

# Discrimination of the Second Generation: Evidence from a Field Experiment in Norway

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**Abstract** A major question in labour market research is the extent to which discrimination in employments causes the disadvantages experienced by children of immigrants. This article contributes to the debate by utilising a correspondence test study in which pairs of equivalent résumés and cover letters—one with a Pakistani name and one with a Norwegian name—were sent in response to 900 job openings in the greater Oslo area. The results show that applicants with Norwegian names on average are 25 % more likely to receive a call back for a job interview than equally qualified applicants with Pakistani names. More refined analyses demonstrate that the effect of ethnic background on employment probabilities is larger among men than women and larger in the private sector than in the public sector, and important variations among the occupations included in the study are revealed. In an effort to separate the potentially conflating effects of gender and sector, all applications to gender-segregated occupations were removed from the analyses. Interestingly, the gender differences disappear when exclusively analysing discrimination in gender-integrated occupations by sector. In gender-integrated occupations in the private sector, the gender difference in fact is reversed, indicating that women with minority background are treated less favourably than are minority men in the private sector. These results suggest that the intersection of gender, ethnicity, and sector should be scrutinised more carefully in future field experiments.

**Keywords** Discrimination · Ethnicity · Field experiment · Employment · Second generation

## Introduction

Persistent patterns of ethnic inequality represent a continual challenge in European labour markets. In particular, the employment opportunities for children of immigrants are a matter of growing concern (Crul and Vermeulen 2003; Heath et al. 2008;

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Thomson and Crul 2007). Contrary to many of their immigrant parents, the so-called second generation<sup>1</sup> usually has acquired linguistic fluency and formal domestic education. As such, they have a substantial capacity for labour market integration (Alba and Waters 2011a). Nevertheless, recent comparative studies suggest that children of immigrants do not have access to employment on par with their majority peers (Crul et al. 2012; Heath and Cheung 2007; OECD 2010). Because several of the factors explaining the challenges facing immigrants in the labour market do not apply to the second generation, these findings have resulted in a renewed interest in the question of employment discrimination. To what extent does discrimination by employers cause the labour market disadvantages currently experienced by children of immigrants?

Traditional methods for studying discrimination can only provide indicative answers to this question. Surveys of potential victims of unequal treatment may result in both over- and under-reported levels of discrimination, surveying employers may conceal the discriminatory practices actually taking place, and statistical analyses cannot rule out the possibility that omitted variables are biasing the effect attributed to ethnic background (Blank et al. 2004; Pager and Shepherd 2008; Quillian 2006). These measurement problems have resulted in an increased interest in field experiments in the social sciences. In a field experiment, two fictitious job candidates apply for the same job opening. The candidates are equally qualified in terms of education and work experience, and are the same sex, the same age, etc., but differ in terms of racial appearance or ethnically distinctive names. Insofar as the results show a systematic preference for one of the candidates, this is evidence of employment discrimination (Pager 2007; Riach and Rich 2002).

In this article, I present the findings from a field experiment in Norway in which pairs of fictitious résumés and cover letters, equal in merit but with different ethnic backgrounds, were sent in response to hundreds of job openings in the greater Oslo area. Pakistani names were chosen to signal ethnic minority background in the study because Pakistani immigrants and their descendants make up a large and well-known minority group in Norway and survey data indicate that this group experiences discrimination in the labour market (Statistics Norway 2009b). Furthermore, as children of Pakistani immigrants constitute the largest single group among the second generation (34 %) and are currently finishing their education and entering the labour market (Statistics Norway 2011: 10), exploring the extent to which this group faces barriers in accessing employment is particularly relevant when assessing the situation for the second generation in Norway.

Although the body of field experimental research is rapidly increasing, (see recent reviews in Charles and Guryan 2011; OECD 2013; Pager 2007), this particular study represents at least two novelties. First, there is an explicit focus on the second generation. With a few notable exceptions (Carlsson 2010; Fibbi et al. 2006; Kaas and Manger 2012), the field experiment methodology has not been used to assess the situation for children of immigrants, and none of these studies relate their findings to the existing literature on the integration of the second generation in Western Europe.

<sup>1</sup> I define the second generation as children of immigrants, either born in their parents' destination country or arrived before adolescence. This definition is in line with Portes and Rumbaut (2005), Thomson and Crul (2007), and Alba and Waters (2011a), but differs from Heath and Cheung (2007), who reserve the term to individuals actually born in the 'host country' by one or more immigrant parents.

Because the experimental design is particularly useful in measuring the extent to which the ethnic background of job candidates directly shapes employment prospects, this study complements existing knowledge of the labour market barriers facing children of immigrants.

Second, it is the first field experiment of employment discrimination ever conducted in a Norwegian context.<sup>2</sup> Norway is a relatively young net immigration country with a traditionally quite homogenous population (Brochmann and Kjeldstadli 2008), and the second generation has just recently entered the labour market (Statistics Norway 2011). In line with previous research on discrimination rates in the European periphery (e.g. McGinnity and Lunn 2011), this might suggest widespread discrimination of ethnic minorities. At the same time, Norway is a social-democratic welfare state with a well-regulated labour market historically oriented towards egalitarian principles and a 'passion for equality' (Graubard 1986), which could have a positive impact on the integration of the children of immigrants. Important characteristics of the Norwegian context thereby point in different directions when it comes to predicting the general employment outcomes for the second generation, making empirical examination of discrimination patterns in the Norwegian labour market an interesting case for analysis.

### Previous Research on the Second Generation

A major debate among migration scholars over the past two decades has concerned the extent to which children of immigrants will assimilate into mainstream society, or face disadvantages similar to, or worse than, their parents. Starting out with notions of a 'second-generation decline' (Gans 1992) and 'segmented assimilation' (Portes and Zhou 1993), influential theorists predicted that significant numbers of the children of immigrants arriving in the USA after 1965 would be incorporated into marginalised sectors of the economy. This pessimistic scenario was later criticised by scholars arguing that the second generation is rather absorbed into and contributes to redefining the 'American mainstream' (Alba and Nee 2003; see also Waldinger and Perlmann 1998). However, recent empirical results have supported the theory of segmented assimilation by documenting that there are indeed different 'modes of incorporation' within the second generation; some groups experience upward mobility while others assimilate into poverty and marginalised positions in the US labour market (Portes et al. 2005, 2009).

The theoretical models used to explain the trajectories of adaptation among children of immigrants were, for many years, dominated by American scholars and developed to understand the particular US context. Recently, however, the applicability of these theories to Western Europe has been questioned (e.g. Alba 2005; Alba and Waters 2011b; Crul et al. 2012; Heath et al. 2008; Thomson and Crul 2007). In line with the optimistic scenario, a comparative study investigating educational merits and labour market outcomes among children of immigrants in several European countries suggests that the second generation on average is experiencing upward mobility compared to their parents (Heath and Cheung 2007). Yet there are large variations between groups;

<sup>2</sup> However, one former field experiment has explored the role of discrimination in the Norwegian housing market (Andersson et al. 2012).

children of immigrants from less-developed countries seem to be severely disadvantaged, indicating that different modes of incorporation are also a reality in the European context (Heath et al. 2008).

A major contribution of the European research has been to highlight the importance of national and institutional variation in determining the opportunities and barriers facing children of immigrants. In some countries, such as Austria, Belgium, and Germany, the second generation seems to experience cumulative patterns of disadvantage even after employment is secured, while in others, such as Britain and Sweden, the barriers mainly exist at the entrance to the labour market (Heath et al. 2008: 220). In Norway, a recent study following the design used by Heath and Cheung (2007) suggests that children of non-European immigrants do have lower chances of being employed compared to equally qualified majority peers, even after controlling for social background (Hermansen 2013; see also Evensen 2009). Yet they do not seem to face cumulative disadvantages, adding Norway to the list of countries in which the barriers to labour market inclusion seem to be highest at the entrance level (Hermansen 2013: 14).

While the above-mentioned empirical studies convincingly demonstrate the fact that children of immigrants all over Western Europe experience ‘ethnic penalties’ in accessing labour market opportunities, the relevance of employment discrimination in explaining these findings is unclear. Although children of immigrants should be highly employable because they have usually acquired fluency in the majority language as well as domestic educational qualifications and work experience, they might lack, for example, the social networks needed to access parts of the labour market (Petersen et al. 2000). Thus, traditional statistical approaches to the study of ethnic disparities cannot rule out alternative interpretations of the disadvantages observed.

### **The Field Experiment Methodology—Strengths and Limitations**

The field experiment methodology offers a more direct approach when compared with the indirect measures of discrimination that characterise quantitative studies. Field experiments appear in two main forms: audit studies and correspondence studies. In audit studies (called ‘situation testing’ in the series of studies conducted by ILO in the 1990s), pairs of individuals who are matched in terms of relevant productivity characteristics, but who differ in racial visibility, apply for real-world jobs by appearing in person (e.g. Pager 2003; Pager et al. 2009). In correspondence studies, matched pairs of résumés differing in the names of the applicants (signalling different race or ethnicity) are sent to job openings (e.g. Andriessen et al. 2012; Oreopoulos 2011). In both types, the direct effect of race or ethnicity on employment opportunities is measured, and because all other factors are isolated and the résumés are randomly assigned to the test persons, well-conducted field experiments provide convincing estimates of the prevalence of racial or ethnic discrimination in specific labour markets (Quillian 2006: 303).

It is important to note that the concept of discrimination implicit in field experiments differs somewhat from the standard definition of discrimination, which refers to the unequal treatment of individuals or groups on the grounds of their ethnic background. Because field experiments used for research purposes construct situations or ‘tests’ in which employers are considering paired résumés of identical quality, the single act of

choosing one candidate in favour of another may be the result of a coincidence. As Pager and Western (2012: 233) argue, the strength of field experiments is not to detect discriminatory tendencies of any given employer (which would require multiple tests of the same employer), but to explore whether minority applicants are *systematically* disadvantaged in accessing employment. Furthermore, although providing a 'clean' estimate of discrimination in hiring, field experiments do not measure differential treatment in processes of wage negotiation, promotion, and firing—nor do they shed light on neutral rules with disparate impact on different groups or workplace cultures characterised by in-group favouritism (see Craig 2007; Sturm 2001 for these aspects of discrimination). What field experiments do measure are the average effects of race or ethnically distinct names on employment opportunities.

Despite its advantages, the field experiment tradition has also been the subject of debate. Some scholars point to the deceptive character of the method, discussing the ethical problems attached to presenting fictitious job candidates to employers (e.g. Banton 1997; Riach and Rich 2004; Rogstad 1996). Others are concerned with the researcher's ability to construct real-world test persons as well as with the representativeness of the results due to the limited part of the labour market that has been subjected to experimental research (Heckman 1998; Heckman and Siegelman 1993). However, most of these challenges relate to in-person audit studies. In correspondence studies, employers are never confronted with actual individuals, making the ethical problems less prominent (although they do not disappear) and eliminating the potential biasing effects of different performance levels and first impressions. Moreover, because correspondence studies allow for more tests in a broader portion of the labour market, the problem of representativeness is less decisive (see Midtbøen and Rogstad 2012 for a detailed account of these points). Of course, audit studies have the benefit of observing employment processes to the actual hiring stage, while correspondence studies measure differences in job interview offers (so-called callback gaps). Still, a review of existing field experiments suggests that the level of discrimination is highest in the callback stage of the application process (Riach and Rich 2002: 494), making this limitation less important.

A major disadvantage of correspondence studies concerns the uncertainty as to what a name represents in practice. In a much cited correspondence study from the USA (Bertrand and Mullainathan 2004), 'African-American' and 'White-sounding' names were used to signal racial differences between the fictitious applicants. As the authors discuss, the names could also signal different social backgrounds, indicating that employers may be inferring class differences rather than racial differences from the names, which potentially could bias the measured effect of race on employment prospects (Bertrand and Mullainathan 2004: 1007).

In a European context, field experiments usually measure the prevalence of ethnic rather than racial discrimination. Yet there is no straightforward relationship between names and ethnicity. For the employers, a foreign name may evoke associations to nationality or religion, not only to ethnic background. For example, although Pakistani names signal ethnic minority background in this field experiment, the names may also signal a more general Muslim background. Furthermore, operationalising ethnic minority background by Pakistani names challenges the ability to generalise the findings to other ethnic groups. Social-psychological research has suggested that ethnic groups which are considered culturally and socially deviant are ranked lower than others (Snellman and

Ekehammar 2005) and there are reasons to suspect that Muslims are particularly low-ranked in European countries today (Adida et al. 2012), although this topic is debated (e.g. Strabac et al. 2013). A Muslim name may thus evoke stronger prejudices and lead to higher discrimination rates than would a non-Muslim foreign name.

Previous field experiments provide a rather mixed picture when assessing the relevance of ethnic hierarchies in employers' decision-making. Some studies report different discrimination rates between ethnic groups (e.g. Booth et al. 2012; Fibbi et al. 2006) while others conclude that the differences between groups are surprisingly small (e.g. Andriessen et al. 2012; Bursell 2014). In Ireland, most notably, McGinnity and Lunn (2011) found that fictitious applicants with Irish names were more than twice as likely to receive a call back as applicants with foreign names, but no significant differences were found between applicants with African, Asian, and German names. These contradictory results serve as a reminder that although the field experiment literature often refers to general notions of 'ethnic discrimination', what a correspondence study precisely measures is the probability of receiving a job interview offer for fictitious applicants with particular foreign names compared with equally qualified applicants with native names.

In this study, the minority applicants have Pakistani names, and the discrimination rates are not directly transferable to other groups. However, as the fictitious job candidates are young (25 years), the résumés and cover letters are written in fluent Norwegian and all schooling and work experiences are from Norway, the minority applicants represent credible *descendants* of Pakistani immigrants applying for work. Thus, the findings shed light on the employment opportunities of a large section of the second generation in Norway, currently finishing their education and entering the labour market.

Obviously, employers may not perceive the fictitious applicants as children of immigrants. Qualitative research suggests that the second generation appears 'invisible' in the eyes of Norwegian employers, indicating that applicants with foreign names are perceived as immigrants regardless of what is stated in their résumés (Midtbøen 2014). A recent field experiment in Sweden (Carlsson 2010) has further documented significant callback gaps between applicants with native Swedish names and Arabic names, but no differences between minority applicants from the first and second generation, suggesting a lacking awareness of children of immigrants as prospective applicants. Still, these findings should not keep researchers from conducting field experiments to measure the extent to which children of immigrants experience discrimination in employment processes. If second-generation applicants are perceived as immigrants, and it constitutes a significant barrier to receiving job interview offers, then this perception represents a major challenge to the structural inclusion of descendants of immigrants, which should be addressed by empirical research and receive more attention in public debate.

## Research Design

### Constructing Pairs of Fictitious Job Candidates

The main objective of a field experiment is to isolate the causal effect of ethnic background on employment prospects. In a correspondence study, this entails the



challenge of constructing pairs of résumés and cover letters that are equal in all factors other than the name, but which at the same time are both different and reliable—to be perceived by employers as two actual candidates applying for the same job.

In this study, these requirements were met in the following way. The fictitious job candidates in each pair had similar educational merits, work experience, and language and computer skills. Text was written in fluent Norwegian, and the candidates always met the formal requirements listed in the job advertisement. The only practical difference between the two applicants was their names, with one applicant in each pair having a Pakistani name and the other a native Norwegian name.<sup>3</sup> As mentioned above, Pakistani names were chosen to represent ‘ethnic minority background’ in the study because Pakistani immigrants and their children constitute one of the largest minority groups in Norway, and Norwegian-born individuals with a Pakistani background constitute by far the largest group among the second generation (Statistics Norway 2011). As such, using Pakistani names increased the probability that employers considered the fictitious minority applicants as being children of immigrants.

To make the fictitious résumés and cover letters in each pair look different, cosmetic adjustments were made. While keeping the content of the paired applications identical, the fonts varied, and the order of listed qualifications in the résumés and the exact wording in the cover letters were somewhat different. Obviously, this could result in a measurement error due to potential quality differences within each pair. To avoid any systematic relationship between signatures and texts, however, the names of the applicants were randomly assigned to the documents. Furthermore, as each job application consisted of one résumé and one cover letter, the combination of these two documents was switched halfway through the experiment. Consequently, any systematic difference in callback rates between the fictitious applicants is attributed to their different names and interpreted as an effect of discrimination.

Finally, the reliability of both résumés and cover letters was ensured by presenting first drafts to experienced recruitment personnel. Based on their advice concerning both appropriateness and equivalence, paired templates were obtained for each occupation. In practice, new skills (e.g. familiarity with specific computer programmes) were added when necessary, and the wording in the cover letters was slightly adjusted to fit each job posting.

### Gender, Sector, and Occupation

Recent field experiments have suggested that discrimination rates are affected by occupational characteristics and the gender of the applicants (e.g. Andriessen et al. 2012; Bursell 2014). To explore whether the effect of ethnic minority background also varies with gender, sector, or occupation in the Norwegian labour market, two pairs of fictitious résumés and cover letters—one female pair and one male pair—were sent in response to job opportunities in 12 occupational categories in both the private and the public sectors. The sample included jobs requiring a low skill level (e.g. auxiliary nurses, warehouse workers, and drivers) and jobs requiring 3 to 4 years of formal education (e.g. primary school teachers, financial controllers, and IT advisors).

<sup>3</sup> The Pakistani names used in the experiment were Kamran Ahmad and Saera Rashid; the Norwegian names were Andreas Hansen and Ida Johansen.

Compared to many other countries, a high percentage of the adult population in Norway is employed. This is mostly due to the large proportion of working women; seven out of ten women and almost eight out of ten men are currently employed. However, the Norwegian labour market is characterised by quite high levels of occupational gender segregation (EGGE 2009). Women dominate the large public sector, in which more than 30 % of the total work force is employed (Statistics Norway 2009a).

These characteristics of the Norwegian labour market were considered when implementing the field experiment. To not ‘disturb’ the treatment variable (ethnicity), the structure of occupational gender segregation was considered in the sense that the pair of fictitious female job candidates applied to occupations dominated by women (e.g. within health and social work), while the pair of male candidates applied to occupations already dominated by men (e.g. transport and warehousing). This way, situations in which minority applicants of the under-represented gender were preferred or rejected based on gender, rather than ethnic background, were avoided.

The disadvantage of this strategy is, however, that the discrimination rates in female and male-dominated occupations cannot be compared directly and that what appears as gender effects may in fact be the effect of sector or occupational characteristics. Therefore, more gender-balanced occupations in financial services, teaching, communications, and public administration were also included in the sample.<sup>4</sup> To these occupations, both the female and the male pairs of fictitious applicants were sent (although not to the same job vacancies), enabling an opportunity to explore possible gendered effects of ethnic discrimination. Table 1 provides an overview of the number of résumés, by gender and occupation.

### Implementing the Field Experiment

Employers were sampled from job postings on the main recruitment websites in Norway—*finn.no* (private) and *nav.no* (state funded). In principle, the experiment included every job listed on these websites within the 12 occupational categories, in the greater Oslo area, and in the period the data were collected. However, there were a few exceptions to this rule. Some employers had several listings in this period, and unless they were large corporations divided into different sections with their own recruitment personnel, only one pair of applications was sent to each listing.

Each of the four fictitious job candidates had a real cell phone number and e-mail address as well as a fictitious postal address, and these contact details were included on each résumé. The documents were primarily sent from the fictitious applicants’ e-mail addresses or uploaded to the recruitment websites. However, a substantial number (29 %) of the companies did not allow documents to be uploaded. Instead, they had forms where applicants were required to register their contact information, résumés, and brief statements describing why they were suited for the job. Although this process was time-consuming, companies using these recruitment procedures were also included

<sup>4</sup> In the six industries covered in this field experiment, the share of women is as follows: health and social work (82.1%), teaching (62.7%), public administration (47.4%), finance and insurance (43.1%), information and communications (29.5%), and transport and logistics (21.4%). The numbers have been collected from Statistics Norway’s Labour Force Survey 2011. The main findings from this survey are available in English: [http://www.ssb.no/english/subjects/06/01/yrkeaku\\_en/](http://www.ssb.no/english/subjects/06/01/yrkeaku_en/).



**Table 1** Number of résumés by gender and occupation

Occupation	Women	Men	Total
Female-dominated occupations			
Preschool teacher	262	0	262
Nurse	192	0	192
Auxiliary nurse	40	0	40
Male-dominated occupations			
IT advisor	0	218	218
Warehouse worker	0	144	144
Driver	0	100	100
Gender-balanced occupations			
Primary school teacher	84	56	140
Public consultant	56	40	96
Information officer	16	98	114
Accounting assistant	94	130	224
Insurance advisor	56	94	150
Controller	48	72	120
Total	848	952	1800

in the sample, because public companies were over-represented in this group and it was desirable to compare callback rates between the public and private sectors.

Employers contacting the fictitious applicants on cell phones were directed to a personal voice mail presenting (in fluent Norwegian) the name of the applicant and encouraging contact information to be shared. The research team monitored all voice mails and e-mails at least once a day. When the applicants received a job interview offer, the responses were carefully registered and matched with the data on each test (e.g. date of test, company name and address, job type, listed requirements, and gender of the applicant). Depending on whether the responses were given via phone or e-mail, the interview offers were politely refused by text message or e-mail. Because the postal addresses were fictitious, any attempts by employers to contact the applicants by post could not be measured, but previous research has suggested that this probably had minor effects on the overall results, since very few employers today contact applicants by ordinary mail (Bertrand and Mullainathan 2004: 997).<sup>5</sup>

As Andriessen et al. (2012: 249) note, a callback by phone is not necessarily synonymous with a job interview offer. For example, employers may want to let applicants know in person that they are not suitable for a job. Thus, employers who left a message asking the applicant to call back received a text message or an e-mail to determine whether the enquiry was equivalent to a job interview offer. In the vast majority of cases, a callback was indeed meant for a job interview, and the employers' response was registered as such. This extra effort resulted in a clear dependent variable

<sup>5</sup> Subsequent interviews with a subsample of the employers included in this field experiment confirmed that this is the case also in the Norwegian labour market context.

measuring the rate of job interview offers rather than the more ambiguous callback rate, which has been most frequently used in the field experiment literature.

## Experimental Results

### Descriptive Results

The correspondence study was conducted between November 2009 and November 2010, and the paired, fictitious résumés and cover letters were sent in response to a total number of 900 job openings. Each test had four possible outcomes: neither of the applicants is invited for a job interview, both are invited, only the majority candidate is invited, or only the minority candidate is invited. The first row in Table 2 shows the aggregate distribution of outcomes. In 497 out of 900 cases, neither of the fictitious candidates received a job interview offer, while both candidates were invited in 269 cases. In 116 cases, the applicant with a Norwegian name was the only one receiving a job interview offer, while in 18 cases, only the applicant with a Pakistani name was invited.

This difference in job interview offers between the two fictitious candidates results in a so-called net discrimination rate of 24.3 % [column 6]. This is a measure calculated by dividing the difference between the positive responses where only the majority candidate was preferred [4] and the positive responses where only the minority applicant was preferred [5], by the sum of all positive responses [3]+[4]+[5]. However, what this measure of discrimination actually means is somewhat unclear, and there is an ongoing controversy about how it should be calculated (Heckman 1998; Riach and Rich 2002). Thus, I also include the ratio of positive callbacks received by majority applicants to those received by minority applicants [column 9]. The ratio shows how many more applications the minority applicant have to submit in order to receive the same number of positive responses as the majority applicant and was the measure of discrimination preferred in a recent review of recent field experiments (OECD 2013). When discussing the findings of this study, however, I follow the procedure in the American field experiment literature (e.g. Bertrand and Mullainathan 2004; Tilesik 2011) and simply refer to the probability of receiving a job interview offer for the minority candidate relative to that of the majority candidate, a measure calculated by comparing the percentage difference in positive callbacks between the applicants.

As columns [7] and [8] in the first row of Table 2 demonstrate, the fictitious job candidates with a Norwegian name were invited to a job interview 42.8 % of the time, while the applicants with a Pakistani name were invited 31.9 % of the time. This difference of 10.9 percentage points implies that having a Pakistani name reduces the probability of receiving a job interview offer by 25.5 %. Being statistically significant at the 1 % level, the callback gap between equally qualified job candidates clearly demonstrates that children of Pakistani immigrants do experience discrimination at the entrance to the Norwegian labour market. This overall finding effectively expands our knowledge of what causes the previously documented ‘ethnic penalties’ experienced by this group in Norway (Hermansen 2013).

However, the remaining rows in Table 2 demonstrate that there are large variations in the experimental results. Separating the results by *gender* suggests that ethnic

Table 2 Classification of responses and mean callback rates, by ethnic background

	Number of jobs [1]	None invited [2]	Both invited [3]	Only majority invited [4]	Only minority invited [5]	Net discrimination rate (%) [6]	Percentage callback Norwegian names [7]	Percentage callback Pakistani names [8]	Ratio [9]	Percentage difference ( <i>p</i> value) [10]
Aggregate results	900	497	269	116	18	24.3	42.8	31.9	1.34	10.9**
Gender										
Women	424	176	194	47	7	16.1	56.9	47.5	1.20	9.4**
Men	476	321	75	69	11	37.4	30.3	17.8	1.70	12.5**
Sector										
Private sector	597	347	135	100	15	34.0	39.3	25.1	1.57	14.2**
Public sector	303	150	134	16	3	8.7	49.5	44.4	1.11	5.1
Occupation										
Pre-school teacher	131	28	89	11	3	7.8	76.3	70.2	1.08	6.1
Primary school teacher	70	26	41	3	0	6.8	62.8	58.6	1.07	4.2
Nurse	96	37	47	9	3	12.2	58.9	52.1	1.13	6.8
Auxiliary nurse	20	11	5	4	0	10.2	45.0	25.0	1.80	20.0
Public consultant	48	38	8	2	0	20.0	20.8	16.6	1.25	4.2
IT advisor	109	74	21	12	2	28.6	30.3	21.1	1.43	9.2
Information officer	57	51	2	2	2	0	7.0	7.0	1.00	0.0
Accounting assistant	112	69	23	19	1	41.9	37.5	21.4	1.75	16.1**
Insurance advisor	75	42	16	16	1	45.5	42.6	22.6	1.88	20.0**
Controller	60	49	4	7	0	63.6	18.4	6.7	2.75	11.7**
Warehouse worker	72	51	5	13	3	47.6	25.0	11.1	2.25	13.9*
Driver	50	21	8	18	3	51.7	52.0	22.0	2.36	30.0**

The net discrimination rate is estimated by dividing the difference between the positive responses where only the majority candidate was preferred [4] and the positive responses where only the minority applicant was preferred [5], by the sum of all positive responses [3]+[4]+[5]. This table reports descriptive results for the entire sample and different subsamples of the matched job applications. Column [1] reports the number of job advertisements (i.e. tests). Columns [2]–[5] report the number of tests resulting in the four possible outcomes of each test. Column [6] reports the net discrimination rate. Columns [7] and [8] report the callback rates for applicants with a Norwegian name and a Pakistani name, respectively, and column [9] denotes the ratio between the two. Finally, column [10] reports the difference in percentage points between the two callback rates, as well as the *p* value, testing the null hypothesis that the callback rates are equal across ethnic groups

\**p*<0.05, \*\**p*<0.01

discrimination is far more prevalent among the fictitious male applicants than among their female counterparts. Among the male pairs of applicants, the majority candidate had a 30.3 % chance of receiving a positive response from employers; the minority candidate had only a 17.8 % chance. Thus, a Pakistani name reduces the likelihood of being invited to a job interview by 41.3 % compared to an equally qualified candidate with a Norwegian name. Among women, the effect of ethnic background is much less pronounced. A Pakistani name reduced the probability of receiving a call back by 16.5 % for women, although both callback gaps are statistically significant ( $p < 0.01$ ).

The differences in responses between the private and the public sectors are even more striking. In the private sector, the probability of receiving a job interview offer for applicants with Pakistani names is reduced by 36.1 % compared to applicants with Norwegian names ( $p < 0.01$ ). In the public sector, the callback gap between the candidates is small and not significant at all. Furthermore, the last 12 rows in Table 2 document a considerable *occupational* variation. For example, in applications for job openings as drivers and warehouse workers, applicants with Pakistani names had a 57.7 and a 55.6 % less chance, respectively, of receiving a callback, while the effects of ethnic background in occupations like pre-school teacher, nurse, and public consultant are small and not significant.

In line with a recent field experiment in the Dutch labour market (Andriessen et al. 2012), there is a tendency for the extent of discrimination to be greater in low-skilled jobs than in jobs requiring higher education. Interestingly, however, the highest discrimination rates are registered in applications for positions as financial controllers. This occupational category requires at least 3 years of higher education, indicating that there is no straightforward relationship between discrimination rates and educational level. Furthermore, the large differences across occupations clearly demonstrate that the overall findings from field experiments should be interpreted with caution, as the occupations included in a sample may have major effects on the discrimination rates derived from the experiment.

### Disentangling the Effects of Gender, Sector, and Occupation

In a recent paper presenting a correspondence study of gender discrimination in Britain, Riach and Rich (2006) note that the logical imperative of field experiments is to design and match paired résumés in a way that controls for all factors, other than the name, which may affect the rate of job interview offers. Because the fictitious résumés in each pair are identical in terms of human capital characteristics, any systematic preference for either of the candidates is attributable to the name difference, and the data cannot be controlled for more formally, e.g. by regression analysis. Thus, according to Riach and Rich (2006: 6), ‘the scientific challenge in field experiments is careful ex ante design; not ex post statistical manipulation.’

Still, there is need for more detailed empirical analyses. The numbers in Table 2 do not clarify whether the effect of ethnic background on callback rates is in fact larger in, for example, the private sector than in the public sector or mainly an effect of gender or occupational characteristics. Because the fictitious résumés and cover letters from the male pairs of applicants were often sent in response to job openings in male-dominated occupations in the private sector, while the female pairs mainly applied to female-dominated occupations in the public sector, the relative effects of gender, sector, and

occupation on the overall results are conflated. Therefore, as a first step, all applications to gender-segregated occupations were removed from the analysis. The gender-*integrated* occupations in the sample consisted of primary school teachers, public consultants, accounting assistants, insurance advisors, information officers, and financial controllers. For these positions, both the fictitious male and female pairs of job candidates applied (cf. Table 1), and the callback rates between men and women are more directly comparable.

Table 3 shows the callback rates by ethnic background in gender-integrated occupations. The first row demonstrates that the negative effect of a Pakistani name on callback rates increases when exploring only this occupational subsample. For the total numbers, the probability of receiving a job interview offer is reduced by 32.1 % for applicants with Pakistani names compared to equally qualified applicants with Norwegian names. Separating these numbers by gender, the next two rows demonstrate that although the gender difference is clearly smaller when omitting the gender-segregated occupations from the analysis, a certain pattern of gender difference persists. A Pakistani name reduces the probability of receiving a job interview offer by 36.1 % for men and 28.8 % for women.

However, separating the results for gender-integrated occupations by *sector* provides some interesting results. The mid-rows of Table 3 display the results for the private sector. Here, the effect of ethnic background is large and statistically significant for the total number of applications, and the gender differences are actually turned upside down: The probability of receiving a call back for applicants with Pakistani names is reduced by 52 % for women and 40 % for men. Thus, in contrast to what the overall findings suggest, minority women do not seem to be treated more favourably than minority men when applying for jobs in gender-integrated occupations in the private sector.

**Table 3** Callback rates by ethnic background in gender-integrated occupations. Separate numbers for men and women in the private and the public sector

Sample ( $n$ =job ads)	% Callback			
	Majority	Minority	Ratio	Percentage point difference
Both private and public sector				
Total ( $n$ =408)	34.9	23.7	1.47	11.2**
Men ( $n$ =233)	28.8	18.4	1.57	10.4**
Women ( $n$ =175)	43.4	30.9	1.40	12.5**
Private sector				
Total ( $n$ =257)	32.3	17.7	1.82	14.6**
Men ( $n$ =156)	31.0	18.4	1.68	12.6**
Women ( $n$ =101)	34.9	16.5	2.12	18.4**
Public sector				
Total ( $n$ =151)	36.5	33.1	1.10	3.4
Men ( $n$ =74)	19.5	16.9	1.15	2.6
Women ( $n$ =77)	54.1	50	1.08	4.1

\*\* $p < 0.01$

In the public sector, the picture is different. Here, the effect of ethnic background is minimal and the callback gaps by ethnicity are not statistically significant for women or men. Interestingly, however, the female applicant pairs are invited to job interviews in gender-integrated occupations far more often than the male pairs. In fact, minority women receive a callback more than twice as often as majority men do.

The results presented in Table 3 suggest that the negative effect of a Pakistani name on the probability of receiving a job interview offer is much larger in gender-integrated occupations in the private sector than in the public sector and that the gendered effect of ethnic discrimination seems to disappear when separating the results by sector. In order to explore the net effect of ethnic background and sector in gender-integrated occupations, I use a linear probability model on callbacks (defined as a binary variable in which 1 equals a callback by employers).<sup>6</sup> In Table 4, model 1 displays the effect of a Pakistani name on the probability of receiving a job interview offer, controlling for gender, sector, and occupation. Model 2, moreover, tests the findings in Table 3 by accounting for the interaction effects between a Pakistani name and sector while controlling for gender and occupation.

In model 1, the first row shows that when applying for jobs in gender-integrated occupations, the probability of receiving a job interview offer for applicants with Pakistani names is reduced by 11 percentage points compared to applicants with Norwegian names. The second row demonstrates that applicants with Norwegian names in the private sector are 14.5 percentage points more likely to receive a callback than applicants with Pakistani names, controlling for gender and occupation. Finally, the third row shows that male applicants—when controlling for name, sector, and occupation—in general have a callback probability that is 7 percentage points lower than callbacks for female applicants.

In model 2, the first row reports the effect of a Pakistani name on callback probabilities in the public sector, controlling for gender and occupation. Being a minor and not significant effect, this model supports the finding that ethnic background does not affect callback rates in the public sector. This is further strengthened by the statistically significant interaction effect for a Pakistani name and private sector, suggesting that applicants with Pakistani names are experiencing lower callback probabilities (−12.3 percentage points) in gender-integrated occupations in the private sector, irrespective of gender and occupation.<sup>7</sup>

<sup>6</sup> Many social scientists would employ a logistic regression model in this case, as the dependent variable is a binary one. Following Mood's (2010) arguments, however, a linear probability model can be equally appropriate. As I am only interested in the significance of the net effects of ethnic background and sector in gender-integrated occupations, as well as in the interaction effects between a Pakistani name and sector, using a logistic regression model and converting the estimates to average marginal effects or probabilities in this case seems to be a 'complicated detour' (cf. Mood 2010: 78). I have run the analysis using logistic regression as well (not shown here) and the results are nearly identical.

<sup>7</sup> The remaining rows in Table 4 show that all the callback rates in the occupations included in the models are significantly different from the reference category (average callback rate for primary school teacher positions net of gender, ethnic background and sector). I have also investigated whether the net callback rates in the different occupations are statistically significant from each other: Net callback rates for insurance advisors, accounting assistants, and public consultants are significantly different from controllers and information officers but not from each other. Net callback rates for controllers and information officers are very low and not significantly different from each other.



**Table 4** Linear probability of receiving a callback in gender-integrated occupations

Callback	Model 1	Model 2
Pakistani name	-0.11***	-0.033
Private sector	0.145***	0.207***
Pakistani name*private sector		-0.123*
Male	-0.071*	-0.071*
Insurance advisor	-0.389***	-0.389***
Accounting assistant	-0.419***	-0.419***
Controller	-0.602***	-0.602***
Public consultant	-0.41***	-0.41***
Information officer	-0.61***	-0.61***
Constant	0.687***	0.648***
Number of applications	816	816
$R^2$	0.17	0.17

The reference category is the average callback rate for female applicants with Norwegian names, applying for positions as primary school teachers in the public sector

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

Of course, these numbers are based on a relatively small sample of occupations, and one should be cautious in drawing firm conclusions about how job candidates are received when applying for positions in the private and the public sectors in general. However, studies of legal cases in the USA (Rosigno 2007; Byron 2010) as well as recent field experiments from Sweden (Ahmed et al. 2013) and Great Britain (Wood et al. 2009) report that employment discrimination is more prevalent in the private sector, indicating that the striking sector differences reported here may reflect that ethnic discrimination indeed is more widespread in the private sector than in the public sector in Norway.

A number of factors could explain that private sector employers discriminate more than public sector employers do. For example, it is possible that the public sector in general attracts individuals that have less ‘taste for discrimination’ (Becker 1957). In that case, the differences in discrimination rates could simply reflect the unequal distribution of prejudices against hiring ethnic minorities between the sectors. However, the sector differences could also be the result of organisational-level factors ‘in work’ above the level of individual biases. Compared to the private sector, employment processes in the public sector in Norway is generally characterised by high levels of formalisation. As has been suggested by several scholars (e.g. Bielby 2010; Brief 2008; Reskin 2008), formalised recruitment procedures may prevent negative attitudes and stereotypes from being translated into discriminatory behaviour. Employment processes guided by discretionary decisions—which are more frequently occurring in the private sector—may on the other hand lead to discrimination despite employers’ best intentions (see Midtbøen forthcoming for an elaboration of this point). As such, the striking sector differences in the magnitude of ethnic discrimination in Norway may not reflect attitudinal differences between the sectors, but rather illustrate that the extent to which employment processes result in discrimination is shaped by factors at the organisational level.

## Concluding Discussion

Ethnic inequalities in European labour markets persist despite the rapid development of anti-discrimination legislation, political integration efforts, and impressive educational achievements among the second generation in many countries. Yet the extent to which employment discrimination may account for the disadvantages experienced by children of immigrants is notoriously difficult to assess. A number of traditional quantitative studies have documented that the second generation in Europe does face 'ethnic penalties' when compared to equally qualified majority peers, particularly at the entrance to the labour market (see Heath et al. 2008 for a review). Nevertheless, these studies cannot rule out alternative explanations for the observed disadvantages; for example, omitted variables or ethnic differences in the access to social networks may explain the disparities in employment reported.

Presenting the main findings from the first field experiment conducted in the Norwegian labour market, this article documents that discrimination is a relevant explanation for the ethnic inequalities observed. By sending 900 pairs of fictitious résumés and cover letters, with equal merits, but with names signalling different ethnic backgrounds, this study has demonstrated that children of Pakistani immigrants have a 25 % lower probability of receiving a job interview offer compared to equally qualified applicants with Norwegian names. This complements the findings from previous quantitative studies (Evensen 2009; Hermansen 2013), suggesting that employment discrimination indeed is an important contributor to the barriers facing the second generation at the entrance to the labour market in Norway.

This study sheds light on the employment prospects for young individuals with Pakistani names in the particular Norwegian context and cannot easily be transferred to other groups or compared to other countries. A Pakistani name may, in the eyes of employers, signal that a job candidate belongs to a certain ethnic group, but the name could also signal, for example, a more general Muslim background. If this is the case, what is measured here is a reluctance to hire young Muslims, and the employer preference for applicants with Norwegian names may be more pronounced when compared to applicants with Pakistani or Muslim names than when compared to other ethnic or religious groups. However, as some former field experiments have reported considerable differences between groups while others have not, comparing callback gaps between native Norwegians and only one minority group makes it impossible to predict the differences in discrimination rates among other groups in the Norwegian labour market. Consequently, this study cannot determine whether children of Pakistani immigrants are the subject of particularly high levels of discrimination or whether it is just a foreign name—no matter what ethnic or religious group it signals—which creates the barrier to employment.

The empirical analyses suggested that the effect of ethnic background on employment probabilities was large and statistically significant in gender-integrated occupations in the private sector, but small and not significant in the public sector. This is interesting for several reasons. First, recent studies have suggested that minority men are more exposed to employment discrimination than are women (e.g. Bursell 2014; Andriessen et al. 2012). At first glance, the results of this study support these findings. However, the gender differences disappear when separating gender-integrated occupations by sector. In gender-integrated occupations in the private sector, the gender difference is even reversed,

indicating that women with a minority background are treated less favourably than minority men in the private sector. These results suggest that the interaction of gender, ethnicity, and sector should be scrutinised more carefully in future field experiments.

Second, the public/private sector divide is interesting because the public sector in Norway is large compared to most European countries—more than 30 % of the total workforce is employed in public companies—and it is well known for the relatively high levels of formal education required for permanent employment (Statistics Norway 2009a). Because the fictitious job candidates used in this experiment were always given the qualifications required, the small and not significant callback gaps in applications to public positions indicate that the public sector may serve as an important employment arena for the second generation in the years to come. Furthermore, it serves as a reminder that the size of the public sector may prove important in determining the level of discrimination experienced by children of immigrants in different countries, indicating that sector differences should receive more attention in comparative research on integration and discrimination.

Finally, highlighting the large public sector as a distinctive feature of the Norwegian labour market is relevant to the literature on children of immigrants in Europe, as it relates to the ongoing discussion about the relevance of integration contexts. Considering the differences in education systems, labour market regulations, and welfare state arrangements in European countries, a major question concerns the extent to which institutional contexts influence the trajectories of integration (Crul et al. 2012). Previous research has pointed to Sweden and Norway as examples of countries in which access to labour market opportunities has proved difficult for children of immigrants, but where there are few indications of cumulative disadvantage once employment is secured (Heath and Cheung 2007; Hermansen 2013; Reisel et al. 2012). Future research should consider the opportunities for conducting comparative field experiments to explore the link between the welfare state and integration regimes and the modes of incorporation experienced by the second generation in Europe.

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