, the formulation of the grade manipulation was slightly adapted to reflect the country specific standard practices. Because German application norms require to include copies of school leaving certificates from high school and vocational training in job applications, the addition of the average final grade in the CV in Germany is probably less strong than elsewhere. In addition, in the United Kingdom it is always required to mention the average final grade in the CV. In the United Kingdom, the grade manipulation differentiates between mentioning a lower average final grade and mentioning a higher average final grade. Because of these and other small adaptations, we additionally conducted separate analyses by country as a robustness check.

Social skills. Half of the candidates had resumes where no information was given about social skills, the other half had resumes in which these social skills were stressed in the cover letter. Applicants describe themselves as a pleasant and social person, who gets along well with others, a team player and someone who is attentive to other people's needs.

Amount of information included in resumes. Based on the aforementioned three experimental manipulations, we constructed a count variable that indicates how much extra information was added to resumes, ranging from 0 (no information manipulations) to 3 (all information manipulations).

Control variables (at application-level)

We include the following controls which are all included as 0/1 dummy variables. First, we control for *gender* (50% of all applicants was male) and being *religious* (50% religious). Next, we control for whether a professional *picture* was attached to the CV. Because of country-specific application norms, fictitious applicants applied less often with a picture in Netherlands (50% of all applicants) than in Germany and Spain (90%); in Norway and the United Kingdom, applications did not include a picture. We also differentiate between jobs that require lower (ISCED < 4) or higher (ISCED ≥4) *educational skills* and jobs requiring less or more *interpersonal skills* (e.g. teamwork, having more customer or client contact). Finally, we distinguish between candidates who fit with the job requirements in the job advertisement, candidates who are slightly underqualified, and candidates who are slightly overqualified. We account for *application fit* because "misfits" might provide ambiguous productivity signals to employers that might consequently affect the callback rates of racial-ethnic groups.

Independent variables (at racial-ethnic minority group-level)

According to statistical discrimination theory, hiring discrimination is related to employers' perceptions of group level productivity. We use three indicators as proxies for the labor productivity of minority groups – that is, the socioeconomic development of the country of origin, language similarity, and the level of socioeconomic resources of the minority group in the country of destination/community. Employers presumably ascribe higher labor productivity to groups originating from countries with a higher level of socioeconomic development, groups speaking a more similar language, and groups with more socioeconomic resources in the country of destination.

Socioeconomic development of the country of origin. We use the Human Development Index as a proxy for labor productivity related to the country of origin. Specifically, this index summarizes the life expectancy, quality of education, and economic prosperity in the country of origin. Higher scores indicate

higher (perceived) levels of labor productivity within racial-ethnic minority groups originating from the same country of origin.

Language similarity is an important predictor of destination language proficiency (Van Tubergen and Kalmijn 2005). For each racial-ethnic minority group in a specific destination country, we indicated the similarity/distance between the destination language and the language in the country of origin, based on the Automated Similarity Judgment Program dataset (ASJP-dataset; Wichmann, Holman & Brown, 2018). The ASJP-dataset contains a measurement of lexical dissimilarity of 40 key words of almost all languages in the world. For interpretation purposes, we reversed the original variable (see Table A6.8 in the Appendix) so that a higher score indicates more language similarity. Because of its skewed distribution, we subsequently created a dummy variable that differentiates between racial-ethnic minority groups that score below the sample average (low language similarity, coded as 0) or above the average (high language similarity, coded as 1).

Socioeconomic resources of the community in the country of destination. We used the most recent version of the Database on Immigrants in Organization for Economic Co-operation and Development countries (DIOC 2010/2011) to measure the socioeconomic resources of racial-ethnic minority groups in the country of destination. DIOC 2010/2011 contains information about demographic, educational, and labor market characteristics by country of birth. Based on the proportion of tertiary educated (ISCED 5A / 5B / 6) and the proportion of employed in the working age population (all persons aged between 15 and 64 years) of origin groups, we created an index for the socioeconomic resources of racial-ethnic minority groups in the country of destination by means of a principal component analysis. For eleven minority group observations in Germany this information was missing. These observations were excluded from the analysis.

Control variables (at racial-ethnic minority group-level)

To control for systematic country differences, we include country fixed effects. Furthermore, to take into account unobserved differences between racial-ethnic minority groups, we include region of origin fixed effects. We distinguish between the following regions: Western Europe and the United States; Eastern Europe and Russia; South America; South Asia; South-East and East Asia; Middle East and North Africa; and Sub-Saharan Africa.

6.3.3. Analytical strategy

The analytical sample consists of 13,423 level-1 observations/job applications: 2,603 in Germany, 3,396 in the Netherlands, 1,403 in Norway, 3,044 in Spain, and 2,977 in the United Kingdom. At level-2, we analyze 139 race-ethnicity-country observations (i.e. a specific racial-ethnic minority group in a specific country).

Descriptive statistics are presented in Table 6.2 and Table 6.3. Correlations between key independent variables at level-2 are presented in Table 6.4. For means of interpretation, all continuous level-2 variables are rescaled so that 0 represents the minimum score on these variables.

The analysis consists of three parts. In the first part, using logistic regression, we test the effect of having a minority origin and the addition of diagnostic personal information in the resume. In the second part, we assess whether group differences in discrimination rates are related to proxies of average levels of labor productivity of racial-ethnic minority groups, using estimated dependent variable models (Lewis and Linzer 2005). In these models – also known as two-step multilevel models – a level-1 parameter (e.g. the discrimination rate) is estimated separately for each level-2 unit (i.e. racial-ethnic minority group) and then used as a dependent variable at level-2 in order to test for level-2 predictors of that variation. More specifically, we first employed a logistic regression to estimate the discrimination rate for each racial-ethnic minority group per country, while taking into account the influence of the amount of individual information, picture, gender, religiosity, required educational skills, required interpersonal skills, and applicant fit fixed effects. In the second step, the discrimination rates are regressed on indicators of the group productivity, using ordinary least squares regression analysis. Importantly, all level-2 regressions are weighted by the precision of the discrimination rate by means of a feasible generalized least squares approach (i.e. more precise discrimination rates carry more weight in the analysis) (see also Heisig et al. 2018; Lewis and Linzer 2005). In the third part of the analysis, we test whether the effects of group indicators of labor productivity on discrimination rates are contingent on the amount of diagnostic information included. Here, too, we used estimated dependent variable models to obtain the discrimination rates per racial-ethnic minority group in each country, but also distinguished between applicants with relatively less (no or one information treatment included) or more (two to three information treatments included) individual information in their resumes.[46]

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46 As we have 139 minority group-country observations, this would theoretically imply 278 (= 139*2) different discrimination rates. However, by splitting the sample in two information conditions, we lost statistical power and could not obtain a discrimination rate for all groups in every country. Therefore, we ended up with an analytical sample of 275 ethnicity-country observations.

Table 6.2. Descriptive statistics for variables at level-1 (job applications)

Variable	Mean/proportion	S.D.	Min.	Max.
Callback	0.300		0	1
Minority background	0.709		0	1
Amount of resume information	1.518	.880	0	3
Female	0.482		0	1
Being religious	0.495		0	1
Higher educational skills required	0.504		0	1
More interpersonal skills required	0.438		0	1
Applicant fit				
Good fit	0.703		0	1
Underqualified	0.088		0	1
Overqualified	0.209		0	1
$N_{applications}$	13,423			

Source: GEMM, 2019

Table 6.3. Descriptive statistics for variables at level-2 (race-ethnicity-country)

Variable	Mean/proportion	S.D.	Min.	Max.
Discrimination rate	0.395	0.420	-0.615	1.496
Socioeconomic development country of origin	0.780	0.129	0.463	0.953
High language similarity	0.194		0	1
Socioeconomic resources community	0.000	1.109	-2.754	4.222
Country				
Germany	0.137		0	1
Netherlands	0.216		0	1
Norway	0.216		0	1
Spain	0.216		0	1
United Kingdom	0.216		0	1
Region of origin				
Western Europe and the United States	0.281		0	1
Eastern Europe and Russia	0.173		0	1
South America	0.020		0	1
South Asia	0.065		0	1
South-East and East Asia	0.166		0	1
Middle East and North Africa	0.201		0	1
Sub-Saharan Africa	0.086		0	1
$N_{race\text{-}ethnicity\text{-}country}$	139			

Source: GEMM, 2019

Table 6.4. Correlations between key independent variables at level-2 (race-ethnicity-country)

		1	2	3
1	Socioeconomic development country of origin	1.000		
2	High language similarity	0.168*	1.000	
3	Socioeconomic resources community	0.450***	0.247**	1.000
	$N_{race-ethnicity-country}$	139		

*Note: ˜ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001 (two-sided). Source: GEMM, 2019*

6.4. Results

6.4.1. Multivariate analysis

Table 6.5 presents the results of logistic regression models predicting the likelihood to receive a callback across countries. The findings in model 1 indicate that racial-ethnic minority candidates are significantly less likely to receive a callback. Majority candidates receive a callback that is 47 percent higher than that for identically qualified minority candidates (odds ratio = 1 / (e^{-0.384}) = 1.468). Furthermore, we find no significant main effect of adding more information about individual productivity; thus, adding more diagnostic information to resumes does not lead to more callbacks.

Model 2 includes the interaction term between minority background and the number of information treatments included, allowing us to test the hypothesis stating that discrimination against racial-ethnic minority job candidates is lower when resumes contain more diagnostic personal information about labor productivity (H1). We find no significant interaction effect, however. Hence, contradicting hypothesis 1, adding more diagnostic personal information about labor productivity does not reduce discrimination against racial-ethnic minorities.

We find similar results when we analyze the effects of adding information for each treatment separately (i.e. grade, performance, and social skills) in models 3 and 4. In particular, adding grade, performance, or social skills does not lead to significantly more callbacks (model 3).[47] Furthermore, in model 4 we find no significant interaction effects between having a racial-ethnic minority background and each of these three information treatments. In sum, we find no significant reductions of racial and ethnic discrimination with the inclusion of additional information about individual productivity and, hence, no empirical support for hypothesis 1.

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47 As a sensitivity analysis we excluded countries one by one. After the exclusion of Germany, we find a positive main effect of including performance.

Table 6.5. Logistic regressions on the likelihood to receive a callback: the effects of minority background and information included in the resume.

	Model 1	Model 2	Model 3	Model 4
Minority	-0.384***	-0.428***	-0.385***	-0.430***
(ref. = majority)	(0.044)	(0.087)	(0.044)	(0.087)
Amount of resume information	0.017	-0.002		
	(0.023)	(0.041)		
Minority*Amount of resume information		0.028		
		(0.050)		
Type of resume information:				
Grade included			-0.001	-0.008
(ref. = no grade included)			(0.041)	(0.073)
Performance included			0.064	0.086
(ref. = no performance included)			(0.041)	(0.073)
Social skills included			-0.011	-0.088
(ref. = no social skills included)			(0.040)	(0.072)
Minority*Grade included				0.009
				(0.072)
Minority*Performance included				-0.032
				(0.087)
Minority*Social skills included				0.112
				(0.087)
Constant	-1.018***	-0.988***	-1.017***	-0.985***
	(0.082)	(0.097)	(0.082)	(0.097)
Controls	Yes	Yes	Yes	Yes
Pseudo R2	0.113	0.113	0.114	0.114
N applications	13,423	13,423	13,423	13,423

*Note: Standard errors in parentheses. Ref = reference category. The dependent variable is the likelihood to receive a callback. All models control for country, picture, gender, religiosity, required educational skill, interpersonal skills, and applicant fit fixed effects. ˜ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001 (two-sided). Source: GEMM, 2019*

In Table 6.6, we examine whether discrimination rates (for interpretation purposes, we reversed the race-ethnicity coefficient so that higher values indicate higher discrimination rates) are associated with different indicators of group averages of labor productivity, while controlling for country fixed effects.[48] As is shown in model 1, we find that discrimination rates are negatively correlated with the socioeconomic development of the country of origin, suggesting that employers are less likely to discriminate against racial-ethnic minority groups originating from more socioeconomically developed countries. Model 2 indicates no significant effect of language similarity on the discrimination rate. Model 3 shows a statistically significant and negative effect of the socioeconomic resources of the community on discrimination rates, implying that minority groups with relatively more socioeconomic resources in the country of destination tend to face less discrimination than groups with lower socioeconomic resources.

In model 4, we include all three group-level variables simultaneously. It appears that the effect of the socioeconomic resources in the country of destination is no longer significant with the inclusion of the level of socioeconomic development in the country of origin (the correlation is 0.450 between these two variables, see also Table 6.4). Thus, once we control for the level of socioeconomic development in the origin country, discrimination rates are not significantly related with the socioeconomic resources of minority groups in the country of destination. As in model 2, we find no effect of language similarity in model 4. In model 4, we further observe a strong negative association between the level of discrimination and the socioeconomic development of the country of origin. To put this in perspective, in Great Britain the discrimination rate of a minority group with the lowest score (HDI = 0.463) on the level of socioeconomic development is 0.946 (odds ratio = 2.575), while holding all other variables at value zero; the discrimination rate of a minority group with the highest value (HDI = 0.953) is 0.288 (= 0.946 - 0.658 [= 0.49 * 1.342]; odds ratio = 1.334).

This effect of the socioeconomic development of the country of origin could partly reflect (unmeasured) differences between world regions: perhaps that groups from certain regions might face systematically higher levels of discrimination than others (e.g. due to perceived cultural dissimilarities)(cf. Hagendoorn 1995). In model 5, we accordingly control for seven origin regions. Even when controlling for origin region fixed effects, however, we still find a significant negative effect of the socioeconomic development of the country of origin on the discrimination

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48 Additional analyses (results available upon request) indicate that the main results at level-2 are qualitatively similar using different weighting strategies (i.e. weighting by the inverse of the standard error of the discrimination rate) and using alternative approaches to correct for clustering between observations in racial-ethnic minority groups (i.e. regression models with robust standard errors, multilevel models).

rate. This finding provides additional evidence that a low level of socioeconomic development of the country of origin – notably, the crudest indicator of group productivity – is deeply scarring for job applicants, net of language similarity, the socioeconomic resources in the country of destination, and the specific region of origin. Altogether, we find only weak support for hypothesis 2.

Finally, we investigate in Table 6.7 whether the impact of indicators of group productivity is contingent on the amount of diagnostic information in resumes. Similar to Table 6.6, we always control for country fixed effects and additionally present models that control for region of origin fixed effects. Again, the latter models lead to the same substantial conclusions.

Model 1 and 2 of Table 6.7 show the main effects of the indicators of group averages of labor productivity and information condition (distinguishing between more and less included information in the application). The results mirror those presented in Table 6.6 but also indicate a marginally significant effect of information condition. In subsequent models, we examine the interaction effects between information condition and a specific indicator of group productivity. In model 3 and model 4, we examine the interaction effect between the level of socioeconomic development of the country of origin and information condition. We find a positive and significant interaction effect, indicating that the negative association between the level of socioeconomic development of the country of origin and discrimination rates is weaker when more individual information was included. This finding is in line with hypothesis 3. However, sensitivity analyses (as discussed below) show that this finding is strongly driven by observations from the Netherlands. Furthermore, we find no significant interaction effect between language similarity and information condition (model 5 and 6) and between the socioeconomic resources of the community and information condition (model 7 and 8). In short, these results provide very limited support for hypothesis 3.

Table 6.6. Group-level determinants of the level of discrimination against racial-ethnic minority groups

	Model 1	Model 2	Model 3	Model 4	Model 5
Socioeconomic development country of origin	-1.419*** (0.211)			-1.342*** (0.238)	-1.573** (0.526)
High language similarity (ref. = Low language similarity)		-0.100 (0.079)		-0.017 (0.072)	-0.088 (0.089)
Socioeconomic resources community			-0.086** (0.026)	-0.017 (0.028)	0.027 (0.032)
Constant	0.908*** (0.082)	0.555*** (0.071)	0.801*** (0.106)	0.946*** (0.099)	0.985*** (0.235)
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Region fixed effects	No	No	No	No	Yes
$N_{race\text{-}ethnicity\text{-}country}$	139	139	139	139	139
R^2	0.317	0.096	0.154	0.319	0.408

*Note: Estimated dependent variable estimates, weighted by a feasible generalized least squares approach (Lewis and Linzer 2005). The dependent variable is the discrimination rate (logit coefficient of the effect of having a minority background). Discrimination rates are estimated using country- and minority-majority-pair-specific application-level logistic regressions that control for amount of resume information, picture, gender, religiosity, required educational skill, interpersonal skills, and applicant fit fixed effects. Model 1 to 5 include country fixed effects, model 5 also includes region of origin fixed effects. All continuous predictors were rescaled so that 0 represents the minimum score on these variables. Ref = reference category. Standard errors in parentheses. ˜ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-sided). Source: GEMM, 2019*

Table 6.7. Group-level determinants of the level of discrimination against racial-ethnic minority groups by information condition

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Socioeconomic development country of origin	-1.480*** (0.234)	-1.744** (0.530)	-2.038*** (0.318)	-2.299*** (0.566)	-1.483*** (0.234)	-1.743** (0.530)	-1.485*** (0.235)	-1.744** (0.531)
High language similarity (ref. = Low language similarity)	0.017 (0.071)	-0.032 (0.090)	0.020 (0.070)	-0.032 (0.089)	0.087 (0.100)	0.036 (0.113)	0.017 (0.071)	-0.032 (0.091)
Socioeconomic resources community	-0.016 (0.027)	0.025 (0.032)	-0.014 (0.027)	0.027 (0.031)	-0.016 (0.027)	0.025 (0.032)	-0.005 (0.035)	0.034 (0.039)
More information included (ref. = Less information included)	-0.095˜ (0.051)	-0.092˜ (0.050)	-0.435** (0.142)	-0.432** (0.140)	-0.205˜ (0.121)	-0.201˜ (0.119)	-0.099˜ (0.051)	-0.095˜ (0.051)
Socioeconomic development country of origin*More information included			1.038* (0.406)	1.039** (0.399)				
High language similarity*More information included					-0.134 (0.134)	-0.133 (0.131)		
Socioeconomic resources community*More information included							-0.021 (0.042)	-0.016 (0.042)
Constant	0.982*** (0.092)	1.144*** (0.252)	1.168*** (0.116)	1.330*** (0.259)	0.972*** (0.092)	1.133*** (0.252)	0.985*** (0.042)	1.144*** (0.252)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region fixed effects	No	Yes	No	Yes	No	Yes	No	Yes
$N_{\text{race-ethnicity-country}}$	275	275	275	275	275	275	275	275
R^2	0.231	0.273	0.249	0.291	0.234	0.275	0.232	0.273

*Note: Estimated dependent variable estimates, weighted by a feasible generalized least squares approach (Lewis and Linzer 2005). The dependent variable is the discrimination rate (logit coefficient of the effect of having a minority background), estimated for applicants with either less or more information included in the resume. Discrimination rates are estimated using country- and minority-majority-pair-specific application-level logistic regressions that control for amount of resume information, picture, gender, religiosity, required educational skill, interpersonal skills, and applicant fit fixed effects. Model 1 to 8 include country fixed effects. Model 2, 4, 6, and 8 also include region of origin fixed effects. All continuous predictors were rescaled so that 0 represents the minimum score on these variables. Ref = reference category. Standard errors in parentheses. ˜ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001 (two-sided). Source: GEMM, 2019*

6.4.2. Sensitivity analysis

We performed several sensitivity analyses to assess the robustness of the results.[49] First, we tested whether the findings might be driven by the results of a single country. We estimated all our models while excluding one country at a time. Overall, these additional analyses produce qualitatively similar results as those presented in the main text. There is one exception, though. In our reanalysis of Table 6.6 we detect a strongly reduced and insignificant interaction effect between the socioeconomic development in the country of origin and information condition when excluding the observations from the Netherlands. Hence, this result weakens the empirical support of hypothesis 3.

Second, we estimated all our models per country and found mostly qualitatively similar results. In all countries, adding more information – or specific types of information – was not related to less discrimination. In all countries, language similarity and the socioeconomic resources of the community were not related to the magnitude of the discrimination rate. In all countries, except Spain, we found a significant correlation between the discrimination rate and the level of socioeconomic development of the country of origin. Finally, the interaction between the level of socioeconomic development and information condition was only significant in the Netherlands, indicating that only in the Netherlands there is evidence that adding more diagnostic information in resumes may weaken the effect of the socioeconomic development of the country of origin on the discrimination rate.

Third, in our main analyses we only included occupations and racial-ethnic minority groups which were investigated in all countries simultaneously. Besides the 30 racial-ethnic minority groups in this study, at least five more groups were investigated per country that were not always examined in the other countries of study. In addition, in some countries several additional occupations were investigated in order to increase the total number of observations. Therefore, we verified whether we could replicate the main findings with this larger, unharmonized dataset. However, we observe no meaningful differences between the results from this unharmonized dataset and those from the harmonized dataset presented in the main text.

Last, to estimate the discrimination rate for all group-country observations separately we employed logistic regression analysis. To check whether this modelling approach might have affected our findings, we re-estimated the discrimination rates using linear probability models and subsequently reran all analyses. Again, these results lead to the same substantive findings.

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49 All tables are available upon request.

6.5. Conclusions

In this chapter, we set out to test two central assumptions of statistical discrimination theory (Arrow 1973; Phelps 1972). Using unique field experimental data on 30 different racial-ethnic minority groups in five European countries (Lancee, Birkelund, Coenders, Di Stasio, Fernández Reino, Heath, Koopmans, Larsen, Polavieja, Ramos, Thijssen, et al. 2019), we contribute to the literature by investigating whether racial-ethnic minorities are less discriminated against if job applicants include more diagnostic information about their individual productivity or if they are a member of an origin group that signals higher levels of labor productivity. Broadly, however, our analyses provide very limited support for the underlying assumptions of statistical discrimination theory.

First, we find no convincing evidence for arguments suggesting that job applicants with a minority background are less discriminated against once applicants add (more) diagnostic information about their individual productivity (Bertrand and Duflo 2017; Guryan and Charles 2013; Kaas and Manger 2012; Neumark 2018). We find that neither the inclusion of separate information treatments (grade, performance, social skills) nor the inclusion of a higher number of information treatments is related with a lower degree of discrimination. Although it is possible that other types of information could have had a stronger effect, our findings are in line with the majority of findings from previous field experiments on hiring discrimination (e.g. Agerström et al. 2012; Bertrand and Mullainathan 2004; Gaddis 2015; Koopmans et al. 2018; Nunley et al. 2015; Oreopoulos 2011; Vernby and Dancygier 2019). Hence, adding diagnostic information about individual productivity does not improve racial-ethnic minorities' ability to shield themselves from discriminatory actions by employers, thereby contradicting the assumption of statistical discrimination theory that racial and ethnic discrimination is largely due to lack of information about individual productivity.

Second, our results shed new light on the role of group characteristics in explaining group variations in discrimination rates. Whereas previous research assumed that racial-ethnic minority groups are discriminated against because these groups have, on average, lower levels of socioeconomic recourses (Aigner and Cain 1977; Arrow 1973; Baumle and Fossett 2005; Phelps 1972; Schwab 1986), our research design allowed us to test this empirically. In particular, we examined whether employers select on the basis of indicators of group productivity even when they had information about the (place of) education and work experience of job applicants and they could know that all job candidates were raised in the country of study. Our analysis indicates that discrimination rates are not associated with the level of socioeconomic resources of the community in the country of destination or the degree of similarity between the language of the destination

country and the dominant language in the country of origin. Strikingly, however, the results do show that lower levels of socioeconomic development in the country of origin are associated with higher discrimination rates, even when accounting for unobserved heterogeneity between regions of origin. Thus, employers seem to discriminate on the basis of the socioeconomic development of the country of origin and not on more proximate indicators of group productivity. While contradicting with a core assumption of statistical discrimination theory, these finding are in line with qualitative work by Midtbøen and Friberg showing that employers mainly use foreign names as proxies for abstract immigrant stereotypes and are unable to distinguish between migrant generations (Friberg and Midtbøen 2018; Midtbøen 2014). If at all, employers seem to select on the basis of perceived skill differences between groups, not on actual differences (England and Lewin 1989; Quillian and Pager 2010; Tomaskovic-Devey and Skaggs 1999).

Finally, we tested whether the impact of group productivity disappeared or reduced substantially when employers had more diagnostic information about individual job seekers (Guryan and Charles 2013; Rubinstein 2018; Rubinstein et al. 2018). While our main analysis indicated that the socioeconomic development of the country of origin is less strongly associated with discrimination rates when resumes contained more individual information, a sensitivity analysis reveals that this interaction effect is largely driven by the results in the Netherlands. Whether this is indicative of a systematic and meaningful cross-national pattern or a statistical artifact must be assessed in future cross-national research. Altogether, however, these findings are at odds with statistical discrimination theory's assumption that employers rationally update their group beliefs with more reliable signals of individual productivity (see also Oreopoulos 2011; Pager and Karafin 2009). Rather, these findings appear to be more in line with models of stereotype amplification, stressing that people are mostly inattentive to information that is disconfirming of their systematically biased expectations (Brewer 1988; Fiske 1998; Fiske and Neuberg 1990; Pager and Karafin 2009; Quillian and Pager 2010).

Of course, the current study has some limitations, some of which could be addressed in future research. First, while we find an association between the level of discrimination and the socioeconomic development of the country of origin, future research could test more directly whether this effect can be mediated by employers' perceptions about skill differences between origin groups. A promising avenue for research could be combining the results of a field experiment with a survey among employers that includes questions about their economic motives and perceptions on skill differences between racial-ethnic groups (cf. Pedulla 2016). Second, whereas this study was able to demonstrate that aggregated patterns of discrimination are not clearly driven by "rational optimizing behavior and limited information" (Guryan and Charles 2013:418), one could argue that statistical discrimination is perhaps more prevalent in certain sectors or for certain jobs. By

leveraging a targeted sampling strategy (cf. Malhotra, Margalit, and Mo 2013), future field experiments could look for an upper-bound estimate of statistical discrimination by focusing on jobs or sectors where quality criteria are highly ambiguous, workers' true productivity can only be observed after a relatively long period of work, and/or hiring contexts where managers are more prone to risk avoidance (Arrow 1973; Friberg and Midtbøen 2018; Midtbøen 2015b; Weichselbaumer 2017). Finally, our study calls for renewed thinking about alternative mechanisms generating racial and ethnic discrimination in hiring – that is, mechanisms unrelated to economically-rational motives. Perhaps that certain racial-ethnic minority groups face higher levels of discrimination because employers perceive more cultural distance and cultural conflict between the majority group and certain minority groups (Adida et al. 2016; Hagendoorn 1995). In this sense, future research would do well to consider the degree to which employers' perceptions of skill differences between groups might overlap with (or are used to rationalize) perceived levels of cultural distance or conflict.

In conclusion, the present study challenges the view that racial and ethnic discrimination in hiring is largely driven by economic rationality and incomplete information about individual productivity. A low level of socioeconomic development in the country of origin is deeply scarring for job applicants of racial-ethnic minority origins, despite being raised and having completed all their education in the country of destination. Mirroring findings found in previous qualitative research (Friberg and Midtbøen 2018; Midtbøen 2014; Pager and Karafin 2009), employers thus seem to select on the basis of very crude stereotypes about the overall skills of origin groups and tend to ignore signals which are more predictive of individual labor productivity. One might hence be tempted to conclude that evidence presented here is more in line with error discrimination theory – that is, "actions of employers who underestimate the average productivities of a group, and, based upon this mistaken belief, are unwilling to hire group members or will hire them only for a lower wage" (England and Lewin 1989:242). We welcome researchers to further derive and test empirically falsifiable hypotheses from error discrimination theory. Especially fruitful in this regard would be the development and assessment of hypotheses concerning the beliefs and behaviors of the central actors in hiring, employers (Bills et al. 2017). Researchers should specifically explicate their assumptions about employers' knowledge, preferences, and decision-making and incorporate the unique features of the context in which hiring decisions are being made (e.g. different hiring phases, organizational characteristics, and labor market circumstances). By directly investigating the individual and contextual factors that affect employers' hiring decisions, research will be able to significantly enhance our understanding of the mechanisms generating racial and ethnic discrimination in employment.

6.6. Appendix

Table A6.8. Language distance by racial-ethnic minority group and country

Race-ethnicity	Language	Germany	The Netherlands	Norway	Spain	United Kingdom
Albania	Albanian	0.972	0.956	0.973	0.987	0.956
Bulgaria	Bulgarian	0.921	0.924	0.948	0.938	0.910
China	Kunming Mandarin	1.011	0.996	1.012	0.958	1.008
Egypt	Egypt Cairo Arabic	1.011	0.995	1.002	0.972	0.974
Ethiopia	Ethiopian Amharic	0.969	0.983	0.982	1.000	0.980
France	France	0.957	0.928	0.953	0.840	0.921
Germany	German		0.497	0.757	0.930	0.721
Greece	Greek	0.968	0.960	0.955	0.941	0.963
India	Hindi	0.940	0.915	0.917	0.930	0.971
Indonesia	Indonesian Jakarta	1.018	1.011	1.018	0.970	0.993
Iran	Persian	0.935	0.922	0.949	0.954	0.943
Iraq	Iraq Muslim Baghdad Arabic	1.025	1.013	0.998	1.022	0.983
Italy	Italian	0.887	0.887	0.932	0.615	0.917
Japan	Japanese	0.996	1.011	1.016	0.992	0.994
Lebanon	Arabic North Levantine Spoken	0.989	0.981	1.005	1.009	0.988
Mexico	Spanish	0.930	0.911	0.898		0.923
Morocco	Moroccan Arabic	1.000	0.995	0.990	0.971	1.005
Netherlands	Dutch	0.497		0.660	0.911	0.632
Nigeria	English	0.721	0.632	0.668	0.923	

Table A6.8. Continued

Race-ethnicity	Language	Germany	The Netherlands	Norway	Spain	United Kingdom
Norway	Norwegian	0.757	0.660		0.898	0.668
Pakistan	Urdu	0.936	0.923	0.914	0.899	0.959
Poland	Polish	0.965	0.946	0.956	0.910	0.945
Romania	Romanian	0.892	0.917	0.937	0.756	0.898
Russia	Russian	0.920	0.929	0.938	0.958	0.934
South Korea	Korean	1.047	0.993	0.997	1.021	0.983
Spain	Spanish	0.930	0.911	0.898		0.923
Turkey	Turkish	0.980	1.013	1.021	0.986	1.006
Uganda	English	0.721	0.632	0.668	0.923	
United Kingdom	English	0.721	0.632	0.668	0.923	
USA	English	0.721	0.632	0.668	0.923	
Vietnam	Vietnamese	0.963	1.016	1.030	0.982	1.010

Note: This table shows the degree of language dissimilarity between a combination of a specific origin country (rows) and specific country of destination (columns). Higher values indicate greater language distance. For example, German language is quite closely related to Dutch language (0.497) whereas Turkish language is not strongly related to Dutch language (1.013). Source: ASJP, 2018

Chapter 7

Nederlandse samenvatting

7.1.   Achtergrond

In de afgelopen decennia is als gevolg van grootschalige migratieprocessen de raciale en etnische diversiteit van westerse arbeidsmarkten sterk toegenomen (Castles and Miller 2009; Mol and De Valk 2016). Hierdoor is meer belangstelling ontstaan voor de integratie van raciale en etnische minderheidsgroepen op de arbeidsmarkt (Alba and Foner 2015b; Alba and Nee 1997, 2003; Gordon 1964; Heath et al. 2008; Park and Burgess 1921; Portes and Rumbaut 2001; Van Tubergen 2006).[50] Vaak wordt gedacht (en is gebleken uit onderzoek) dat raciale en etnische minderheden met een baan beter in staat zijn om in de samenleving te integreren omdat zij nieuwe werkervaring opdoen, hun taalvaardigheden verbeteren, meer kennis verwerven over de dominante cultuur of instituties en meer mogelijkheden hebben om hun sociale netwerken uit te breiden (Alba and Nee 1997; Lancee 2010; Van Tubergen 2006). Talloze studies hebben echter aangetoond dat, ondanks een sterke toename van het gemiddelde opleidingsniveau, raciale en etnische minderheden op verschillende indicatoren van arbeidsmarktsucces (bijv. arbeidsparticipatie, baanstatus, inkomen) nog steeds een achterstand hebben ten opzichte van de dominante raciale en etnische meerderheidsgroep (Heisig et al. 2018; Kogan 2006; Lancee 2016; Van Tubergen et al. 2004). Dit geldt voor zowel immigranten als voor raciale en etnische minderheden die in Westerse landen geboren zijn (Drouhot and Nee 2019; Heath et al. 2008). Wetenschappers hebben verschillende verklaringen geopperd om deze achterstanden te duiden (Altonji and Blank 1999; Crul et al. 2012; Heath et al. 2008; Portes and Rumbaut 2001; Van Tubergen 2006). Waar een deel van deze onderzoekers zich richt op de eigenschappen van raciale en etnische minderheden (bijv. opleidingsniveau, werkervaring, taalvaardigheden, sociale netwerken of culturele waarden) richt een ander deel zich meer op de rol van de ontvangende samenleving, bijvoorbeeld op die van arbeidsmarktdiscriminatie.

In het dagelijks taalgebruik of in de media is niet altijd duidelijk wat precies bedoeld wordt met "discriminatie". In dit proefschrift volg ik een definitie die veel onderzoekers hanteren en spreek ik van arbeidsmarktdiscriminatie *wanneer*

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50 In navolging van Friedman and Laurison (2019:xiii) gebruik ik in dit proefschrift termen als "raciale en etnische minderheden" en "raciale en etnische discriminatie" (of variaties daarop). Ik bestudeer namelijk niet alleen mensen die naar de door mij onderzochte westerse landen zijn gemigreerd maar ook mensen die zijn geboren en/of opgegroeid in deze landen of tot een nationale minderheidsgroep worden gerekend (bijv. Afro-Amerikanen in de Verenigde Staten). Belangrijk om hierbij te vermelden is dat zowel "ras" (veelgebruikt in de Amerikaanse context) als "etniciteit" (veelal gebruikt in de Europese context) door de mens bedachte groepsindelingen zijn, grotendeels gebaseerd op bepaalde uiterlijke of culturele eigenschappen van mensen. Met andere woorden, "ras" en "etniciteit" zijn sociale constructen, *geen biologische* (Jablonski 2012). In de Nederlandse of Europese context zal ik tevens gebruikmaken van termen als "minderheden met een migratieachtergrond" of "minderheden met een migratieherkomst".

raciale en etnische minderheden systematisch anders worden behandeld dan de autochtone bevolking ondanks gelijke geschiktheid en in vergelijkbare arbeidssituaties (Bertrand and Duflo 2017:309). Discriminatie verschilt daarmee van andere vormen van intergroep *bias* (Dovidio and Gaertner 2010) zoals stereotypen – de beelden die mensen hebben over de kenmerkende eigenschappen van (raciale en etnische) groepen – of vooroordelen – de affectieve gevoelens die bepaalde (raciale en etnische) groepen oproepen.

Arbeidsmarktdiscriminatie is wettelijk verboden in veel westerse landen vanwege de ingrijpende (negatieve) gevolgen die het heeft voor individuen, organisaties en de maatschappij als geheel.[51] Uit onderzoek blijkt dat het ervaren van discriminatie samenhangt met een laag zelfvertrouwen en gezondheidsproblemen (Pascoe and Richman 2009; Schmitt et al. 2014; Spencer et al. 2015) en ertoe kan leiden dat mensen zich terugtrekken van de arbeidsmarkt of het sociale leven (Massey and Denton 1993; Portes and Rumbaut 2001). Discriminerende organisaties blijken verder onvoldoende gebruik te maken van de beschikbare talenten op de arbeidsmarkt (Becker 1957), profiteren niet van de positieve effecten van raciale en etnische diversiteit op organisatieprestaties (Crisp and Turner 2011; Hoogendoorn and Van Praag 2014) en gaan sneller failliet (Pager 2016). Ten slotte heeft discriminatie ingrijpende gevolgen voor samenlevingen. Discriminatie gaat in tegen het breedgedragen meritocratische principe dat individuen dienen te worden afgerekend op basis van inzet en verdiensten in plaats van de plek waar iemands wieg heeft gestaan (Parsons 1951). Historisch en sociologisch onderzoek laat bovendien zien dat structurele vormen van discriminatie zichzelf versterkende processen in gang zetten met verdere raciale en etnische ongelijkheid en sociale uitsluiting tot gevolg (Alba 2005; Lieberson 1980; Massey 2007; Reskin 2012).

Onderzoekers hebben verschillende methodes gebruikt om raciale en etnische discriminatie op de arbeidsmarkt te bestuderen (Neumark 2018; Veenman 2010), onder meer door de uitkomsten van grootschalige beroepsenquêtes te analyseren of door potentiële "daders" en "slachtoffers" te onderzoeken. Het meest overtuigende bewijs wordt echter geleverd door veldexperimenten (Gaddis 2018; Pager 2007). In veldexperimenten wordt gesolliciteerd met identiek gekwalificeerde fictieve sollicitanten op echte openstaande functies. Doordat de raciale en etnische achtergrond op basis van willekeur aan fictieve sollicitanten is toegekend is het mogelijk om raciale en etnische ongelijkheden in werkgeverreacties direct toe te schrijven aan arbeidsmarktdiscriminatie. Concreet gezegd, met een veldexperiment is het mogelijk om te onderzoeken of bij het solliciteren naar dezelfde functies een sollicitant met, bijvoorbeeld, een Turkse of Surinaamse voor- en achternaam net

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51 Bijvoorbeeld Artikel 1 van de Nederlandse grondwet stelt: "Allen die zich in Nederland bevinden, worden in gelijke gevallen gelijk behandeld. Discriminatie wegens godsdienst, levensovertuiging, politieke gezindheid, ras, geslacht of op welke grond dan ook, is niet toegestaan".

zoveel werkgeverreacties ontvangt als diezelfde sollicitant met een autochtone Nederlandse voor- en achternaam. In de loop der jaren hebben talloze studies met behulp van veldexperimenten onderzoek gedaan naar raciale en etnische discriminatie op de arbeidsmarkt (Gaddis 2018). Dit onderzoek levert overtuigend bewijs voor het bestaan van raciale en etnische discriminatie op de arbeidsmarkt (Baert 2018b; Bertrand and Duflo 2017; Dancygier and Laitin 2014; Gaddis 2018; Guryan and Charles 2013; Heath and Di Stasio 2019; Neumark 2018; Pager and Shepherd 2008; Quillian 2006; Quillian et al. 2017, 2019; Riach and Rich 2002; Rich 2014; Zschirnt and Ruedin 2016). Toch zijn er nog vele onopgeloste vraagstukken. Veel studies richten zich op een beperkt aantal raciale en etnische minderheidsgroepen - vaak de grootste, meest gestigmatiseerde groepen in een land. Tot nu toe is daarom niet duidelijk of alle minderheidsgroepen in dezelfde mate getroffen worden (vgl. Dancygier and Laitin 2014). Daarnaast zijn veel studies vooral beschrijvend, en is weinig onderzoek gedaan naar de onderliggende verklaringen (Bertrand and Duflo 2017; Neumark 2018). In dit proefschrift tracht ik daarom het bestaande onderzoek op twee manieren uit te breiden.

Ten eerste zal ik in deze studie onderzoeken of bepaalde raciale en etnische groepen meer of minder getroffen worden dan andere. Zowel theoretisch als empirisch bestaat hier nog veel onduidelijkheid over. Zo claimt de raciale en etnische homofilie hypothese (Edo et al. 2019; Jacquemet and Yannelis 2012) dat "*ingroup love*" de voornaamste drijfveer is achter raciale en etnische discriminatie. Werkgevers hebben vooral een sterke voorkeur voor de eigen raciale en etnische groep; de specifieke sociaaleconomische of culturele achtergrond van raciale en etnische minderheidsgroepen zou er niet toe doen. De raciale en etnische hiërarchie hypothese (Auer et al. 2019; Hagendoorn 1995; Portes and Rumbaut 2001; Snellman and Ekehammar 2005) veronderstelt dat arbeidsmarktdiscriminatie niet alle minderheidsgroepen in gelijke mate treft. Vooral raciale en etnische minderheidsgroepen die sociaaleconomisch, cultureel en/of fenotypisch verder afstaan van de dominante raciale en etnische meerderheidsgroep zouden hierdoor sterker getroffen worden. Vooralsnog is geen duidelijke empirische ondersteuning gevonden voor één van deze twee hypothesen. Dit heeft deels te maken met het relatief kleine (maar groeiende) aantal veldexperimenten waarin tegelijkertijd meerdere raciale en etnische minderheidsgroepen zijn onderzocht. Opvallend is bovendien dat de weinige studies die er zijn zeer inconsistente resultaten hebben opgeleverd. Sommige onderzoekers vonden wel duidelijke groepsverschillen (Bessudnov and Shcherbak 2019; Booth et al. 2012; Pager et al. 2009; Weichselbaumer 2017), anderen dan weer niet (Andriessen et al. 2012; McGinnity and Lunn 2011; Oreopoulos 2011; Wood et al. 2009). Naast methodologische verschillen tussen studies is een andere belangrijke reden waarom hierover geen uitsluitsel bestaat dat onderzoekers zich tot voor kort vooral richtten op grotere, sociaaleconomisch

gemarginaliseerde minderheidsgroepen zoals de Turkse minderheden in Duitsland, Afro-Amerikaanse en Zuid-Amerikaanse minderheden (Latino's) in de Verenigde Staten of Antilliaanse, Marokkaanse, Surinaamse en Turkse minderheden in Nederland. De keuze voor de 'dominante' minderheidsgroep(en) is begrijpelijk, maar maakt het ook moeilijker om groepsverschillen te vinden, simpelweg omdat deze groepen in sociaaleconomisch of cultureel opzicht veel op elkaar lijken (Dancygier and Laitin 2014).

In dit proefschrift onderzoek ik of raciale en etnische minderheidsgroepen in verschillende mate getroffen worden door arbeidsmarktdiscriminatie met behulp van een meta-analyse en een nieuw veldexperiment. In de meta-analyse richt ik me allereerst op twee zeer zichtbare raciale en etnische minderheidsgroepen in westerse samenlevingen, namelijk zwarte minderheden en minderheden met een moslimachtergrond. Hierdoor kan ik de impact van het hebben van een donkere huidskleur of een moslimachtergrond (Alba 2005; Foner and Alba 2008) in wervings- en selectietrajecten onderzoeken en rekening houden met diverse relevante kenmerken van studies (bijv. land, plaats, tijd, type design) of subgroepen (d.w.z. de afzonderlijke analyses die onderzoekers in een studie bespreken, zoals analyses naar man/vrouw- of beroepsverschillen). Samen met onderzoekers in Nederland en vier andere landen (Duitsland, Noorwegen, Spanje en het Verenigd Koninkrijk) zette ik daarnaast een nieuw cross-nationaal geharmoniseerd veldexperiment op waarin per land meer dan 30 dezelfde herkomstgroepen zijn onderzocht met zeer diverse culturele en sociaaleconomische achtergronden (Lancee, Birkelund, Coenders, Di Stasio, Fernández Reino, Heath, Koopmans, Larsen, Polavieja, Ramos, Soiné, et al. 2019; Lancee, Birkelund, Coenders, Di Stasio, Fernández Reino, Heath, Koopmans, Larsen, Polavieja, Ramos, Thijssen, et al. 2019). Dit veldexperiment (het GEMM-experiment) maakt het mogelijk om nauwkeuriger te onderzoeken welke raciale en etnische minderheidsgroepen meer of minder worden getroffen door arbeidsmarktdiscriminatie. De eerste onderzoeksvraag luidt derhalve: *(1) in het licht van de groeiende raciale en etnische diversiteit in westerse arbeidsmarkten, in hoeverre bestaan er verschillen in de mate waarin raciale en etnische minderheidsgroepen gediscrimineerd worden?*

Een tweede manier waarop ik bijdraag aan het bestaande onderzoek is door meer aandacht te schenken aan het onderzoeken van verklaringen voor raciale en etnische discriminatie op de arbeidsmarkt. Ik richt me hierbij op de effecten van productiviteit op individueel- en groepsniveau en de rol van nationale en regionale contexten.

In de bestaande literatuur zijn verschillende microniveau mechanismes geopperd die een verklaring kunnen bieden voor het ontstaan van raciale en etnische discriminatie op de arbeidsmarkt (Bertrand and Duflo 2017; Fiske 1998; Guryan and Charles 2013; Neumark 2018; Pager and Shepherd 2008; Quillian 2006;

Sidanius and Pratto 1999). Twee prominente theorieën zijn *taste-based* discriminatietheorie en statistische discriminatietheorie. *Taste-based* discriminatietheorie (Becker 1957) veronderstelt dat werkgevers discrimineren vanwege de afkeer die zij hebben om te werken met raciale en etnische minderheden (of de sterke voorkeur die zij hebben voor de eigen raciale en etnische groep). Waar deze raciale en etnische voorkeuren precies vandaan komen blijft onbelicht, maar sociologisch en (sociaal)psychologisch onderzoek wijst bijvoorbeeld op de rol van individuele disposities, intergroepconflicten en socialisatieprocessen (o.a. Blalock 1967; Blumer 1958; Fiske 1998; Inglehart 2018; Pettigrew and Tropp 2006; Sidanius and Pratto 1999). De statistische discriminatietheorie stelt echter dat arbeidsmarktdiscriminatie het gevolg is van onzekerheden in het selectieproces (Aigner and Cain 1977; Arrow 1973; Baumle and Fossett 2005; Phelps 1972). Werkgevers zouden onzekerheid ervaren omdat zij op basis van een zeer beperkte hoeveelheid informatie in Cv's en sollicitatiebrieven in korte tijd een belangrijke beslissing moeten nemen wie ze wel en niet aannemen. Omdat werkgevers willen voorkomen dat zij verkeerde beslissingen nemen, gebruiken zij groepsinformatie om de kwaliteiten van individuele sollicitanten beter in te kunnen schatten. Doordat werkgevers het idee hebben dat raciale en etnische minderheden gemiddeld minder productief zijn dan de autochtone bevolking, kiezen werkgevers daarom vaker voor een autochtone kandidaat.

In mijn proefschrift concentreer ik me vooral op de onderliggende assumpties van statistische discriminatietheorie en tracht deze aan een uitgebreide empirische toets te onderwerpen. In de eerste plaats onderzoek ik of het toevoegen van meer individuele productierelevante informatie raciale en etnische discriminatie doet verminderen. Het onderliggende idee is dat werkgevers minder terugvallen op groepsbeelden zodra zij meer informatie hebben over de vaardigheden en kennis van sollicitanten. Eerder onderzoek vindt tot dusverre echter wisselvallige resultaten (Agerström et al. 2012; Baert and Vujić 2016; Kaas and Manger 2012; Koopmans et al. 2018; Oreopoulos 2011; Vernby and Dancygier 2019; Weichselbaumer 2019), mogelijk door verschillen die er zijn in experimentele designs, de selectie van onderzochte raciale en etnische minderheidsgroepen of de nationale context waarin veldexperimenten zijn uitgevoerd. In dit proefschrift probeer ik hier meer uitsluitsel over te geven door de effecten van meerdere informatiemanipulaties (zowel *hard* en *soft skills*) te bestuderen onder een grotere variëteit aan minderheidsgroepen in meerdere nationale contexten. In de tweede plaats ga ik dieper in op de rol van groepsinformatie. Eerder onderzoek naar statistische discriminatietheorie ging er simpelweg van uit dat er groepsverschillen in productiviteit zouden bestaan die samenhangen met arbeidsdiscriminatie (maar zie ook Friberg and Midtbøen 2018; Midtbøen 2014; Pager and Karafin 2009). In dit onderzoek is empirisch onderzocht of (en welke) indicatoren voor groepsproductiviteit samenhangen met raciale

en etnische discriminatie op de arbeidsmarkt. In de laatste plaats zal ik onderzoeken of de relatie tussen indicatoren voor groepsproductiviteit en raciale en etnische discriminatie verzwakt met het toevoegen van extra persoonlijke informatie, en werkgevers inderdaad hun groepsbeelden updaten met meer betrouwbare informatie zoals enkele sociaalpsychologische studies recentelijk suggereerde (Crawford et al. 2011; Rubinstein 2018; Rubinstein et al. 2018). Het GEMM-experiment biedt dus veel mogelijkheden om te onderzoeken of raciale en etnische discriminatie het gevolg kan zijn van economische-rationaliteit en informatieonzekerheden, zoals statistische discriminatietheorie veronderstelt.

Naast het bestuderen van de assumpties van statistische discriminatietheorie wil ik in dit proefschrift nieuwe inzichten genereren over de impact van omgevingsfactoren op raciale en etnische discriminatie. In sociologisch onderzoek bestaat van oudsher veel belangstelling voor de wijzen waarop sociale contexten de voorkeuren en gedragingen van mensen beïnvloeden (Portes and Rumbaut 2001; Van Tubergen 2006). In deze dissertatie draag ik hieraan bij door te bekijken of (en hoe) raciale en etnische discriminatie wordt beïnvloed door de nationale en regionale context.

Diverse onderzoeken tonen aan dat raciale en etnische ongelijkheden op de arbeidsmarkt sterk kunnen fluctueren tussen landen (Heath et al. 2008; Kislev 2019; Kogan 2006; Lancee 2016; Van Tubergen et al. 2004), mogelijk door landenverschillen in arbeidsmarktdiscriminatie. Dit laatste was tot voor kort echter moeilijk empirisch na te gaan vanwege databeperkingen. In landenvergelijkend surveyonderzoek is het bijvoorbeeld lastig om raciale en etnische ongelijkheden in arbeidsmarktuitkomsten toe te schrijven aan arbeidsmarktdiscriminatie, met name doordat onvoldoende rekening gehouden kan worden met alternatieve verklaringen voor sociaaleconomische achterstanden (bijv. gezondheid, selectieve migratie, culturele achtergronden, sociale netwerken). Veldexperimenten bieden weliswaar overtuigend bewijs voor raciale en etnische discriminatie maar beperken zich tot op heden tot één land (voor een uitzondering, zie Akintola 2010). In dit proefschrift onderzoek ik of de mate van raciale en etnische discriminatie tussen landen varieert met behulp van een meta-analyse en een cross-nationaal geharmoniseerd veldexperiment. In de meta-analyse bekijk ik of de mate van discriminatie tegen zwarte minderheden of minderheden met een moslimachtergrond systematisch tussen landen varieert, ook wanneer rekening gehouden wordt met relevante kenmerken van studies en subgroepen. Het cross-nationaal geharmoniseerde veldexperiment geeft een nog zuiverdere indicatie of raciale en etnische discriminatie tussen landen varieert doordat ik één bepaalde minderheidsgroep in meerdere landen tegelijkertijd kan onderzoeken met behulp van hetzelfde experimentele onderzoeksdesign. Op basis van deze studies krijgen we dus meer inzicht of raciale en etnische discriminatie van land tot land verschilt.

Naast nationale contexten is het goed voorstelbaar dat ook regionale contexten invloed uitoefenen op de mate waarin raciale en etnische minderheden gediscrimineerd worden. Tot op heden is door onderzoekers nog maar weinig onderzoek gedaan naar regionale verschillen in de mate van raciale en etnische discriminatie (Blommaert 2013). Het kleine aantal studies dat zich hierop heeft gericht produceerde verder zeer wisselende resultaten en biedt weinig inzicht in de mogelijke verklaringen hiervoor (Berson 2012; Blommaert 2013; Carlsson and Rooth 2012). In dit proefschrift verrijk ik de data van het GEMM-experiment met gegevens over de regio's waarin de onderzochte organisaties gelokaliseerd zijn. Daardoor ben ik niet alleen in staat om te exploreren of de mate van raciale en etnische discriminatie verschilt tussen regio's maar ook om te bestuderen welke omgevingsfactoren hiermee samenhangen. Meer specifiek zal ik bekijken of regionale indicatoren voor economische of culturele groepscompetitie (Blalock 1967; Blumer 1958; Quillian 1995, 1996) en de mogelijkheden voor langdurig intergroep contact (Allport 1954; Pettigrew and Tropp 2006) samenhangen met raciale en etnische discriminatie op de arbeidsmarkt. Doordat het GEMM-experiment in meerdere landen is uitgevoerd ben ik ten slotte in staat om te onderzoeken of deze ruimtelijke processen tussen landen variëren.

Samenvattend, in dit proefschrift onderzoek ik of de mate van raciale en etnische discriminatie samenhangt met diverse indicatoren voor productiviteit op individueel- en groepsniveau en ga ik nader in op de rol van nationale en regionale contexten. Op deze manier tracht ik meer inzicht te krijgen in de mogelijke verklaringen voor raciale en etnische discriminatie op de arbeidsmarkt. De tweede onderzoeksvraag luidt aldus: *(2) In hoeverre is raciale en etnische discriminatie gerelateerd met karakteristieken van sollicitatiematerialen, raciale en etnische minderheidsgroepen en nationale- en regionale contexten?*

7.2. Samenvatting per empirisch hoofdstuk

7.2.1. Hoofdstuk 2

Sinds de jaren '60 van de vorige eeuw hebben onderzoekers uit verschillende disciplines middels veldexperimenten onderzoek gedaan naar raciale en etnische discriminatie op de arbeidsmarkt. In hoofdstuk 2 vatte ik met behulp van een meta-analyse de uitkomsten van dit grote aantal veldexperimenten systematisch samen. Daartoe analyseerde ik de uitkomsten van 96 studies (ongeveer 240.000 fictieve sollicitaties) uitgevoerd in 20 landen in de periode tussen 1973 en 2016. De resultaten laten zien dat raciale en etnische discriminatie een hardnekkig probleem is op westerse arbeidsmarkten: raciale en etnische minderheden ontvangen gemiddeld 40% minder werkgeverreacties dan identiek-gekwalificeerde raciale en etnische meerderheden. Daarnaast onderzocht ik of zwarte minderheden en

minderheden met een moslimachtergrond stelselmatig meer gediscrimineerd worden dan andere groepen en of deze discriminatiepatronen tussen landen verschillen. Zwarte minderheidsgroepen worden sterker gediscrimineerd dan nietzwarte minderheidsgroepen, maar de mate waarin varieert tussen landen. Zwarte minderheidsgroepen worden het minst gediscrimineerd in de Verenigde Staten (kort daarop gevolgd door Nederland) en het meest in Frankrijk. Verder vind ik in de multivariate analyse geen overtuigend bewijs dat minderheidsgroepen met een moslimachtergrond zwaarder getroffen worden dan minderheidsgroepen zonder moslimachtergrond. Ook constateer ik geen duidelijke landenverschillen, wat suggereert dat minderheden met een moslimachtergrond in verschillende nationale contexten in dezelfde mate worden getroffen door arbeidsmarktdiscriminatie.

7.2.2. Hoofdstuk 3

In hoofdstuk 2 toonde ik aan dat met name zwarte minderheidsgroepen in grotere mate worden gediscrimineerd dan andere minderheidsgroepen. Een andere belangrijke observatie in dit hoofdstuk was dat eerdere studies zich vooral richtten op grotere, gevestigde en meer sociaaleconomisch gemarginaliseerde minderheidsgroepen (Dancygier and Laitin 2014). Dit roept de vraag op of een bredere selectie van minderheidsgroepen het mogelijk maakt om meer verfijnde groepsverschillen vast te stellen.

In hoofdstuk 3 analyseer ik de resultaten van het GEMM-experiment in Nederland. In dit grootschalige veldexperiment werd met fictieve sollicitanten (N = 4.211) gesolliciteerd op vacatures voor tien verschillende beroepen verspreid over heel Nederland. Door in totaal 35 verschillende raciale en etnische minderheidsgroepen te bestuderen was het mogelijk om nauwkeuriger te onderzoeken of en welke minderheidsgroepen meer getroffen worden door arbeidsmarktdiscriminatie dan andere. De resultaten tonen aan dat sollicitanten met een westerse migratieachtergrond 20 procent minder werkgeverreacties ontvangen dan sollicitanten met een autochtone Nederlandse achtergrond. Sollicitanten met een niet-westerse migratieachtergrond worden zwaarder getroffen en ontvangen gemiddeld 40 procent minder werkgeverreacties. Vooral Afrikaanse of Arabische minderheidsgroepen, groepen die sociaaleconomisch en cultureel het verst afstaan van de autochtone bevolking, zijn daarbij vaak het slachtoffer. Dit duidt op het bestaan van een raciale en etnische hiërarchie op de Nederlandse arbeidsmarkt (Hagendoorn 1995). In het veldexperiment is verder onderzocht of een gebrek aan informatie over individuele productiviteit een belangrijke drijfveer is achter raciale en etnische discriminatie door de hoeveelheid informatie (*hard* en *soft skills*) in sollicitatiematerialen experimenteel te manipuleren (Bertrand and Duflo 2017; Neumark 2018). Ik vind echter geen bewijs dat het toevoegen van extra informatie over iemands *hard* en *soft skills* is geassocieerd met een vermindering van raciale

en etnische discriminatie. Dit geldt voor zowel minderheden met een westerse- als een niet-westerse migratieachtergrond.

7.2.3. Hoofstuk 4
In hoofdstuk 2 is met behulp van een meta-analyse onderzocht of raciale en etnische discriminatie verschilt tussen landen. In hoofdstuk 4 en 5 tracht ik deze bevindingen aan te vullen door de mate van discriminatie jegens één bepaalde minderheidsgroep in twee landen te onderzoeken met behulp van een cross-nationaal geharmoniseerd veldexperiment.

In hoofdstuk 4 bestudeer ik de mate van discriminatie van Marokkaanse minderheden in Spanje en Nederland. Daarnaast bestudeer ik regionale variaties in de mate van discriminatie, waarbij ik gebruik maak van de inzichten van de groepsdreigingstheorie (Blalock 1967; Blumer 1958; Quillian 1995, 1996) en intergroep contacttheorie (Allport 1954; Pettigrew and Tropp 2006). In het veldexperiment vind ik, ten eerste, dat Marokkaanse minderheden in Nederland meer worden gediscrimineerd dan in Spanje. In Spanje ontvangen sollicitanten van Marokkaanse herkomst zes procentpunt minder werkgeverreacties dan autochtone sollicitanten terwijl in Nederland dit verschil veertien procentpunten bedraagt. Ten tweede vind ik geen bewijs dat sollicitanten van Marokkaanse herkomst meer worden gediscrimineerd in regio's waarin de werkloosheid hoger ligt (en werkgevers meer economische competitie zouden ervaren). Ik vind wel enig bewijs dat de mate van discriminatie van Marokkaanse minderheden samenhangt met het aandeel Marokkaanse minderheden in de regio (een positief effect in Nederland en een afnemend positief effect in Spanje na het uitsluiten van de observaties in Catalonië), mogelijkerwijs door regionale verschillen in de mate waarin werkgevers groepsdreiging ervaren van Marokkaanse minderheden. Ten slotte vind ik geen ondersteuning voor het idee dat het effect van regionale werkloosheid sterker is in Spanje dan in Nederland of dat het effect van het aandeel Marokkaanse minderheden in de regio een grotere invloed heeft in Nederland dan in Spanje.

7.2.4. Hoofstuk 5
In hoofdstuk 5 richtte ik me op de mate van discriminatie van Turkse minderheden in Duitsland en Nederland. Eerder onderzoek ontdekte in Nederland grotere arbeidsmarktongelijkheden tussen Turkse minderheden en de autochtone bevolking dan in Duitsland, zelfs wanneer rekening gehouden werd met belangrijke achtergrondkenmerken (Dagevos et al. 2006; Euwals et al. 2007). Door gebruik te maken van een cross-nationaal geharmoniseerd veldexperiment was ik in staat om te onderzoeken of dergelijke verschillen mogelijk toe te schrijven zijn aan landverschillen in arbeidsmarktdiscriminatie. Uit dit onderzoek blijkt dat Turkse minderheden in Nederland meer gediscrimineerd worden dan in Duitsland. In Duitsland

is de kans op een werkgeverreactie voor sollicitanten van Turkse herkomst ongeveer vijf procentprocent kleiner dan die voor sollicitanten van autochtone herkomst; in Nederland is dit verschil ongeveer vijftien procentpunten. Verder testte ik of het toevoegen van meer diagnostische informatie (d.w.z. voor een werkgever zeer bruikbare, relevante informatie) in sollicitatiematerialen discriminatie in het algemeen, maar met name in Nederland, vermindert omdat sollicitatiematerialen in Nederland minder persoonlijke informatie bevatten dan in Duitsland waar van sollicitanten verwacht wordt dat zij kopieën van al hun schooldiploma's, een foto en referentiebrieven opsturen (Weichselbaumer 2017; Zschirnt and Ruedin 2016). Ondanks het variëren van verschillende vormen van diagnostische informatie in de sollicitatiebrief en het CV vind ik geen bewijs dat het toevoegen hiervan ertoe leidt dat sollicitanten van Turkse herkomst minder worden gediscrimineerd, niet in Nederland noch in Duitsland.

7.2.5. Hoofstuk 6

In hoofdstuk 6 bouw ik voort op eerdere hoofdstukken (met name hoofdstuk 3 en 5) en het bestaande onderzoek naar statistische discriminatietheorie (Arrow 1973; Baumle and Fossett 2005; Bertrand and Duflo 2017; Guryan and Charles 2013; Neumark 2018; Phelps 1972). De statistische discriminatietheorie veronderstelt dat economisch-rationele werkgevers door een gebrek aan informatie over individuele productiviteit gebruik maken van groepsinformatie over de arbeidsproductiviteit van bevolkingsgroepen. Simpel gezegd, wanneer individuele informatie onvolledig is zouden werkgevers een duidelijke voorkeur hebben voor sollicitanten van productievere bevolkingsgroepen. In dit onderzoek bestudeer ik of (en hoe) raciale en etnische discriminatie samenhangt met diverse indicatoren voor arbeidsproductiviteit op individueel- en groepsniveau. Daartoe combineer ik de data van een cross-nationaal geharmoniseerd veldexperiment naar 31 minderheidsgroepen in vijf Europese landen met (mogelijke) indicatoren voor de arbeidsproductiviteit van raciale en etnische groepen. Overeenkomstig met eerdere hoofdstukken (hoofdstuk 3 en 5) en het merendeel van eerdere studies (Agerström et al. 2012; Koopmans et al. 2018; Vernby and Dancygier 2019) vind ik geen bewijs dat raciale en etnische discriminatie vermindert wanneer sollicitanten meer diagnostische informatie toevoegen over hun individuele productiviteit. Daarnaast constateer ik dat de mate van raciale en etnische discriminatie niet samenhangt met de hoeveelheid sociaaleconomische hulpbronnen van een minderheidsgroep in het land waar het veldexperiment plaatsvond of een grotere gelijkenis tussen de dominante taal van

het (vermeende) herkomst- en aankomstland.[52] Opvallend genoeg hangt raciale en etnische discriminatie wel samen met de sociaaleconomische ontwikkeling van het vermeende land van herkomst, zelfs wanneer rekening gehouden wordt met herkomstregio-dummy's (d.w.z. wanneer rekening gehouden wordt met systematische verschillen tussen herkomstregio's). Ten slotte testte ik of de relatie tussen groepsproductiviteit en discriminatie verdwijnt of reduceert wanneer werkgevers meer informatie hebben over de individuele productiviteit van sollicitanten. De resultaten geven echter weinig redenen om aan te namen dat werkgevers hun groepsbeelden updaten met meer betrouwbare signalen voor iemands individuele productiviteit (Oreopoulos 2011; Pager and Karafin 2009). Kortom, de gevonden resultaten in hoofdstuk 6 lijken te weerspreken dat raciale en etnische discriminatie op de arbeidsmarkt voornamelijk gedreven wordt door economische rationaliteit en incomplete informatie, zoals statistische discriminatietheorie veronderstelt.

7.3.   Conclusie en discussie

7.3.1.   Belangrijkste bevindingen en implicaties

Talloze studies hebben met behulp van een veldexperimenteel design aangetoond dat raciale en etnische minderheden gediscrimineerd worden op westerse arbeidsmarkten. Dit proefschrift leverde op twee manieren een bijdrage aan de bestaande literatuur. Eén belangrijke bijdrage was om meer aandacht te besteden aan groepsverschillen en nauwkeuriger te onderzoeken welke raciale en etnische minderheidsgroepen het zwaarst getroffen worden door arbeidsmarktdiscriminatie. Een tweede belangrijke bijdrage was om meer onderzoek te doen naar de onderliggende verklaringen voor raciale en etnische discriminatie. Met behulp van een meta-analyse en een cross-nationaal geharmoniseerd veldexperiment poogde ik de volgende onderzoeksvragen te beantwoorden: *(1) in het licht van de groeiende raciale en etnische diversiteit in westerse arbeidsmarkten, in hoeverre bestaan er verschillen in de mate waarin raciale en etnische minderheidsgroepen gediscrimineerd worden?* En: *(2) In hoeverre is raciale en etnische discriminatie gerelateerd met karakteristieken van sollicitatiematerialen, raciale en etnische minderheidsgroepen en nationale- en regionale contexten?*

   In deze dissertatie vind ik duidelijke aanwijzingen dat de mate van discriminatie varieert tussen raciale en etnische minderheidsgroepen. Op basis van eerder onderzoek naar sociale scheidslijnen verwachtte ik in hoofdstuk 2 dat zwarte minderheden en minderheden met een moslimachtergrond sterker gediscrimineerd

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52   Om de uitleg van de verschillende groepsindicatoren te versimpelen maak ik hier gebruik van "herkomstland" en "aankomstland". Dit is evenwel een kunstmatig onderscheid, omdat alle fictieve sollicitanten – ongeacht hun raciale en etnische herkomst – zijn opgegroeid, opgeleid en werkervaring hebben in het land waar het desbetreffende veldexperiment plaatsvond.

worden dan andere groepen als gevolg van de sterke associaties die een donkere huidskleur en de Islam bij mensen oproepen in westerse samenlevingen (Alba 2005; Alba and Foner 2015b; Portes and Rumbaut 2001). Ik vond echter dat alleen zwarte minderheidsgroepen zwaarder getroffen worden dan andere minderheidsgroepen. In het veldexperiment onderzocht ik in totaal 35 verschillende raciale en etnische minderheidsgroepen in Nederland en daardoor kon ik fijnmazigere groepsverschillen in de mate discriminatie ontdekken dan in de meta-analyse. Meer specifiek vond ik een lage tot gemiddelde mate van discriminatie tegen minderheden met een westerse migratieachtergrond (o.a. sollicitanten van Duitse, Poolse, Spaanse of Noorse herkomst) en een relatief hoge mate van discriminatie tegen minderheden met een niet-westerse migratieachtergrond (o.a. sollicitanten van Chinese, Indiase, Surinaamse of Turkse herkomst). Vooral Afrikaanse of Arabische minderheidsgroepen, groepen die sociaaleconomisch en cultureel het verst afstaan van de autochtone bevolking ondervinden veel weerstand op de arbeidsmarkt. Vergelijkbare patronen zijn gevonden in Duitsland, Noorwegen, het Verenigd Koninkrijk en (in mindere mate) in Spanje (Veit and Thijssen 2019), maar meer onderzoek is daarbij nog te verrichten. Deze bevindingen weerleggen de hypothese dat discriminatie in dezelfde mate is gericht tegen alle raciale en etnische minderheidsgroepen (Edo et al. 2019; Jacquemet and Yannelis 2012). Er lijkt sprake te zijn van een raciale en etnische hiërarchie op de arbeidsmarkt (Auer et al. 2019; Hagendoorn 1995; Snellman and Ekehammar 2005). Discriminatie treft met name minderheidsgroepen die in sociaaleconomisch, cultureel en/of fenotypisch opzicht meer afwijken van de dominante raciale en etnische meerderheidsgroep in een samenleving. Toekomstig onderzoek zou moeten uitwijzen of vergelijkbare patronen gevonden kunnen worden in andere (westerse) landen. Ook zou toekomstig onderzoek kunnen bestuderen of de gevonden groepsverschillen over tijd af- of toenemen.

In dit proefschrift onderzocht ik enkele mogelijke verklaringen voor raciale en etnische discriminatie op de arbeidsmarkt. Ten eerste onderwierp ik enkele belangrijke assumpties van de statistische discriminatietheorie aan een empirische test. Op grond van deze theorie werd verwacht dat raciale en etnische discriminatie negatief is gecorreleerd met indicatoren voor arbeidsproductiviteit op individueel- en groepsniveau. In het GEMM-veldexperiment werd de hoeveel productierelevante informatie in sollicitatiemateriaal gemanipuleerd (*hard* en *soft skills*) om te onderzoeken of het toevoegen van meer diagnostische individuele informatie leidt tot minder raciale en etnische discriminatie. Hiervoor vond ik echter geen overtuigend bewijs: ook wanneer meer diagnostische informatie over sollicitanten beschikbaar is blijven werkgevers selecteren op basis van groepsinformatie gerelateerd aan ras/etniciteit (vgl. Agerström et al. 2012; Koopmans et al. 2018; Vernby and Dancygier 2019). Daarnaast onderzocht ik of raciale en etnische discriminatie

samenhangt met diverse indicatoren voor de arbeidsproductiviteit van raciale en etnische minderheidsgroepen. Ik vond echter geen bewijs dat groepsvariaties in discriminatie gecorreleerd zijn met de sociaaleconomische hulpbronnen van een minderheidsgroep in het aankomstland of met de mate waarin de dominante taal in het herkomst- en aankomstland gelijkenissen vertonen. Opvallend genoeg hangt raciale en etnische discriminatie wel samen met de sociaaleconomische ontwikkeling van het land van herkomst: raciale en etnische minderheden worden minder gediscrimineerd naarmate de sociaaleconomische ontwikkeling in het land van herkomst hoger is. Belangrijk om hierbij op te merken is dat alle fictieve sollicitanten (ongeacht hun raciale en etnische herkomst) op verschillende manieren aangaven te zijn opgegroeid en opgeleid in het land waar het veldexperiment plaatsvond. Met andere woorden, het blijkt dat ook wanneer een sollicitant met, bijvoorbeeld, een Poolse of Turkse migratieachtergrond is opgegroeid en opgeleid in Nederland, hij/zij door werkgevers nog steeds wordt gezien en behandeld als een sollicitant die afkomstig is uit Polen of Turkije. Ten slotte vond ik geen bewijs voor een interactie tussen indicatoren voor groepsproductiviteit en de aanwezigheid van meer informatiemanipulaties. Al met al vind ik dus geen ondersteuning voor statistische discriminatietheorie en haar assumpties dat economische-rationaliteit en informatiegebreken de voornaamste drijfveren zijn achter raciale en etnische discriminatie op de arbeidsmarkt. Niet op individueel niveau, noch op groepsniveau. Toekomstig onderzoek zou dus op zoek moeten gaan naar alternatieve verklaringen voor de gevonden discriminatiepatronen, bijvoorbeeld door meer te kijken naar de (ervaren) culturele afstand tussen de autochtone bevolking en raciale en etnische minderheidsgroepen (zie ook Lancee 2019).

Dit proefschrift biedt verder nieuwe aanwijzingen dat de mate van raciale en etnische discriminatie varieert tussen landen. In de meta-analyse vond ik enig bewijs dat de mate van discriminatie ten opzichte van zwarte minderheidsgroepen verschilt tussen landen. Zwarte minderheidsgroepen worden met name in Frankrijk zwaarder getroffen dan in andere landen. Opvallend genoeg lijkt deze groep in de Verenigde Staten groep juist iets minder sterk gediscrimineerd te worden, ondanks de langdurige geschiedenis met slavernij en raciale segregatie. Hoewel ik in de meta-analyse geen significante landenverschillen in de mate van discriminatie ten aanzien van minderheidsgroepen met een moslimachtergrond aantrof laten de resultaten van hoofdstuk 4 en hoofdstuk 5 zien dat Marokkaanse minderheden en Turkse minderheden in Nederland meer worden gediscrimineerd dan in, respectievelijk, Spanje en Duitsland. Op basis van deze bevindingen concludeer ik dat de mate van raciale en etnische discriminatie kan variëren tussen landen. De waaromvraag heb ik niet goed kunnen beantwoorden. Omwille van het kleine aantal landen was het namelijk niet mogelijk om op een rigoureuze wijze rivaliserende verklaringen te onderzoeken (vgl. Lieberson 1991). Toekomstig onderzoek zou

daarom een veldexperiment onder een groter aantal landen kunnen uitvoeren. Ook zou het interessant zijn om de mate van discriminatie voor en na veranderingen in institutionele contexten te vergelijken met behulp van een herhaald veldexperiment onder dezelfde steekproef van werkgevers (zie bijv. Agan and Starr 2018). Dit zou helpen om meer inzicht te krijgen welke landkenmerken nu daadwerkelijk invloed uitoefenen op de mate van raciale en etnische discriminatie op de arbeidsmarkt.

In dit proefschrift heb ik, ten slotte, onderzocht of de mate van raciale en etnische discriminatie wordt beïnvloed door de regionale context. Hierbij richtte ik me op de mate van discriminatie ten opzichte van Marokkaanse minderheden in Spanje en Nederland (in hoofdstuk 4). Ik vond belangrijke aanwijzingen dat de mate van discriminatie tussen arbeidsmarktregio's varieert. In overeenstemming met de groepsdreigingstheorie (Blalock 1967; Blumer 1958; Quillian 1995, 1996) vond ik verder dat de mate waarin sollicitanten van Marokkaanse afkomst worden gediscrimineerd samenhangt met het aandeel Marokkaanse minderheden in de regio (een positief verband in Nederland; een afnemend positief verband in Spanje na het uitsluiten van observaties in Catalonië), mogelijkerwijs omdat werkgevers in sommige regio's meer groepsdreiging ervaren van Marokkaanse minderheden dan in andere. De mate van discriminatie blijkt echter niet samen te hangen met de economische omstandigheden in een regio (vgl. Blommaert et al. 2013). Ook lijken de relaties tussen de onderzochte regiokenmerken en de mate van discriminatie niet tussen landen te verschillen. Al met al vormen de resultaten van dit onderzoek een belangrijke aanmoediging om in toekomstig onderzoek meer aandacht te besteden aan de effecten van regionale kenmerken (met name indicatoren voor intergroep competitie) op raciale en etnische discriminatie op de arbeidsmarkt.

Concluderend, in dit proefschrift toonde ik aan dat, alhoewel raciale en etnische discriminatie wijdverspreid is, sommige minderheidsgroepen meer worden gediscrimineerd dan andere. Met name zwarte minderheden en minderheden met een niet-westerse migratieachtergrond worden zwaar getroffen door arbeidsmarktdiscriminatie. Raciale en etnische minderheidsgroepen die al een kwetsbare positie in de samenleving innemen (mogelijk als gevolg van eerdere vormen van sociale uitsluiting) lopen daarmee het grootste risico om te worden gediscrimineerd op de arbeidsmarkt, en dit ongeacht of raciale en etnische minderheden zijn opgegroeid in een westerse samenleving. De bevindingen wijzen verder uit dat meer concrete indicatoren voor productiviteit op individueel- en groepsniveau niet zijn gerelateerd met raciale en etnische discriminatie, wat in tegenspraak is met de assumpties onderliggend aan statistische discriminatietheorie. Wel biedt dit onderzoek sterke aanwijzingen dat raciale en etnische discriminatie sterk samenhangt met de sociaaleconomische ontwikkeling van het veronderstelde herkomstland en het land of regio waar een organisatie gelokaliseerd is. Puur individuele of economisch-rationele verklaringen voor raciale en etnische discriminatie lijken daarmee tekort

te schieten; een breder sociologisch perspectief is nodig om raciale en etnische discriminatie op de arbeidsmarkt beter te begrijpen.

7.3.2. Aanbevelingen voor vervolgonderzoek

Hoewel dit onderzoek in verschillende opzichten heeft bijgedragen aan het bestaande onderzoek wil ik tenslotte stilstaan bij enkele aanbevelingen voor vervolgonderzoek.

Een eerste aanbeveling is om meer beschrijvend onderzoek uit te voeren. In het GEMM-experiment beperkte ik me tot relatief jonge (22-26 jaar oud) en onervaren (4 jaar werkervaring) werkzoekenden die solliciteerden op functies veelal in het middensegment van de arbeidsmarkt. Toekomstig onderzoek zou kunnen onderzoeken of de gevonden resultaten te generaliseren zijn naar banen in de hogere (bijv. advocatuur, beursgenoteerde bedrijven, universiteit) of lagere segmenten (bijv. beveiligers, magazijnwerkers, schoonmakers) van de arbeidsmarkt. Ook zou meer onderzoek gedaan kunnen worden naar banen die via informele kanalen worden geadverteerd (*offline* en *online*). Verder zou het interessant zijn om te onderzoeken of dezelfde resultaten gevonden worden onder andere populaties van werkzoekenden (bijv. oudere werkzoekenden) of in latere fases van het rekruteringsproces (bijv. in sollicitatiegesprekken). Toekomstig beschrijvend onderzoek zou ook nauwkeuriger kunnen uitzoeken of raciale en etnische discriminatie sterk varieert tussen organisaties, beroepen en sectoren. Door dezelfde organisaties meerdere malen met een veldexperiment te onderzoeken kan bijvoorbeeld nagegaan worden of discriminatie wordt gepraktiseerd door een kleine minderheid of de grote meerderheid van organisaties op de arbeidsmarkt (Verhaeghe and Van der Bracht 2016). Met behulp van meer gefocuste onderzoeksdesigns, met voldoende statistische power om zelfs kleine verschillen te detecteren, kan ook nauwkeuriger uitgezocht worden of discriminatiepatronen sterk tussen beroepen of sectoren variëren (bijv. Villadsen and Wulff 2017). Op deze manier zou beschrijvend onderzoek meer inzicht geven *waar*, *wanneer* en *door welk type organisaties* raciale en etnische minderheden meer (of juist minder) gediscrimineerd worden.

Een tweede aanbeveling is om nog dieper in te gaan op de mechanismes achter raciale en etnische discriminatie. Hoewel de huidige studie meer inzicht geeft in welke factoren samenhangen met raciale en etnische discriminatie is een belangrijke vervolgstap om nieuwe en meer directe tests te ontwikkelen die de belangrijkste onderliggende mechanismes kunnen blootleggen. In hoeverre zijn de gevonden relaties bijvoorbeeld in lijn met de houdingen en groepsbeelden van werkgevers? Toekomstig onderzoek zou de uitkomsten van dit veldexperiment kunnen aanvullen met een grootschalig surveyonderzoek onder de onderzochte groep werkgevers (vgl. Pedulla 2016). Door vragen te stellen over de houdingen, denkbeelden, de wervings- en selectieprocedures of de organisatie als geheel kan

beter worden vastgesteld *welke processen verantwoordelijk zijn voor* raciale en etnische discriminatie op de arbeidsmarkt.

Een laatste aanbeveling voor toekomstig onderzoek is om vaker een multidimensionaal perspectief op arbeidsmarktdiscriminatie te hanteren (Birkelund et al. 2017; Friedman and Laurison 2019; Pedulla 2018). In het huidige onderzoek richtte ik me primair op de rol van ras/etniciteit en schonk ik nauwelijks aandacht aan andere vormen van ongelijkheid (bijv. gender, leeftijd of sociale klasse). De werkelijkheid is veel complexer; sociale dimensies zullen vaak overlappen. Ook een groeiend aantal studies biedt sterke aanwijzingen dat eerdergenoemde groepskenmerken op een ingewikkelde wijze met elkaar interacteren en unieke arbeidsmarktongelijkheden produceren (Adida et al. 2010; Andriessen et al. 2012; Birkelund et al. 2017; Bursell 2014; Pager 2003; Veit and Thijssen 2019). Het hanteren van een multidimensionaal perspectief wordt ook wel *intersectionaliteit* genoemd (Friedman and Laurison 2019). Intersectionaliteit zou een meer prominente rol moeten krijgen in toekomstig onderzoek (vooral in studies buiten de Verenigde Staten) om beter zicht te krijgen *wie* en *waarom* stelselmatig uitgesloten wordt op de arbeidsmarkt.

7.3.3. Aanknopingspunten voor beleid

De resultaten van dit onderzoek bieden enkele relevante inzichten voor beleidsmakers. Dit en eerder onderzoek (o.a. Heath and Di Stasio 2019; Quillian et al. 2017, 2019; Zschirnt and Ruedin 2016) wijst uit dat raciale en etnische discriminatie wijdverspreid is in Westerse samenlevingen en ook nauwelijks vermindert over tijd. Daarnaast komt hieruit naar voren dat werkzoekenden zelf weinig kunnen doen om minder gediscrimineerd te worden. Het toevoegen van extra productie-relevante informatie vergroot misschien de kans om een werkgeverreactie te ontvangen maar leidt er niet toe dat werkgevers minder op basis van ras of etniciteit selecteren. Dit alles suggereert dat meer aandacht dient uit te gaan naar de werkgeverskant om arbeidsmarktdiscriminatie te bestrijden. Verschillende typen beleidsinterventies zijn mogelijk (voor interessante overzichtsartikelen, zie o.a. Adida et al. 2016 ch. 10; Bertrand and Duflo 2017; Dobbin et al. 2015; Edelman, Smyth, and Rahim 2016; Fang, Guess, and Humphreys 2018; Friedman and Laurison 2019 Epilogue; Kalev, Dobbin, and Kelly 2006; Lindsey et al. 2013; Neumark 2018; Paluck and Green 2009; Verhaeghe 2017). Enerzijds kunnen interventies zich richten op directe gedragsverandering. Dit kan door werkgevers aan te moedigen (bijv. door meer bewustzijn te creëren voor impliciete vooroordelen/stereotypen, de ernstige en ingrijpende gevolgen van discriminatie op slachtoffers of de positieve effecten van diversiteit op de performance van organisaties) of te dwingen (bijv. diversiteitsquota, striktere anti-discriminatiewetgeving, strengere handhaving m.b.v. overheidsinspecties, afdwingen om te publiceren over diversiteit in organisaties)

maatregelen te nemen om discriminatie te voorkomen. Anderzijds kan het rekru-teringsproces op een andere manier ingericht worden zodat de mogelijkheden om expliciet of impliciet te discrimineren worden ingeperkt. Interventies kunnen daarbij gericht zijn op het wegnemen van achtergrondinformatie (bijv. anoniem solliciteren) of het professionaliseren (bijv. protocollen opstellen, diverse samenstel-ling HR-afdeling), objectiveren (bijv. benodigde vaardigheden meetbaarder maken) en transparanter maken (bijv. mensen verantwoordelijk maken voor diversiteit in een organisatie) van het gehele rekruteringsproces. Hoewel veel studies de effecti-viteit van dergelijke interventies hebben bestudeerd is tot op heden nog te weinig grootschalig (quasi-)experimenteel onderzoek uitgevoerd buiten het lab (Bertrand and Duflo 2017; Neumark 2018; Paluck and Green 2009). Meer grootschalige evaluatiestudies zijn dus nodig om de effectiviteit van anti-discriminatie-interven-ties op de arbeidsmarkt te onderzoeken. Van belang is daarbij om een theoretisch onderscheid te maken tussen diversiteit en discriminatie. Vanzelfsprekend is de mate van diversiteit in organisaties afhankelijk van de wijze waarop geselecteerd wordt, ofwel de ruimte die er is voor expliciete of impliciete discriminatie. Maar ook andere factoren spelen mee, zoals de diversiteit, reikwijdte en kwaliteit van sollicitantenpools en het klimaat op de werkvloer. Om discriminatie te bestrijden volstaat het daarom niet om alleen te kijken of diversiteit binnen organisaties toe- of afneemt; er moet gekeken worden of mensen met verschillende achtergronden daadwerkelijk gelijk(er) behandeld worden.

Chapter 8

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Chapter 9

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Dankwoord (Acknowledgments)

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Chapter 10

About the Author

About the author

Lex Thijssen was born in Eersel (NB), the Netherlands, on May 14, 1991. In 2013, he obtained his Bachelor of Science degree in Sociology (*cum laude*) at the Radboud University in Nijmegen. In 2015, Lex obtained his Master of Science degree in the research master program "Social and Cultural Science: Comparative Research on Societies" (*cum laude*) at the Radboud University in Nijmegen. In September 2015, he started working as a PhD candidate at the Department of Sociology of Utrecht University and the Interuniversity Center of Social Science Theory and Methodology (ICS). He wrote his dissertation under supervision of Prof. dr. Frank van Tubergen (UU), Dr. Marcel Coenders (UU | SCP), and Dr. Bram Lancee (UvA). In February 2018, he visited the department "Migration, Integration, Transnationalization" at the WZB Social Science Center in Berlin, hosted by Dr. Susanne Veit, Ruta Yemane, and Prof. dr. Ruud Koopmans. His research interests include discrimination, intergroup relations, and social stratification.

Chapter 11

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Previous research has provided compelling evidence for the existence of racial and ethnic discrimination in the labor market. So far, however, it has been unclear whether all racial and ethnic minority groups are equally affected by hiring discrimination. Also, much research has been largely descriptive, providing little insights into the sources of racial and ethnic discrimination in hiring. Using a meta-analysis and a cross-national harmonized field experiment, this dissertation provides new evidence about the extent of discrimination against different racial and ethnic minority groups as well as some of the factors that may affect racial and ethnic discrimination in hiring. This dissertation finds that black and non-western minority groups face higher levels of discrimination than western minority groups. Furthermore, the results show that more proximate indicators of individual and group productivity are not associated with racial and ethnic discrimination. Rather, the evidence points out that racial and ethnic discrimination is related to (employer perceptions about) origin countries and to the broader social context in which employers operate, such as national and regional contexts.

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