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DOI

[10.1007/s12134-020-00795-w](https://doi.org/10.1007/s12134-020-00795-w)

Publication date

2021

Document Version

Final published version

Published in

Journal of International Migration and Integration

License

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Citation for published version (APA):

Thijssen, L., Coenders, M., & Lancee, B. (2021). Ethnic Discrimination in the Dutch Labor Market: Differences Between Ethnic Minority Groups and the Role of Personal Information About Job Applicants—Evidence from a Field Experiment. *Journal of International Migration and Integration*, 22(3), 1125-1150. <https://doi.org/10.1007/s12134-020-00795-w>

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Ethnic Discrimination in the Dutch Labor Market: Differences Between Ethnic Minority Groups and the Role of Personal Information About Job Applicants—Evidence from a Field Experiment

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Accepted: 9 December 2020 / Published online: 22 December 2020

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Abstract

In this study, we present the results of a large-scale field experiment on ethnic discrimination in the Dutch labor market. We sent fictitious job applications ($N = 4211$) to vacancies for jobs in ten different occupations in the Netherlands. By examining 35 different ethnic minority groups, we detect considerable differences in discrimination rates, predominantly between Western and non-Western minorities. Furthermore, we find little systematic variation in discrimination patterns with regard to gender, regions, and occupations, pointing to the existence of an 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.

Keywords Ethnic discrimination · Ethnic hierarchy · Individual information in resumes · Field experiment · Labor market

Introduction

Like in many Western European countries, the Dutch labor market is characterized by persistent inequalities between ethnic groups. Compared to people with a native-majority background, people with a migrant background are more often unemployed, work more often in the lower segments of the labor market, and have a lower income

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(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, Vázquez-Quesada, and van de Werfhorst 2016; Koopmans 2016; Lancee 2019; Van Tubergen, Maas, and Flap 2004). A fourth explanation that receives much scholarly attention is employment discrimination (Bertrand and Duflo 2017; Neumark 2018; Pager 2007): that is, employers' systematic preferences for candidates with a native-majority background.

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). Ethnic discrimination is difficult to observe, because it is difficult to ascertain whether employers treat ethnic minorities differently because of their ethnic origin or because employers perceive differences in other (productivity-relevant) characteristics (Bertrand and Duflo 2017). For example, employers might select on language proficiency and/or educational attainment—that is, productivity characteristics that often correlate with ethnicity (see, e.g., Huijnk and Andriessen 2016). 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 (e.g., with equal language skills and/or educational credentials) who differ only with regard to their ethnic background. Accordingly, the difference in callback rates between ethnic groups gives a clear indication of the extent to which ethnic minorities are discriminated against.

In contrast to laboratory or survey experiments, field experiments allow the examination of the causal effect of 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 upload fictitious CVs to online job portals.

In both the Netherlands and other countries, an increasing body of research has studied 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).¹ In the Netherlands, pioneering work was 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% 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, Gras, and Ramsøedh 1995). More recently, field experiments conducted by the Netherlands Institute for Social Research found evidence that both employers (Andriessen et al. 2010, 2012, 2015) and employment agencies

¹ Table S1 in the Supplementary Materials provides an overview of all field experiments on ethnic discrimination in the Dutch labor market. Please note, however, that it is not possible to rigorously compare discrimination rates across studies because of major methodological differences between studies, for example, with regard to the 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.

(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% greater than that for someone with a non-Western migration background.

One last interesting example is a study by Blommaert et al. (2014), who placed profiles of fictitious job seekers (with typical Dutch or Moroccan names) on online job portals (see also Altintas, Maniram, and Veenman 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% less often than profiles with a typical Dutch name and were 60% less likely to be approached by an employer.

Although there is a great body of research using field experiments to study ethnic discrimination in the labor market, there are still unresolved issues and controversies in this area of research. Typically, field experiments investigate ethnic discrimination by comparing job applicants from only one or two ethnic minority groups with native-majority job applicants. Those ethnic minority groups are mostly one of the largest and/or most stigmatized groups in the country of study. As a consequence, there is still a dearth of research addressing differences in discrimination rates across ethnic minority groups. Moreover, recent waves of migration to Western European countries have increased diversity among immigrant populations in terms of migration motives, socioeconomic vulnerabilities, and cultural backgrounds. Therefore, the question as to whether there is a pattern of discrimination across various ethnic minority groups is highly relevant for getting a better understanding of the drivers of labor market discrimination as well as developing appropriate policy responses.

Besides a lack of empirical data on differences in discrimination rates across ethnic minority groups, empirical tests of the specific mechanisms of ethnic discrimination in the labor market are scarce. According to statistical discrimination theory (Arrow 1973; Phelps 1972), one of the dominant theoretical paradigms in the field, employers discriminate due to information uncertainties in the hiring process. However, while statistical discrimination theory is often proposed as an important explanation for ethnic discrimination in the labor market, research that empirically scrutinizes whether information uncertainties affect discrimination rates is scant (Bertrand and Duflo 2017; Neumark 2018).

In this study, we present the results of a new large-scale correspondence test on ethnic discrimination in the Dutch labor market (Lancee 2019; Lancee et al. 2019a, b). 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 ethnic discrimination in hiring in three ways.

Our first contribution relates to 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 4211 applications (between October 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 2019a).²

The second contribution of this study is investigating the extent to which levels of discrimination vary between ethnic minority groups. So far, most field experiments have included only one or two ethnic minority groups, and only a small number of field experiments investigated three or more minority groups simultaneously (for an overview of field experiments in the Netherlands, see Table S1 in the Supplementary Materials). 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 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 ethnic minority groups in hiring decisions. It is, however, an open question as to whether this conclusion also holds for ethnic minority groups with greater variation in migrant backgrounds. For example, 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 (Huijnk and Andriessen 2016). This raises the question as to whether employers offer certain ethnic groups more employment opportunities than others. Therefore, we study the relative chances of a high number of ethnic groups with various backgrounds, namely 35 ethnic minority groups in total. We thereby focus not only on the “classic” ethnic minority groups that have been frequently associated with socioeconomic disadvantages in the Netherlands. Rather, we also include 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 ethnic discrimination is directed towards all ethnic minority groups (Edo, Jacquemet, and Yannelis 2019; Jacquemet and Yannelis 2012) or whether certain ethnic minority groups are more discriminated against than others (Hagendoorn 1995).

The third and 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 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

² 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 article, however.

1973; Phelps 1972). However, it has often been expected that adding personal information should reduce information uncertainties and, in turn, reduce discrimination against 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, Veit, and Yemane 2018). In this study, we contribute to the literature by investigating whether 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 ethnic minority groups are more discriminated against than others, and it also examines whether ethnic discrimination is affected by the amount of individual information in job applications. Our research questions are as follows: (1) To what extent does ethnic discrimination vary between different ethnic minority groups? and (2) to what extent does ethnic discrimination decrease when more individual information is available?

Theory

Does Ethnic Discrimination Vary Across Ethnic Minority Groups?

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

Ethnic homophily theory assumes that ethnic discrimination is directed against all 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 ethnic group) or the outgroup (a different 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, the 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, 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 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 or ethnic minority groups and a fictive minority group, which had no clear connotation with an existing ethnic group. Both in France and in the USA (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 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 ethnic group.

Ethnic hierarchy theory (Hagendoorn 1995; Sidanius and Pratto 1999; Snellman and Ekehammar 2005) assumes that members of 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 ethnic homophily theory, it is postulated that people have a clear preference for the ingroup. Importantly, however, 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 ethnic minorities (Hagendoorn 1995; Snellman and Ekehammar 2005) and studies on perceived discrimination (Andriessen, Fernee, and Wittebrood 2014; McGinnity and Gijssberts 2016). For example, studies in Canada (Oreopoulos 2011), Ireland (McGinnity and Lunn 2011), and the UK (Wood et al. 2009) find no significant differences between ethnic minority groups, whereas studies in Australia (Booth, Leigh, and Varganova 2012), Austria (Weichselbaumer 2017), Finland (Ahmad 2019), Germany (Koopmans et al. 2018), Russia (Bessudnov and Shcherbak 2019), and Switzerland (Zschirnt 2019a) do find empirical support for the existence of ethnic hierarchies in the labor market.

The picture that emerges in Dutch research indicates that 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 ethnic minority groups. On the other hand, and more in line with the ethnic hierarchy hypothesis, socioeconomic and cultural differences between non-Western and Western minorities in the Netherlands are relatively large. For example, research shows that non-Western minorities are more strongly disadvantaged in the labor market than Western minorities (Huijnk and Andriessen 2016; Statistics Netherlands 2017). Likewise, studies point at particularly strong value disputes between native Dutch and non-Western minorities (Huijnk and Andriessen 2016; Sniderman and Hagendoorn 2007).

It is difficult to say why some studies—especially those conducted outside the Netherlands—observe significant differences between 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 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 ethnic minority groups.

Based on these two theories and the inconsistent findings in the literature, we formulate two rival hypotheses: *Job applicants with a migrant origin are equally discriminated against in the Dutch labor market* (H1a: ethnic homophily hypothesis). The second hypothesis, however, predicts that *job applicants with a migrant origin are not equally discriminated against. Specifically, job applicants with a non-Western migrant origin face higher levels of discrimination than those with a Western migrant origin* (H1b: ethnic hierarchy hypothesis).

Do Information Uncertainties Lead to 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 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 the main reason why employers discriminate on the basis of ethnic origin (Bertrand and Duflou 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 Arab 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 ethnic discrimination. In Germany, Koopmans et al. (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 ethnic minority groups, it is possible to explore whether this effect differs between origin groups. Hence, we test the following hypothesis: *Candidates with a migrant background face lower levels of discrimination when more personal information is added to their CVs or cover letters* (H2: information hypothesis).

Data, Measures, and Analytical Strategy

Data

In this study, we analyze the Dutch data from a cross-nationally harmonized correspondence study on ethnic discrimination in the first phases of the hiring process (Lancee 2019; Lancee et al. 2019ab).³ The field experiment was conducted between October 2016 and April 2018.⁴ 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

³ 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.

⁴ The national economy in the Netherlands grew steadily during the fieldwork. Unemployment rates among the general population and youth unemployment rates fell sharply (Statistics Netherlands 2017). 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 fieldwork 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.

information about the age of the applicant (aged 23–25), contact details (postal and e-mail address, telephone number), previous educational training (lower or higher vocational education), previous work experience (4 years), and 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.⁵ In total, we applied for 4211 vacancies in ten different occupations, advertised by organizations that are located throughout the Netherlands.

Measures

The dependent variable indicates whether or not the fictitious applicant received a positive response from an employer. 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 ethnic discrimination, we varied the ethnic background of fictitious applicants. In correspondence studies, it is important that employers can trace the ethnic origin of fictitious job candidates (Gaddis 2017). The 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 ethnic groups (see Table S2 in the Supplementary Materials). 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. Finally, we zoom in on a smaller number of minority groups with a high share of inhabitants 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

⁵ Field experiments are generally considered 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.

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 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% included the average final grade of their most recently completed education (“grade average: 7.5” [scale ranges from 1 to 10]), and 50% did not. In addition, 50% of all fictitious candidates indicated that they had a warm personality (50% did not indicate this): 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 hardworking 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 an index that indicates how much extra information was added to the cover letter and/or the CV. This variable varies between 0 (no information manipulation added) and 4 (all information manipulations 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 applicants 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 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 S3 in the Supplementary Materials. In the [Supplementary Materials](#), we also pay attention to the external validity of our field experiment.

Analytical Strategy

Various scholars warn against using logistic regression models and relying too much on log-odds ratios or odds ratios as effect measures, because they might be heavily affected by unobserved heterogeneity, limiting a direct comparison of log-odds ratios or odds ratios across models (see Mood 2010). As a solution to this problem, researchers have been increasingly estimating linear probability models to analyze field experimental data with binary response variables (e.g., Birkelund, Heggebø, and Rogstad 2017; Bygren, Erlandsson, and Gähler 2017; Darolia et al. 2016; Di Stasio and Lancee 2020; Weichselbaumer 2017). The coefficients of linear probability models can

be directly interpreted as the marginal change in probability (i.e., change in percentage points). In addition, coefficients can be easily compared across models.

For these reasons, we estimate linear probability models and regress callback on the independent variables and control variables.⁶ In addition to ethnicity and the information manipulations, 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. Besides presenting estimates in tables, we illustrate our findings in figures. Based on the estimates of linear probability models (calculated with *Stata's margins*-command), the figures present the predicted average probability of receiving a positive response from an employer per ethnic group.

Results

Does Ethnic Discrimination Vary Between Ethnic Minority Groups?

First, we analyze whether the probability of receiving a callback varies according to ethnic origin (see Table 1). We sent a total of 4211 applications; 1587 applications received a positive response from an employer (i.e., 38%). The results show that the chance of a positive response varies considerably between ethnic groups.

Despite having equal qualifications, applicants with a migrant background appear to receive significantly fewer responses than native-majority applicants (Table 1, model 1). While considering the influence of the control variables, we find that the predicted average probability of receiving a positive reaction is 46% for applicants of native Dutch origin and 35% for applicants with a migrant origin. This difference is approximately eleven percentage points and statistically significant. Thus, in line with previous Dutch studies (see also Table S1 in the Supplementary Materials), we also find evidence for the existence of ethnic discrimination in the Dutch labor market.

To test hypotheses 1a and 1b, we examine whether discrimination differs between different ethnic minority groups. First, we make a distinction between minorities with a Western and non-Western origin (Table 1, 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% of applicants with a Western migrant origin received a callback, whereas this was only 33% for applicants with a non-Western migrant origin. In short, ethnic minorities are not equally affected by discrimination, which is in line with hypothesis 1b (the ethnic hierarchy hypothesis).

⁶ To check whether model specifications affected our results, we replicated our models using logistic regression analysis (Table S6 and Table S8 in the Supplementary Materials correspond to the linear probability models of respectively, Table 1 and Table 2 in the main text). Reassuringly, these results lead to the same substantive conclusions.

Table 1 Linear probability model estimating the effect of ethnic origin on callback

	Model 1	Model 2	Model 3	Model 4
Native-majority	Ref.	Ref.	Ref.	Ref.
Migrant origin	-0.108*** (0.017)			
Western migrant origin		-0.079*** (0.019)		
Non-Western migrant origin		-0.129*** (0.018)		
Western European or American origin			-0.067** (0.025)	
South Asian origin			-0.076~ (0.045)	
Eastern European or Russian origin			-0.084*** (0.024)	
Southeast or East Asian origin			-0.089** (0.029)	
Latin American origin			-0.130*** (0.037)	
South and Central African origin			-0.131*** (0.038)	
Middle Eastern and North African origin			-0.143*** (0.020)	
Polish origin				-0.056 (0.038)
Bulgarian origin				-0.109** (0.039)
Surinamese origin				-0.095~ (0.056)
Antillean origin				-0.184** (0.067)
Moroccan origin				-0.151*** (0.026)
Turkish origin				-0.141*** (0.026)
Female (ref. = male)	0.023 (0.014)	0.022 (0.014)	0.022 (0.014)	0.020 (0.018)
Grade included (ref. = not included)	0.002 (0.014)	0.002 (0.014)	0.002 (0.014)	-0.002 (0.018)
Performance included (ref. = not included)	0.006 (0.014)	0.006 (0.014)	0.008 (0.014)	0.006 (0.018)
Warmth included (ref. = not included)	0.020 (0.014)	0.020 (0.014)	0.020 (0.014)	0.012 (0.018)
Picture included (ref. = not included)	0.083*** (0.014)	0.083*** (0.014)	0.082*** (0.014)	0.100*** (0.018)
Openly religious (ref. = not openly religious)	0.008 (0.014)	0.007 (0.014)	0.008 (0.014)	0.014 (0.018)
Occupation fixed effects (ref. = software developer)				
Cook	0.038 (0.028)	0.037 (0.028)	0.036 (0.028)	0.029 (0.036)
Electrician	-0.088* (0.043)	-0.089* (0.043)	-0.088* (0.043)	-0.128* (0.054)

Table 1 (continued)

	Model 1	Model 2	Model 3	Model 4
Payroll clerk	-0.358*** (0.025)	-0.359*** (0.025)	-0.357*** (0.025)	-0.379*** (0.033)
Plumber	-0.066 (0.053)	-0.069 (0.053)	-0.069 (0.053)	-0.069 (0.066)
Receptionist	-0.309*** (0.029)	-0.311*** (0.029)	-0.310*** (0.029)	-0.345*** (0.037)
Sales representative	-0.266*** (0.027)	-0.268*** (0.027)	-0.268*** (0.027)	-0.290*** (0.035)
Sales assistant	-0.300*** (0.028)	-0.300*** (0.028)	-0.300*** (0.028)	-0.304*** (0.037)
Hairdresser	-0.047 (0.044)	-0.047 (0.044)	-0.049 (0.044)	-0.055 (0.056)
Carpenter	-0.084~ (0.044)	-0.083~ (0.044)	-0.084~ (0.044)	-0.100~ (0.055)
Perceived advertisement fit (ref. = fit)				
Underqualified	-0.101*** (0.025)	-0.101*** (0.025)	-0.101*** (0.025)	-0.115*** (0.033)
Overqualified	0.058** (0.021)	0.057** (0.021)	0.057** (0.021)	0.058* (0.026)
Period fixed effects	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes
Constant	0.557*** (0.044)	0.563*** (0.044)	0.561*** (0.044)	0.580*** (0.056)
R^2	0.140	0.142	0.143	0.161
N	4211	4211	4211	2538

Standard errors in parentheses

~ $p < 0.10$

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$ (two-sided)

The dependent variable distinguishes between a positive response from an employer and a negative or no response from an employer. Ref. = reference category. Model 1 examines differences in callbacks between native-majority candidates and candidates with a migrant origin. Model 2 examines differences in callbacks between native-majority candidates and candidates with a Western or a non-Western migrant origin. Model 3 examines differences in callbacks between native-majority candidates and candidates with a Western European or American origin, South Asian, Eastern European or Russian origin, Southeast or East Asian origin, Latin American origin, South and Central African origin, or a Middle Eastern and North African origin. Model 4 examines differences in callbacks between native-majority candidates and candidates with a Moroccan, Turkish, Bulgarian, Polish, Surinamese, and Antillean origin. All models control for period (month-year) and region (province) fixed effects. Table S5 in the Supplementary Materials contains all estimates, including these latter control variables

Source: GEMM, 2019

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 1, model 3). The predicted probabilities per region of origin are shown in Fig. 1. Candidates with a Western European or American origin (39% chance of a response) face the lowest levels of discrimination, followed by candidates with a South Asian (38% chance), Eastern European or Russian origin (37% chance), and a Southeast or East Asian origin (37% chance). However, the probability of receiving a callback is significantly lower for candidates with a

Latin American origin (33% chance), a South and Central African origin (32% chance), or a Middle Eastern and North African origin (31% chance).⁷ These results support the idea of an ethnic hierarchy in the Dutch labor market and hypothesis 1b (the ethnic hierarchy hypothesis), while refuting hypothesis 1a (the ethnic homophily hypothesis).

In Fig. 2, we zoom in on the callback rates of the four largest non-Western migrant groups and two important relatively “new” Western migrant groups in the Netherlands (see Table 1, 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% for applicants with a Moroccan origin and 32% for applicants with a Turkish origin. The chance of receiving a callback is also very low for applicants of Antillean origin: 27%. Applicants of Surinamese origin are also discriminated against, but to a lesser extent (36% chance of receiving 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% of all cases), we find no significant evidence for discrimination against applicants with a Polish origin (40% chance of receiving a positive response, $p > 0.10$).⁸ This suggests that employers might have more positive images of Polish minorities.

To examine the robustness of our findings, we investigated whether discrimination patterns vary by gender, occupation, and region. First, it appears that ethnic discrimination does not differ by gender: we do not find a significant interaction between gender and ethnicity.⁹ 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 occupation fixed effects.¹⁰ Finally, our analyses indicate no clear differences in the degree of discrimination between regions. Specifically, discrimination patterns do not vary systematically between provinces¹¹

⁷ 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.

⁸ 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 ($p < 0.10$).

⁹ 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: $F(6, 2479) = 1.07$, $p = 0.38$. These results are omitted due to space limitation. Full results are available upon request.

¹⁰ $F(18, 4144) = 1.15$, $p = 0.29$. These results are omitted due to space limitation. Full results are available upon request. In the Supplementary Materials, we also examined whether discrimination patterns differ across broader types of occupations. Although the same general discrimination pattern emerges, we also find some differences in the degree of discrimination across types of occupations (see also Figure S1).

¹¹ $F(22, 4140) = 1.00$, $p = 0.46$. These results are omitted due to space limitation. Full results are available upon request.

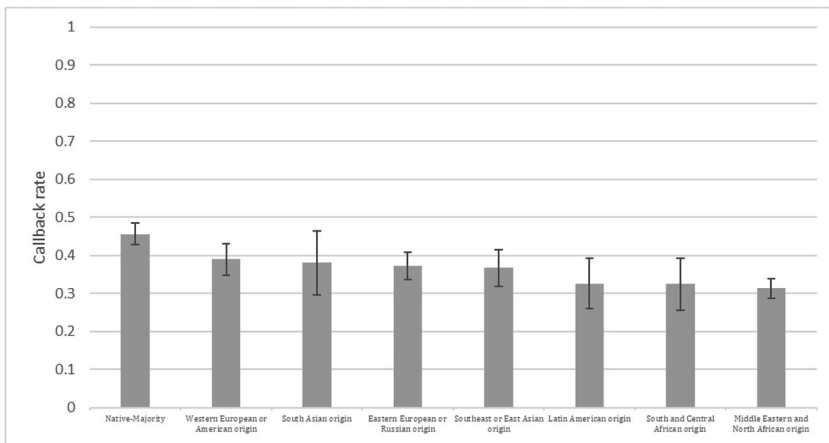


Fig. 1 The likelihood to receive a positive response from an employer by region of origin. Note: The bars indicate the predicted probability to receive a positive response from an employer by region of origin. And 95% confidence intervals are calculated. These estimates are based on a linear probability 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

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.¹²

Does Extra Personal Information Reduce 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 2. Figure 3 illustrates these results by showing the effect of adding information on the callback rates for applicants of native-majority and Western migrant origins. Similarly, Fig. 4 shows the effect of adding information on callback rates for applicants of native-majority and non-Western migrant origins.

Figures 3 and 4 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 2). However, adding more information does not lead to a reduction in the level of ethnic discrimination, as shown by the non-significant interactions in model 2 (Table 2). Figure 3 shows that in job applications in which no additional information was added, applicants of Western migrant 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 4 shows that applicants of non-Western migrant origin are 15 percentage points less likely to receive a response than applicants of native-majority origin if no

¹² G31: $F(2, 4170) = 0.59, p = 0.56$; G4: $F(2, 4170) = 1.14, p = 0.32$. These results are omitted due to space limitation. Full results are available upon request.

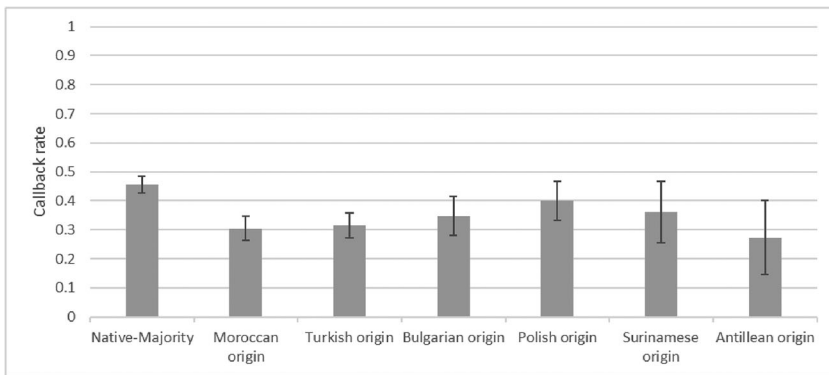


Fig. 2 The likelihood to receive a positive response from an employer by ethnic origin. Note: The bars indicate the predicted probability to receive a positive response from an employer by ethnic origin. And 95% confidence intervals are calculated. These estimates are based on a linear probability model 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

additional information was added to job applications. In the case that the maximum number of information manipulations 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 migrant origin compared to applicants of native-majority origin (Table 2, model 2). Figure 4 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.

Following statistical discrimination theory, discrimination would result from information uncertainties in the hiring process. In contrast, our findings show that adding additional information in job applications does not reduce discrimination in hiring. However, the type of information added might matter too. Hence, we also estimate the effect of each information manipulation separately.

In model 3 of Table 2, we estimate the effects of adding the different types of information separately. Only the addition of the picture leads to a statistically significant higher callback, illustrating that job applicants with a professional picture receive more positive responses from employers. However, in model 4, we find no statistically significant interaction terms between ethnic origin and the different types of information. That is, including a picture increases the chance of a callback, but this increase is not different for majority and minority job applicants. Hence, for each of the four types of information, we find no evidence that adding information to the job application reduced discrimination. As a robustness check, we also test for non-linear effects of the amount of additional information. We recoded the information index into five dummy variables, distinguishing between none, one, two, three, and four information manipulations. Again, we test whether the effects of these information manipulations vary by

Table 2 Linear probability model estimating the effect of ethnic origin, information, and their interaction on callback

	Model 1	Model 2	Model 3	Model 4
Native-majority	Ref.	Ref.	Ref.	Ref.
Western migrant origin	-0.078*** (0.020)	-0.081~ (0.042)	-0.079*** (0.019)	-0.079~ (0.042)
Non-Western migrant origin	-0.129*** (0.018)	-0.145*** (0.039)	-0.129*** (0.018)	-0.143*** (0.039)
Number of information manipulations included	0.028*** (0.007)	0.024~ (0.014)		
Western migrant origin * no. information manipulations included		0.002 (0.018)		
Non-Western migrant origin * no. of information manipulations included		0.008 (0.017)		
Grade included (ref. = not included)			0.002 (0.014)	-0.010 (0.027)
Performance included (ref. = not included)			0.006 (0.014)	0.014 (0.027)
Warmth included (ref. = not included)			0.020 (0.014)	0.001 (0.028)
Picture included (ref. = not included)			0.083*** (0.014)	0.095** (0.029)
Western migrant origin * grade included				0.014 (0.037)
Non-Western migrant origin * grade included				0.017 (0.035)
Western migrant origin * performance included				-0.024 (0.037)
Non-Western migrant origin * performance included				0.001 (0.035)
Western migrant origin * warmth included				0.032 (0.037)
Non-Western migrant origin * warmth included				0.020 (0.035)
Western migrant origin * picture included				-0.022 (0.038)
Non-Western migrant origin * picture included				-0.010 (0.036)
Controls	Yes	Yes	Yes	Yes
Constant	0.560*** (0.044)	0.567*** (0.050)	0.563*** (0.044)	0.568*** (0.049)
R ²	0.138	0.138	0.142	0.142
N	4211	4211	4211	4211

Standard errors in parentheses

~ $p < 0.10$ * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$ (two-sided)

The dependent variable distinguishes between a positive response from an employer and a negative or no response from an employer. Ref. = reference category. Model 1 examines differences in callbacks between native-majority candidates and candidates with a Western or a non-Western migrant origin. Also, model 1 estimates the effect of the number of information manipulations included on callback. Model 2 includes the main effects of ethnic origin, the number of information manipulations included and their interaction. Model 3 examines differences in callbacks between native-majority candidates and candidates with a Western or a non-Western migrant origin and the effect of grade, performance, warmth, and picture on callback. Model 4 includes the main effects of ethnic origin, grade, performance, warmth, picture and the interactions between ethnic origin and the four information manipulations. All models control for gender, religiosity, occupation fixed effects, month-year fixed effects, province fixed effects, and perceived advertisement fit fixed effects. Table S7 in the Supplementary Materials contains all results, including these control variables

Source: GEMM, 2019

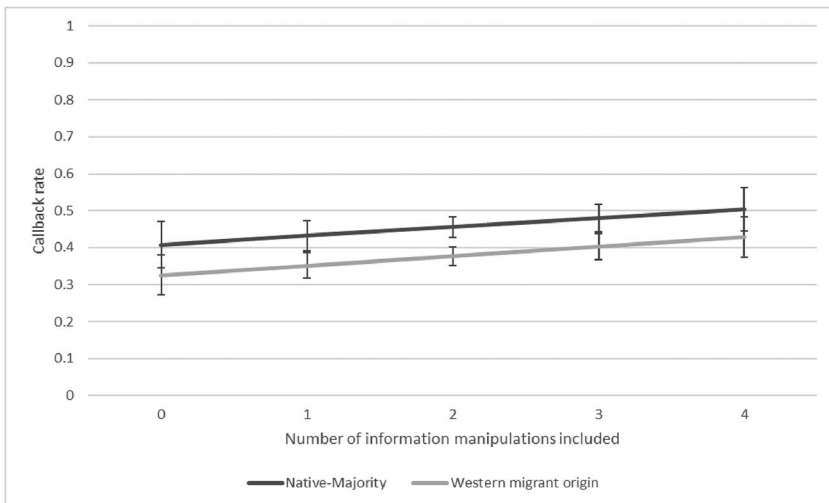


Fig. 3 The effect of the number of information manipulations included on the likelihood to receive a positive response from an employer for native-majority candidates and candidates with a Western migrant origin. Note: The lines indicate the predicted probability to receive a positive response from an employer by ethnic origin (dark gray line = native-majority; light gray line = Western migrant origin) and the number of information manipulations included. For each 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

migration background, but these interaction effects are neither statistically significant (See Supplementary materials, Table S7, model 5).

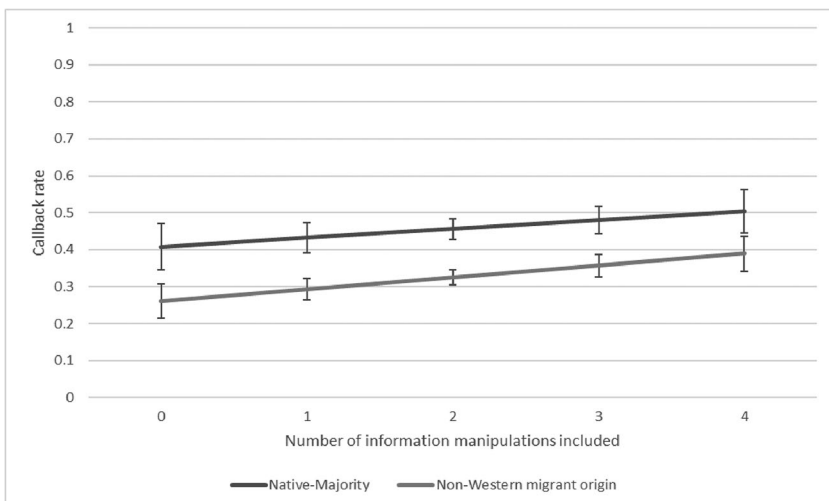


Fig. 4 The effect of the number of information manipulations included on the likelihood to receive a positive response from an employer for native-majority candidates and candidates with a non-Western migrant origin. Note: The lines indicate the predicted probability to receive a positive response from an employer by ethnic origin (dark gray line = native-majority; gray line = non-Western migrant origin) and the number of information manipulations included. For each 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

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.

Conclusion

Since Bovenkerk's study in 1977, numerous studies have examined the extent of discrimination against 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 ethnic discrimination varies between 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 (see also Table S1 in the Supplementary Materials), 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% greater than that for candidates with a 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 contribution of our study is that we could examine differences in discrimination rates across a large number of groups, as our study included 35 different ethnic minority groups with various socioeconomic and cultural backgrounds. In contrast, previous studies mostly included one or only a few minority groups, typically focusing on highly visible and more established ethnic minority groups. However, in light of the increasing levels of ethnic diversity in Western countries, it is important to investigate whether employment discrimination is equally directed towards *all* or *specific* ethnic minority groups.

Contradicting ethnic homophily theory (Edo et al. 2019; Jacquemet and Yannelis 2012), we find that discrimination does not affect all minority groups equally. Instead, we conclude that there is an ethnic hierarchy in the Dutch labor market. Moreover, this ethnic hierarchy appears to be widespread as we hardly notice systematic differences in discrimination patterns between men and women, occupations, and regions. This hierarchy is possibly the result of perceived socioeconomic and cultural differences between ethnic groups (Hagendoorn 1995; Snellman and Ekehammar 2005). At the top of the hierarchy, we find applicants of native-majority origin who have by far the greatest chance of being contacted by employers. Despite having identical qualifications, Western minorities receive significantly fewer responses from employers, and those of non-Western origin receive even less. 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 minority groups in the Netherlands—that is, 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 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 Polish (Lubbers and Gijsberts 2016; McGinnity and Gijsberts 2016). Based on qualitative studies among employers, in which workers from these Eastern European countries are (sometimes) praised for their work attitude and effort, one might expect less discrimination against these recently arrived ethnic minority groups. However, we find that Bulgarian minorities face similar levels of discrimination as Surinamese minorities. In contrast, 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 with regard to crime, nuisance, and welfare fraud, and many Eastern European minorities report 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 Polish minorities who are often Catholics, originating from a country with predominantly Christian values and traditions. Overall, the ranking of ethnic groups in our field experiment points to the relevance of socioeconomic status differences and, in particular, cultural differences between minority groups and the native-majority population.

The potential role of religious and other cultural differences seems especially apparent at the bottom of the ethnic hierarchy, where we find job applicants with a Middle Eastern or North African origin, and specifically, those with a Turkish or Moroccan origin (see, e.g., Di Stasio, Lancee, Veit, and Yemane 2019). Yet, we cannot rule out the confounding impact of socioeconomic status differences. As for the latter, we also find that job applicants with Antillean backgrounds face relatively high levels of discrimination. Cultural differences are probably less pronounced between the native-majority and Antillean minorities because the Caribbean islands of the (former) Dutch Antilles are part of the Kingdom of the Netherlands. Yet, future research is warranted to better understand this result. Hence, an important avenue for future research would be to test whether these differences in discrimination rates are indeed related to fine-grained group indicators of cultural distance and socioeconomic group positions. Moreover, future research should pay close attention to the salience of specific subdimensions of cultural group differences (e.g., national values, religion) and the different ways through which employers perceive and respond to these group differences.

Thus, our conclusion that discrimination varies between ethnic minority groups is not in line with ethnic homophily theory (Edo et al. 2019; Jacquemet and Yannelis

2012) and previous field experiments on ethnic discrimination in the Netherlands. For example, Andriessen et al. (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 among 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. Also, one could attempt to study more precisely the relative importance of cultural and socioeconomic characteristics.

Another contribution of our paper is that we investigated an important assumption of statistical discrimination theory (Arrow 1973; Phelps 1972; Thijssen, Coenders, and Lancee, 2021), 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). Importantly, however, it appears that ethnic discrimination does not diminish with the inclusion of additional personal information. This holds for both Western and non-Western minorities. Hence, adding more information to the job application does not reduce discrimination (see also Thijssen, Coenders, and Lancee, 2021; Thijssen, Lancee, Veit, and Yemane, 2019).

We also tested whether discrimination is influenced by the inclusion of separate information treatments (grade, performance, social skills, and professional picture), but find no support for such effects. Interestingly, we find that for the average job applicant, the inclusion of a professional picture increases the callback rate. This might indicate that a professional picture is regarded as a positive signal of productivity. Note, however, that a picture could also make salient the ethnic origin of the job applicant. Future studies, applying vignette designs, observations, or interviews with employers, should investigate in more detail how employers assess and are being influenced by pictures in resumes. Yet, in our field experiment, we find that including a professional picture neither increases nor decreases ethnic discrimination in hiring processes.

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 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 et al. (2010, the Netherlands), Agerström et al. (2012, Sweden), and Koopmans et al. (2018, Germany). In 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 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 process can minimize the impact of group preferences.

Although the current study contributes in important ways to the existing literature on 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 manipulations could be more effective in reducing discrimination. Lastly, it would be interesting to know whether and how the composition of ethnic minorities in the sectors examined in our field experiment is linked to ethnic discrimination in hiring. Theoretically, greater shares of ethnic minorities could be related with decreased (indicative of positive intergroup contact) (Allport 1954) or increased (indicative of group threat) (Blalock 1967) hiring discrimination against ethnic minorities (see, e.g., Pecoraro and Ruedin 2020). Future research is, therefore, encouraged to examine if and to what extent these issues 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 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 ethnic minority job seekers. Indeed, it is difficult for 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 employment discrimination (Neumark 2018; Thijssen, 2020), it seems important to pay more attention to interventions aimed at formalizing hiring processes (Midtbøen 2015), anonymous applications (Krause, Rinne, and Zimmermann 2012), or stricter/proactive anti-discrimination policies by governments (Fang, Guess, and Humphreys 2018).

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s12134-020-00795-w>.

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