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Ali Ahmed and Mats Hammarstedt

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Ali Ahmed
Department of Management and Engineering
Linköping University
SE-581 83 Linköping, Sweden
Email: ali.ahmed@liu.se

Mats Hammarstedt
Linnæus University Centre for Discrimination and Integration Studies
Linnæus University
SE- 351 95 Växjö, Sweden
The Research Institute for Industrial Economics (IFN)
SE-102 15 Stockholm, Sweden
Email: mats.hammarstedt@lnu.se

Abstract

We present a field experiment conducted in order to explore the existence of ethnic discrimination in contact with public authorities. Two fictitious parents, one with a Swedish-sounding name and one with an Arabic-sounding name, sent email inquiries to all Swedish municipalities asking for information about preschool admission for their children. Results show that the parents were treated differently by the municipalities since the individual with the Swedish-sounding name received significantly more responses that answered the question in the inquiry than the individual with the Arabic-sounding name. Also, the individual with the Swedish-sounding name received more warm answers than the individual with the Arabic-sounding name in the sense that the answer from the municipality started with a personal salutation. We conclude that ethnic discrimination is prevalent in public sector contacts and that this discrimination has implications for the integration of immigrants and their children.

1. Introduction

Today, there is a relatively large body of research that has used field experiments in order to detect ethnic and other forms of discrimination in different markets (Bertrand and Duflo, 2017; Riach and Rich, 2002). In an early audit study, Yinger (1986) documented racial discrimination in the U.S. housing market. Years later, Bertrand and Mullainathan (2004) conducted a correspondence test experiment of racial discrimination in the U.S. labor market that became extremely influential in the field. Since then, field experiments has been used to document discrimination against different groups of people in the labor and housing markets in several countries around the world (Baert, 2018; Bertrand and Duflo, 2017; Neumark, 2018; Pager, 2007; Riach and Rich, 2002).

While much attention has been paid to the existence of ethnic discrimination in labor and housing markets, less attention has been paid to the extent to which ethnic discrimination exists in contacts with public authorities. Against this background, we conduct a field experiment in order to study the prevalence of discrimination against individuals with Arabic-sounding names in contacts with public authorities in Sweden. Since previous field experiments has shown that individuals with Arabic-sounding names are discriminated against in the labor as well as in the housing market in Sweden, the country is for sure a suitable ground for a test of ethnic discrimination by public authorities (Ahmed, Andersson and Hammarstedt, 2010; Ahmed and Hammarstedt, 2008; Bursell, 2014; Carlsson and Rooth, 2007).

The experiment was possible to implement by the fact that the Swedish municipalities according to the *Education Act* are responsible for arranging preschool for children from the age of one year (Swedish Code of Statutes, 2010:800). We test the extent to which public authorities treat people with Arabic-sounding names differently than people with Swedish-sounding names by sending fictive inquiries to all Swedish municipalities regarding preschool admission of children. All municipalities received an email from an individual with either a Swedish-sounding or an Arabic-sounding male name, stating that their child needed a preschool admission. In the email, the applicants asked a question regarding information about how to apply for preschool for their child. Our outcome variables consisted of municipality response rates as well as subtle nuances in the municipality responses. Hence, we attempted to capture both overt and covert forms of discriminations.

The policy relevance of our study is obvious. If, for example, certain groups of immigrants have less access to preschool attendance for their children this may reduce the

labor supply of the immigrant parents. Research has also shown that there are positive effects of preschool attendance for children as regards educational attainment, employment, and earnings later in life and that preschool attendance is an effective way to improve language knowledge among the children of immigrants (Dietrichson et al., 2018; Drange, 2018). Further, research has also shown that access to preschool has positive health effects for children with unemployed parents (Aalto et al., 2019). Thus, if immigrants have less access to preschool for their children than natives do, this may be a serious barrier integration of immigrants and their next generations.

To our knowledge, only one previous study has conducted a field experiment with the same purpose and similar setup as the present one (Adman and Jansson, 2017). Adman and Jansson (2017) found that municipality responses were significantly less friendlier and welcoming to individuals with Arabic-sounding names than to individuals with Swedish-sounding names. They also found tendencies to differences (yet, not statistically significant differences), associated with the inquirers' ethnicity, in municipality response rates and in the amount of information delivered by the municipalities. The present experiment differs from Adman and Jansson (2017) in two ways. First, Adman and Jansson (2017) included both female and male inquirers in their experimental design, which is normally desirable since ethnic discrimination against people may also depend on their sex (Bursell, 2014). However, such a design is only feasible if the sample size of a study can be chosen accordingly. Since there are only 290 municipalities in Sweden, the 2 (female- and male-sounding name) $\times$ 2 (Arabic- and Swedish-sounding name) experimental study of Adman and Janson (2017), on the one hand, suffered from a low statistical power on a disaggregate level (results by sex and ethnicity of the inquirers) and, on the other hand, faced the risk of offsetting or mixing the results on an aggregate level by not considering possible effects of the inquirers' sex (results by ethnicity of the inquirers). This may explain the statistically nonsignificant results for some of the outcomes in Adman and Jansson (2017). In order to circumvent these problem, we simply designed our experiment to only include male inquirers, and thereby increased the statistical power and avoided any possible effects related to sex. Second, the process of choosing Arabic- and Swedish-sounding names in Adman and Jansson (2017) was rather intuitive and arbitrary. Research in psychology has shown that familiarity and processing fluency of names affects peoples judgements (Alter and Oppenheimer, 2009; Laham et al., 2012; Newman et al., 2014; Song and Schwarz, 2009). Hence, we may overestimate the magnitude of discrimination if we use an Arabic-sounding name that is more difficult-to-pronounce and less common than a Swedish-sounding name. In the present study, we

followed some principles for choosing the names. Both the Arabic- and Swedish-sounding first names and surnames used in the present experiment belong to the 100 most common first names and surnames in Sweden, respectively. Further, the Arabic- and Swedish-sounding names were selected so that they had the same of number syllables, began with the same letter, and were easy to pronounce.

Our study reveal different treatment of the individual with the Swedish-sounding name and the individual with the Arabic-sounding name since the individual with the Swedish-sounding name received significantly more responses that answered the questions in the inquiry than the individual with the Arabic-sounding name. Furthermore, the individual with the Swedish-sounding name also received more warm answers than the individual with the Arabic-sounding name in the sense that the answer from the municipality started with a personal salutation.

Our results are in line with Adman and Jansson (2017) and make us more convinced that ethnic discrimination also occurs in contacts with public authorities, and not just in the labor and housing market. Since ethnic discrimination has been observed in private markets in several countries our results underlines that more research regarding the extent to which different ethnic groups are discriminated against by public authorities in different countries certainly are needed. The remainder of the paper is organized as follows: A theoretical framework is presented in Section 2, the experimental design is given in Section 3, the results are presented in Section 4, and conclusions are drawn in Section 5.

2. Theoretical Framework

Allport (1954) developed one of the first comprehensive theories of prejudice and discrimination. The theory outlines five levels of manifestation of prejudice and discrimination in a society, by which one group of people may act negatively against another group of people. The levels include antilocution, avoidance, discrimination, physical attack, and extermination. Antilocution means all forms of verbal hatred, such as derogatory speech, hateful opinion, jokes etc. Avoidance means that one group of people actively avoids another group people. Discrimination occurs when people are denied equal access to opportunities, such as jobs and housing. Physical attack are most often hate crimes, and extermination is the worst stage involving genocide and ethnic rinsing.

Most research on prejudice and discrimination in modern societies has focus on the three first three levels in Allports theory. In his famous theory of taste-based discrimination

Becker (1957) capitalize the concept of avoidance and explained how it can lead to discrimination. In his theory, one group of people has an animus against another group of people, so that the first group does not want to engage or be associated with the latter one, unless they economically compensated for that. Becker, and later others, showed that this kind of avoidance generates inequalities in the labor market as well as in other markets (Black, 1995; Borjas and Bronars, 1989; Bowlus and Eckstein, 2002; Rosén, 2003).

Discrimination is not always a result of an animus or negative attitude. Statistical discrimination or ethnic profiling may also lead to inequalities in a society, similar to those caused by animosity. Statistical discrimination occurs when, for instance, employers have incomplete information about workers and therefore use group level information to draw inferences about an individual worker (Arrow, 1973; Coate and Loury, 1993; Lundberg and Startz, 1983; Phelps, 1972; Rosén, 1997). An employer might, for example, use the fact that people with foreign background, on average, have lower language proficiency than natives, and therefore sort out all job applicants with foreign background. However, an individual applicant with a foreign background might very well have a language proficiency that is beyond the average language proficiency of the natives. There is an economic rationale behind statistical discrimination, as it may make the screening process of job applicants more efficient and fast. Statistical discrimination becomes indistinguishable from taste-based discrimination when beliefs about group-level characteristics are based on ethnic stereotypes and animosity.

When most people think of discrimination they think of overt and blatant forms of hostility targeted by one group people towards another disadvantaged group of people, i.e., in line with what we already discussed. Unequal treatment in opportunities in the labor or housing market are examples of such discrimination. However, discrimination can also manifest itself in more subtle ways, such as, the way people talk, the use of tone and gestures, etc. While discrimination is forbidden by law in many societies, this does not mean that such legislation prevent people from holding animus or negative perceptions against others. Animosity and stereotypes do not always lead to discrimination, however, they can be a source of subtle forms of discrimination, instead of blatant forms of discrimination (that can usually be caught by legislations). According to the social psychological literature on subtle discrimination, people have a set of underlying beliefs that form the way people think of and behave towards their own group, the ingroup, and others, the outgroup. In a society were discrimination is unaccepted, people with underlying negative beliefs about an outgroup may feel an inner struggle – i.e., to adhere to the societal values or to their own beliefs (Fiske,

2002; Katz and Hass, 1988). People may have good intentions and try to adhere to the societal values, yet, the underlying beliefs about the ingroup and an outgroup may results in subtle forms of discrimination that usually fall under the legal radar (Dovidio and Gaertner, 1986). Subtle forms of discrimination are found to be cool, indirect, ambiguous, ambivalent, and automatic (Fiske, 2002).

Subtle forms of discrimination are cool in the sense that people may never express their disliking of the outgroup, yet they will neither give members of the outgroup the basic liking and respect they give to their ingroup members. Hence, there is a favoritism of the ingroup rather than abhorrence of the outgroup, which makes discrimination ambiguous. Hence, relative to the ingroup, people would not punish the members of the outgroup, but they would neither reward them (Brewer and Brown, 1998). Discrimination is indirect when the outgroup is blamed for their disadvantage (Hewstone, Rubin, and Willis, 2002; Pettigrew, 1998). Cultural, linguistic, or religious differences are, for example, overstated to justify differential treatment. Ambivalent discrimination means that an outgroup is disrespected in some cases and liked in a derogatory way in other cases, or highly respected, yet hated for being a competitive threat (Glick and Fiske, 1996; Katz and Hass, 1988). Finally, research shows that even unprejudiced people categorize themselves into "us" and "them" unconsciously and automatically, which biases their behavior (Fiske, 1998, 2000; Macrae and Bodenhausen, 2000). This kind of categorization arise extremely fast in the brain, in milliseconds (Bargh and Chartrand, 1999; Hart et al., 2000; Phelps et al., 2000), and even when exposure of outgroups is subliminal (Dovidio et al., 1997; Fazio and Olson, 2003; Greenwald and Banaji, 1995; Greenwald, McGhee, and Schwartz, 1998; Kawakami, Dion, and Dovidio, 1998).

No matter if the subtle discrimination is cool, ambiguous, indirect, ambivalent, or automatic, it creates inequalities among people and shackles the human rights of disadvantaged people in a society. Hence, just because discrimination is subtle, does not mean that it is negligible. Subtle forms of discrimination are just much harder to document than blatant forms of discrimination, especially in the field.

In this paper, we examine whether ethnic minorities are discriminated against by public authorities in Sweden when they make simple inquiries. We believe that public authorities should be very careful in treating all people equally and with respect. Swedish authorities are bound to a number of legislations that assure that citizens are well-treated. First, the *Discrimination Act*, which makes it unlawful to discriminate people based on, among other things, ethnicity and sex (Swedish Code of Statutes, 2008:567). Second, the

Administrative Procedure Act guarantees that authorities provide its citizens with services and information in an acceptable way, with good quality, and in a timely manner (Swedish Code of Statutes, 2017:900). Third, authorities also have their own policies regarding equal treatment and ethnic diversity. All these regulations and policies should make it difficult for authorities to go wrong. Hence, blatant forms of discrimination should be hard to observe as authorities continuously are monitored by the public, media, and other authorities. There is no reason for statistical discrimination, if a person is making a simple inquiry. A person's skills or abilities have nothing to do with whether an authority should respond to an inquiry and provide information, especially when an authority is obliged by law to do so. Hence, we conjecture that if differential treatment by authorities exists, it will probably manifest itself in subtle ways.

3. Method

3.1. Authorities and Experimental Procedure

We used a randomized correspondence test to examine whether municipalities in Sweden treat people of different ethnic backgrounds unequally in a situation where they are asked to provide information about a simple and usual matter. Each municipality received an inquiry from one out of two fictitious and ethnically distinct parents regarding preschool admission of their child. The ethnicity of the parent was conveyed through the name, using either a Swedish-sounding or an Arabic-sounding male name. The names were randomly assigned to each inquiry that was made to municipalities. The experiment was conducted during Spring 2019 and we sent one inquiry to all 290 municipalities in Sweden through email in a single day. The email addresses to the municipalities were collected from their official websites. Three of the municipalities' email addresses, however, malfunctioned during the day of the experiment. These municipalities were, therefore, excluded, and as a result, the final data set subject to analysis consisted of 287 municipalities.

A week (five working days) after the inquiries had been sent to the municipalities, the inboxes to the email accounts were checked and municipality responses were recorded. Municipalities are according to the *Administrative Procedure Act* obliged to respond to any inquiries made by the citizens without any delay (Swedish Code of Statutes, 2017:900). For simple inquiries, like the one in our experiment, this means responding within a day or two (Erlingsson and Wittberg, 2017). Indeed, most municipalities did reply within this time frame.

Nevertheless, we more than doubled this time frame before we coded the responses. Another five days after the data was coded, the email accounts were checked again for any additional delayed responses. No additional responses came across, and so the email accounts were then closed down. All municipality identifiers were removed from the data when coding was completed and some municipality related information had been recorded (will be discussed later) before the statistical analysis was conducted. The final anonymized data are openly available in Zenodo at https://doi.org/10.5281/zenodo.2613067.

3.2. Outcome Variables

Municipality responses were coded in terms of four outcome variables: Contact, Explanation, Wordcount, and Salutation. Contact was a binary variable indicating whether a parent received a response from a municipality, regardless of the content of the response. Contact included any type of response, i.e., even autogenerated replies. Explanation was a binary variable indicating whether a parent received a response from a municipality that answered the parent's question. These responses could have been received either immediately in a first (and only) reply from the municipalities or subsequently, following an initial confirming or autogenerated reply from the municipalities. Wordcount was a continuous variable that simply measured the total number of words in a municipality response that contained an explanation. Finally, Salutation was a binary variable indicating whether a municipality response containing an explanation was initiated with a salutation in combination with the parent's name (e.g., Dear Mattias).

We argue that not responding at all or not providing information to an inquirer are explicit and conscious acts, especially since authorities by law are obliged to both respond and provide required services. We, therefore, define any observed ethic differences in the outcome variables Contact and Explanation as overt forms of discrimination. We further argue that extensive responses and inclusion of personal salutation would be a result of subtle and unconscious acts, since same information is provided to both groups, yet in two different ways. We, therefore, define any observed ethnic differences in the outcome variables Wordcount and Salutation as subtle forms of discrimination.

3.3. Framing

The storyline for the fictitious parents who made the inquiry was staged as following. The parent that made the inquiry to the municipality was the father in the family. And, a five-year-old boy in the family needed a preschool admission. The father, therefore, asked a municipality about how he can find information about available preschools in the municipality and how he can place his son in the municipality's preschool que. An email account was created for the fictitious father through which we sent his inquiry to the municipalities. The inquiry consisted of a brief e-mail message expressing the father's need for information (English translation):

> "Hi, we are a family with a five-year-old son who
> needs to be admitted to a preschool. How do we get more
> information about this, and how do we put him in the que
> for preschool? Kindly, [The father's name]"

3.4. Names and Ethnic Signal

The name of the father was randomly assigned to each inquiry. We chose two distinctive given male names with clear ethnic connotations: Mattias, a typical Swedish-sounding male name, and Mohamed, a typical Arabic-sounding male name. Furthermore, we chose two distinctive surnames in similar fashion: Hansson, a Swedish-sounding surname, and Hassan, an Arabic-sounding surname. Accordingly, our two fictitious inquirers were: Mattias Hansson and Mohamed Hassan.[1] There was some rationale behind picking these names. Notice first that both given names start with the same letter and have equal number of syllables. Likewise, both surnames start with the same letter and consist of equal number of syllables. Moreover, according to Statistics Sweden Mattias and Mohamed are among the 100 most common given names and Hansson and Hassan are among the 100 most common surnames in Sweden.[2]

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[1] The names also have religious connotations, since Mattias is a typical Christian name and Mohamed and Hassan are Muslim names.

[2] As at December 31, 2018. See http://www.scb.se/be0001 at Statistical Sweden for current and official statistics of names for Sweden.

4. Results

4.1. Results of Municipality Response Rates

Table 1 presents the percentage of preschool inquiries that resulted in a response from the municipalities. We have categorized the municipalities' responses in two ways. First, Contact is a binary variable that simply indicates whether parents received a reply from the municipalities; i.e., any type of reply regardless of the content. Hence, the response could be automatically generated, a confirmation, or a full explanation to the inquiry made. Second, Explanation is a binary variable that indicates whether a parent received a response from the municipalities (at any stage) that satisfactorily answered the parent's questions.

Table 1.
Differences in Municipality Response Rates

	Swedish-sounding name	Arabic-sounding name	Hypothesis Testing
Contact	99.3 % (144)	97.9 % (139)	$\chi^2(1, N = 287) = 1.06$, $p = 0.304$
Explanation	97.2 % (141)	91.5 % (130)	$\chi^2(1, N = 287) = 4.42$, $p = 0.036$
Number of municipalities	145	142	

Note: Contact is simply a response from the municipalities, regardless of the content. Explanation is a response from the municipalities that contained answers to the inquirers' questions. The number of municipalities is given in parentheses.

Table 1 show that the parent with a Swedish-sounding name achieved a contact with the municipalities in almost all cases except for one, i.e., in 99 percent of the time. Similarly, the parent with an Arabic-sounding name achieved a contact in 98 percent of the time. The small difference in contact rates is not statistically significant, $\chi^2(1, N = 287) = 1.06$, $p = .304$. Considering the first outcome variable, we cannot reject the null hypothesis of equal treatment. This result is not surprising since the outcome variable Contact includes all municipality responses, without considering the content and quality of the responses. Also, public authorities are by law obliged, in one way or another, to provide an answer to all incoming inquiries.

Next, we count the number responses that contained a satisfying answer to the parents' questions (either directly in a first reply or in a later one). Table 1 shows that the parent with a Swedish-sounding name received a response with a satisfying answer in 97 percent of the cases. The parent with an Arabic-sounding name received a response with a satisfying

explanation in less than 92 percent of the cases. Hence, the parent with a Swedish-sounding name received 6 percent more satisfying responses than the parent with an Arabic-sounding name. This difference is statistically significant, and we therefore reject the null hypothesis of equal treatment, $\chi^2(1, N = 287) = 4.42$, $p < .05$.

4.2. Results of Municipality Response Quality

Table 2 provides results for two outcome variables, Wordcount and Salutation, that measured the quality of the explanation given by municipalities to our parents. These measures are examined for those municipalities that actually provided an acceptable explanation to the parents' inquiries (i.e., the 271 municipalities that appeared under Explanation in Table 1). Wordcount gives the mean number of words used by municipalities in their explanations to our parents. Salutation is the percentage of municipalities that started their letter with a personal salutation, i.e., a salutation in combination with the parent's name.

Table 2.
Differences in Municipality Response Quality

	Swedish-sounding name	Arabic-sounding name	Hypothesis Testing
Wordcount	59.0 (36.96)	54.5 (36.65)	$t(269) = 1.02$, $p = 0.310$
Salutation	48.9 % (69)	23.8 % (31)	$\chi^2(1, N = 271) = 18.29$, $p < 0.001$
Number of municipalities	141	130	

Note: Wordcount is the mean number of words in letters, received by inquirers. Salutation is the percentage of municipality response letters that started with a salutation in combination with an inquirer's name. Standard deviations and actual number of cases are given in parentheses for Wordcount and Salutation, respectively. The number of municipalities in this table consists of those municipalities that provided the inquirers an explanation (see Table 1).

Table 2 shows that the mean number of words used by municipalities in their explanations was 59 and 55 when the parent had a Swedish-sounding and Arabic-sounding name, respectively. The small difference in the wordcount of municipalities' explanation is not statistically significant, $t(269) = 1.02$, $p = .310$. Hence, we cannot reject the null hypothesis of equal treatment in relation to the extent of municipalities' explanations. It appears that the municipalities that did provide answers to the inquirers' questions, did not contingent the extent of their answers on the parents' ethnicity.

Finally, we look at named salutations in the municipalities' responses. Table 2 shows that almost half of those municipalities that responded to the parent with a Swedish-sounding

name, with a satisfying explanation, initiated their letter with a salutation in combination with the parent's name. Less than one-fourth of the municipalities that responded to the parent with an Arabic-sounding name, with a satisfying explanation, did the same. This is a remarkable and statistically significant difference in personal salutations, $\chi^2(1, N = 271) = 18.29$, $p < 0.001$. Hence, we reject the null hypothesis of equal treatment. While both inquirers received the same amount of information from the municipalities, there was a considerable difference in treatment as regards amiability.

4.3. Some Regression Analyses

We also conducted some regression analyses where we regressed the outcome variables Explanation, Wordcount, and Salutation (Contact was dropped in this part of the analysis since almost all inquiries resulted in a contact) on a dummy indicating whether the inquirer had a Arabic- or Swedish-sounding name and median split dummies for the following municipality level information: proportion of foreign-born people, unemployment rate, proportion of people with at least 3 years of higher (university) education, median income, number of citizens, and the proportion of people who voted for The Sweden Democrats (a national-conservative, anti-immigration, far-right political party) during the Swedish general election in 2018. The Swedish election data were collected from The Swedish Election Authority. All other data were collected from Statistics Sweden, and were also for 2018. We used median split dummies in order to keep the data anonymized.

Our motivation for choosing the particular municipality related information was based on loose conjectures in light of the previous literature; that higher proportion of foreign-born people (Pottie-Sherman and Wilkes, 2017), higher unemployment rate (Johnston and Lordan, 2016), lower rate of education in the population (Hagendoorn and Nekuee, 2018), lower income (Carvacho et al., 2013), fewer number of citizens or smaller cities (Maxwell, forthcoming), and stronger support for anti-immigration right-wing movements (Matthes and Schmuck, 2017) would be associated with more prejudice and discrimination.

Table 3 presents the results of our regression analyses (and definitions of variables). In order to estimate the probability of receiving an explanation and a salutation from the municipalities we make use of a linear probability model, while the number of words in the explanation is estimated with the help of ordinary least squares regression.

Models *i*, *iii*, and *v* in Table 3 only include the variable indicating whether the inquirer had an Arabic- or Swedish-sounding name. These models simply confirm what we already have established. The inquirer with an Arabic-sounding name had about 6 percentage points lower probability of receiving a municipality response and 25 percentage points lower probability of receiving a municipality response that started with a greeting in combination with the inquirers name. There were, however, no differences in relation to the inquirer's name, as regards the number of words used by municipalities in their responses.

Models *ii*, *iv*, and *vi* in Table 3 then add the municipality related information. They show that the main findings are robust to the inclusion of municipality related variables, and that none of the municipality related variables are significantly related to any of the outcomes.

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Not presented in the paper, we also estimated an additional set of models where we included interaction terms between the municipality related variables and the inquirer's ethnicity. However, none of the explanatory variables were significantly related to any of our outcome variables, nor were there any interaction effects between the explanatory variables and the ethnicity of the inquirer. The results of regressions involving interaction terms should, however, be taken with a large pinch of salt, since the sample size is small and thereby the statistical power low. The results for these regressions have, therefore, been dropped from the paper, but are available upon request.

Table 3.
Linear probability models and ordinary least squares regressions. Standard errors within parentheses.

	Model *i* Explanation	Model *ii* Explanation	Model *iii* Wordcount	Model *iv* Wordcount	Model *v* Salutation	Model *vi* Salutation
Arabic-sounding name	–0.057** (0.027)	–0.056** (0.027)	–4.551 (4.474)	–3.932 (4.469)	–0.251*** (0.057)	–0.251*** (0.057)
Large foreign-born population		–0.018 (0.032)		–1.680 (4.680)		–0.114* (0.065)
High SD support		0.044 (0.027)		–2.580 (4.552)		0.080 (0.057)
Large uni-educated population		–0.011 (0.030)		5.037 (5.341)		0.108 (0.070)
High median income		0.058 (0.038)		–3.783 (5.706)		0.035 (0.077)
High unemployment		0.035 (0.036)		–6.775 (4.866)		0.122 (0.071)
Large municipality		–0.019 (0.036)		3.137 (5.789)		–0.009 (0.070)
Constant	0.972*** (0.014)	0.928*** (0.037)	59.028*** (3.113)	62.081*** (6.184)	0.489*** (0.042)	0.377*** (0.076)
R^2	0.015	0.034	0.004	0.023	0.068	0.094
Number of municipalities	287	287	271	271	271	271

Notes: Dependent variables: "Explanation" is a dummy equal to 1 if a response from a municipality contained answers to the inquirer's questions, 0 otherwise; "Wordcount" is a continuous variable that gives the total number of words in a satisfying municipality response; "Salutation" is a dummy equal to 1 if a satisfying municipality response was initiated with a greeting with the inquirer's name, 0 otherwise. Independent variables: "Arabic-sounding name" is a dummy equal to 1 when the inquirer had an Arabic-sounding name, and 0 when the inquirer had a Swedish-sounding name; "Large foreign-born population" is equal to 1 when the proportion of foreign-born in a municipality is larger than the median proportion (14%) among all municipalities, 0 otherwise; "High SD support" is equal to 1 if the proportion of people that voted for the Sweden Democrats in the municipal election was higher than the median proportion (13.23%) among all municipalities; "Large uni-educated population" is equal to 1 if the proportion of people with at least 3 years of university education is higher than the median proportion (17.07%) among all municipalities, 0 otherwise; "High median income" is equal to 1 if the median income in a municipality is higher than the median of median incomes among all municipalities, 0 otherwise; "High unemployment" is equal to 1 if the unemployment rate in a municipality is higher than the median unemployment rate (6.5%) among all municipalities, 0 otherwise; "Large municipality" is equal to 1 if the number of inhabitants in a municipality exceeds the median number of inhabitants (15,971) among all municipalities, 0 otherwise. Models *iii–vi* were estimated on the selected sample of those municipalities that provided inquirers an explanation. Pairwise correlation coefficients between the independent variables ranged from $|0.01|$ to $|0.56|$, and the variance inflation factors ranged between 1.10–1.82. Hence, multicollinearity did not appear to be a problem. All regressions are ordinary least squares. Probit regressions generated similar results for models involving dummy outcomes (Explanation and Salutation). Robust standard errors are given in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.10$.

5. Conclusions

We have conducted a field experiment of ethnic discrimination against individuals with Arabic-sounding names in contacts with public authorities. While several previous studies have documented discrimination against individuals with Arabic-sounding names on labor and housing markets in different countries, less is known about the extent of ethnic discrimination in contacts with public authorities.

Our results reveal that ethnic discrimination exists and that it has different dimensions. First, we can conclude that individuals with Swedish-sounding names and individuals with Arabic-sounding names are treated differently by the municipalities since the individual with the Swedish-sounding name received significantly more answers with explanations to their question than the individual with the Arabic-sounding name. This result provides evidence to the weak tendencies observed by Adman and Jansson (2017). Furthermore, the individuals are also treated differently as regards friendliness, in the sense that the individual with the Swedish-sounding name received more responses with answers that were initiated with a salutation in combination with the parent's name. This result is completely along the lines of Adman and Jansson (2017). Hence, given our definitions of the outcome variables, we found evidence of both overt and covert forms of discrimination.

The results increase our knowledge regarding the existence of ethnic discrimination and the policy importance of the results is obvious. We conclude that discrimination in contacts with public authorities, in different ways, is an obstacle for certain ethnic groups. As regards limited access to preschool admission, this may have a negative impact on the parent's labor supply. Research has also shown that preschool attendance is positively related to an individual's years of schooling and highest educational degree completed later in life. Furthermore, it is also positively related to an individual's employment and earnings as an adult (Dietrichson et al., 2018) and to health (Aalto et al., 2019). Finally, research indicates that preschool attendance seem to be an efficient way to improve language knowledge among children of immigrants (Drange, 2018). Thus, limited access to preschool attendance may be an obstacle for the integration of immigrants and their children in different ways.

Finally, we would also like to stress that the question regarding ethnic discrimination in contacts with public authorities is worth further attention. The individual with the Arabic-sounding name did receive fewer answers with salutation in combination with the name than the individual with the Swedish-sounding name. This calls for research for the explanations

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behind this subtle form of discrimination and the extent to which discrimination is prevalent in personal meetings between individuals from certain ethnic groups and public authorities.

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