Do Recruiters 'Like' it? Privacy and Online Social Network Profile in Hiring: A Randomized Experiment[1]

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Abstract

With the advance of online social networks like Facebook, a recruiter now has many sources of information to know about a candidate in order to decide whether to grant an interview. This way of knowing a candidate comes with small but positive search costs, and it has not yet been shown whether recruiters systematically take advantage of it or not. When an extra information is found online, this improves the employee-recruiter matching, but can also be an invasion of privacy and increase the screening based on irrelevant or discriminatory criteria. Our paper thus contributes to the current debate on the optimal extent of privacy regulations. Our experiment aims at assessing the impact in employability, measured in callback rates, of an negative signal found in an applicant's social network profile. The experiment is currently being run until March, 2013 and we intend to send eventually 1000 applications, i.e. at least 500 applications per profile. We depart from the usual matched assignment procedure in discrimination testing, where the fictitious candidates apply to all available job offers, to instead send one application per job offer (randomized assignment procedure), and discuss the two approaches. So far, a total of 700 applications have been sent, and elicited 118 interview proposals from recruiters. The minority candidate received around thirty percent fewer callbacks, with 49 positive outcomes (69 for the other candidate), or 11.3% callback rate (18.3%), which is a statistically significant difference. This result contradicts the charter agreed-upon in 2010 between the French national employers' association, privacy regulator and main HR's association to voluntarily restrict the use of online social networks during the hiring process in a self-regulated manner.

Keywords: Online Social Network; Labour Market Discrimination; Privacy.
JEL Codes: J71; D83; K31

Introduction

With the advance of social network services, private and public spaces are increasingly overlapping, which may have consequences on the job market. A recruiter now has many sources of information to know about a candidate in order to decide whether or not to

interview her. Recent declarative surveys show that human resources department report using social network to screen applicants and gain extra information during the hiring process in addition to standard information included in the resume. According to declarative surveys conducted by various human resources-related companies, between 37 and 75% of recruiters check a candidate's social network profile at some point during the hiring process[2]. The surveyed companies have already rejected a candidate for this motive for 30% of them. And for those who do not use social networks for hiring, two-third cited "legal risks and discovering protected characteristics"[3] of a candidate. The consequences for the candidate may also be positive, as most recruiters also mentioned aspects of a social network profile that make them consider the candidate more favorably[4]. This trend is accelerating and already the background check is not limited to the public, social network profile, but includes the private part of the profile. In May, 2012, Maryland became the first state to pass a law prohibiting an employer to ask for Facebook passwords or other similar types of online credentials as part of the hiring process[5]. A federal version of the law, the SNOPA, or Social Networks Online protection Act, has been under consideration by Congress since then.

It illustrates that secondary usage of personal data disclosed online, which used to have for main consequences spam or adverse price discrimination (Varian, 1996), is increasingly a mainstream determinant of individual labour market outcome. Apart from ours, the only field experiment testing the use of online social networks in hiring is that of Acquisti and Fong, also currently underway. While they study on individuals' characteristics that recruiters are reluctant to ask during a job interview because of the legal implications in discrimination matters, we focus, in our extensions experiments, on information that are specific to online social networks.

The recent literature on job market discrimination indeed not only identifies the individual characteristics which are discriminated against, but also pinpoints the specific source of information that recruiters are using to base their judgement. Bertrand and Mullainathan (2004) study discrimination in hiring in the Chicago region between black and white applicants, using both the last and the first names to signal the candidate' race. Duguet, et al. (2010) disentangles the effect of the first name, the last name, and the nationality for Morrocan-sounding applicants in France. Apart from names, the literature has shown the existence of racial discrimination based on the applicant's gender, or sexual orientation, derived from the photography attached to the résumé (Weichselbaumer, 2003). All of these characteristics were known to the recruiter from elements found in resumes and explicitly provided by the applicant. In contrast, our experiment aims at assessing the impact of an information found in an applicant's social network profile during the hiring process. More precisely, we test for racial discrimination in hiring by French employers based on showing Arabic origins in the applicant's social network profile.

We construct two identical resumes and Facebook profiles of fictitious applicants for job openings in accounting in the Paris' region, France. Their first and last names are French-sounding, with their first names being picked among the most used first names in their year of birth. Their address is located in an affluent Paris district, thus avoiding location-based discrimination. The picture shown in both Facebook profiles is identical. We send one application per job opening. The only difference between the two applicants is that one Facebook profile reveals information about his Moroccan origin. This information is only available on one applicant's profile, so that any difference in callback between the two candidates is due to the information provided in his profile. Following the literature on job market discrimination, we consider a call-back from the recruiters to set up a job interview as

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[2] Respectively from a 2012 Careerbuilder.com survey and the annual Jobvite.com Social Recruiting Survey, 2012.
[3] Society for Human Resource Management (SHRM), 2011 survey.
[4] Like membership of professional organizations, volunteering or donating to a nonprofit (Jobvite 2012).
[5] See http://mlis.state.md.us/2012rs/billfile/sb0433.htm for the Maryland law, and
http://www.govtrack.us/congress/bills/112/hr5050/text for SNOPA (as of 9/2012).

a positive outcome. We then reply to decline the interview, so as not to induce any burden to the recruiter. The response rate of during the pre-tests is around 10%, in line with the literature, which suggests that our profiles are credible to the recruiters.

Background Literature

Privacy Hirshleifer (1980) criticizes Posner's positions on privacy as making far-stretch assumptions of rational behavior. Several lines of research have recently focused on the limits to rationality in behaviors related to privacy issues. First, the behavioral economics literature has documented the relevance of context and framing effects (Acquisti, 2012; Leslie et al., 2011), hyperbolic discounting (Acquisti,) or the control paradox (Brandimarte et al., 2012) in the propensity to disclose personal information.

A second strand of the literature, to which our paper contributes, shows the importance of secondary usage.[cite]Varian (1996), for instance, notes that the secondary usage of personal data raises particular economic concerns: a consumer may rationally decide to share personal information with a firm because she expects to receive a net benefit from that transaction; however, she has little knowledge or control upon how the firm will later use that data. The firm may sell the consumer's data to third parties at profit, but the consumer may not share any of that profit, or may even bear a cost when the third party abuses her data (for instance, for spam, adverse price discrimination, and so forth; see Odlyzko (2003).[/cite]

A novel possibility of abuse of data in secondary usage has arisen recently: the use of candidate's personal data found online by a potential employer during the recruitment process. In declarative surveys, human resources managers increasingly say they rejected a candidate based on information found online (cf. supra). Indeed, the economic consequences of personal information disclosure are an order of magnitude larger when they impact employability than when privacy is considered as 'the right not to be annoyed' or a protection against price discrimination.

Channel of transmission of stereotypes in the labour market The (secondary) usage of personal data gathered from online social networks is especially likely to lead to adverse selection as the recent literature on psychology and labour market has shown that discrimination in hiring has an automatic and subconscious component (Bertrand et al., 2005; Rooth, 2010). [cite]Bertrand et al. (2005) argue, based on results taken from social psychology, that automatically activated stereotypes/attitudes may be especially important determinants in the hiring situation when the employer is inattentive to the task, experiences time pressure and ambiguity, something that may characterize the hiring process in many instances.[/cite] Our experimental design fits in the above description: checking an applicant's online presence takes times, especially when done for every candidate, and adds to the informational burden of the recruiter with multiple sources of information, both professional (the application package) and personal (the online profile). We fill in the existing literature by showing that online social networks are an effective channel through which stereotypes are conveyed during hiring.

Ahmed et al. (2008) has used the Internet as a medium to test for discriminatory practices for rental housing ads posted online. However, as in every preceding study, the discriminating information is contained in the application package. In our study, the application is completely similar for the two fictitious candidates, and the Internet is the medium for both the transmission of the application (by the candidate) and the finding of discriminating information (by the recruiter).

Within the application package, the literature has shown that the discriminating information can be conveyed by the applicant's name, especially her foreign origin (B&M, 2004; Ahmed et al., 2008; Jacquemet and Yannelis, 2011; Berson, 2011; Duguet et al., 2010), or signaling the

partner's gender (Ahmed et al., 2013); by a specific mention in the résumé to signal the candidate's sexual orientation, like doing voluntary work at community organization (Weichselbaumer, 2003; Drydakis, 2009) or the photograph attached to the résumé (Weichselbaumer, 2003). With the advance of online social networks, recruiters have easy and direct access to the latter kind of personal information in a credible way even when such information are not present in the résumé. In fact, including such information on the résumé in an experiment could look suspicious and increase the risk of detection. For instance, Weichselbaumer (2003) is using the photograph attached to the resume to signal sexual orientation only in Austria, where it is common to include a photograph in the application. Therefore, when we document that recruiters gather information online about a candidate, the result may also be helpful from a methodological point of view, as it shows that experiments can set up online social networks profiles to transmit more information to the subjects of the experiment than it is common to find in the application.

Our paper is closest to Acquisti and Fong (2013)'s. While they focus on the sort of information which cannot be asked openly by the recruiter during interview, we consider online social networks as another source of information for

Field experiment The most direct way to study both the use of social media by recruiters and discrimination in hiring would be to ask the employers. However, because discrimination is a sensitive issue, such answers would not be reliable. Even for the less-loaded question of checking an applicant's online profile, the surveys show that respondents have the legal issue of the practice in mind and claim not to look at social profiles due to the "risks of discovering protected characteristics" of the applicant (cf. supra).

Two main methodologies for field experiment on discrimination in hiring process: situation or audit testing vs correspondence testing. The first one allow to study discriminant behaviour all along the hiring process: in whether the job seekers are encouraged to apply for the job when inquiring about a job opening, ii) if they are contacted for an interview after applying for the job in writing, iii) if they are offered a job, iv) and for differences in the wages offered. First audit testing: W.W. Daniel (1968) + a lot of other studies in Bursell 2007. For the limit of audit testing Bursell (2007): very hard to ensure the similarity of applicants resume and most of all during interview, possible additional motivation for the minority candidate to prove the discrimination, etc. (see Bertrand & Mullainathan 2004 for further limitations).

The second one face less methodological problems (Riach & Rich, 2002, p.494) because there is a higher control of the experiment and especially on the content of applications, on possible occupations, less time consuming (Bursell, 2007), (see Bertrand & Mullainathan 2004 for further advantages and limitations). Example of correspondence tests: in UK (Brown & Gay 1985; Hubbuck & Carter 1980), in Australia (Riach & Rich 1991) and in US (Bertrand & Mullainathan 2004). According to Bursell (2007): correspondence testing, is in fact, a type of randomized experiment, and therefore provides the strongest possible opportunity to draw causal inferences (to be confirmed). The major difficulty is to make the applications similar in all relevant aspects so as the only thing that varies between the 2 sent applications is the one that is tested. Nevertheless, it provides a measure of discrimination in job interviews and not in job offers. However, situation testing shows that the around 90% of the discrimination occur during this stage of the selection process this is in this stage (Riach & Rich, 2002, p.494).

Experimental design

We observe the recruiters' behavior through the differences in return rates for two applicants with identical resumes and different social network profiles. Following Ahmed, et al. (2013) and Acquisti and Fong (2013), we use a randomized assignment procedure where only one application is sent per job offer. The type of applicant is pseudo-randomly assigned to each application. We therefore send an identical application package to each employer, which

considerably limits the risk of detection.

1. Creating profiles

Resumes and cover letters

Resume We construct a base resume in which the applicant has a three-year higher education degree in accounting, a flawless school record, and three internships with various experiences suitable for most accounting jobs.

Cover letter We construct a base cover letter. A reference letter too general is most of the times not sufficient as a job opening usually seeks a specific professional profile in accounting (customers, suppliers, assets management, etc.). We pre-define parts of the letter with standard sentences corresponding to each common profile sought by recruiters, and we pick among those standard sentences to match the ad. We used information about the recruiting firm when we could find it on the Internet - including official websites, web articles, etc. In case we couldn't find any information about the firm, we sent unspecific cover letters.

We interviewed human resources managers to make sure of the relevance of the cover letters on the current job market.

Resumes and cover letters are pdf files. Pdf is a standard format that can be easily read by the recruiters.

Facebook profile Each fictitious applicant has a Facebook profile with a picture, education and identity information. The 'Morrocan' profile lives in Paris, mentions that he is from Marrakesh and that he speaks Arabic. The Facebook profiles are ranked first on Google and checked every week.

Candidate's application package For each applicant, we indicate on both the resume and the cover letter, the following information, in order: the name, the address, the holding of a driving licence, the birth date and the age, the phone number and the e-mail address. The applicant's address is located in an affluent Paris district (15th arrondissement), thus avoiding location-based discrimination. As many Paris' inhabitants, the applicant holds a driving licence and can not be discriminated for not holding one. The phone numbers are distinct in each résumé so as to track the candidate's callback, although recruiters usually mentions the candidate's name in the call. The E-mail address of each applicant is registered on Gmail with user name following the same pattern *firstname.lastname*. The name and the birth date are also available on the Facebook profile.

Name The first and last name of each applicant are French-sounding ones. The first names are picked among the top-5 first names in their year of birth. Each combination of the first name and the last name is unique and our fictitious profile is the sole result when searching for the first and last names on the three leading web search engines in French language[6] and on Facebook. Each combination corresponds to one unique Facebook profile.

Time Span	First names	Candidate's type
March, 2012-Sept., 2012	Thomas Stéphane	Control Minority (Morrocan origin)
Sept., 2012-March, 2013	Julien Nicolas	Control Minority (Morrocan origin)

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[6] The market shares of the web search engines in France in December 2012 were: 90.1% for Google, 3.3% for Bing and 1.5% for Yahoo (source: http://www.atinternet.com).

3. Collecting job openings

We collected job opening published in the French agency for employment, Pôle Emploi, during March, 2012 and March, 2013. Only job openings posted through the Pôle Emploi public agency website are collected, and other recruitment channels, such as Monster, are not considered. There are mainly two reasons to focus on Pole Emploi openings: First, the information provided about the recruiting firm differ for each agency and would not have led to a consistent database. Second, Pôle Emploi, as the public employment agency, is known to have a certain equal opportunity policy and discriminating employers may therefore restrain from posting their openings in the PE website. If anything, the choice of this recruitment channel thus underestimates discrimination.

The database we constructed contains detailed information about the job filled by the recruiter, as shown in Table X. We only responded to ads which provided the recruiter's direct contact information (contact name and e-mail), and we discarded those where the applicant had to contact a third-party, usually either Pôle Emploi or a recruitment agency. Only the openings for somewhat long-term contracts where considered, offering *CDI* or *CDD* of 6 months or more. Our applicants have three years of undergraduate education in accounting, and we respond to the ads in the relevant three categories (accountant, assistant-accountant and aide-accountant) in the Pole Emploi categorization.

3. Responding to ads

The companies are reached with a standard email[7] mentioning the ads' position and reference number, which the resume and the reference letter attached. When responding to the ads the two applicants use exactly the same sentences.

The experiment is currently being run until March, 2013. We intend to send eventually 1000 applications, i.e. at least 500 applications per profile.

Results

The overall results for all applications are summarized in Figure 2. The minority candidate received around thirty percent fewer callbacks, with 26 positive outcomes (40 for the other candidate), or 12.3% callback rate (19.8%). The Chi2 test insures that the difference is statistically significant at the 5% confidence level (p-value = 0.036).

As shown in Table 4, the minority candidate has received fewer callbacks than his counterpart in every month of the experiment so far.

Robustness checks

Efforts were made to insure that the applications for one candidate were not systematically sent to firms with different characteristics than for the other candidate. Table 2 and 3 report applications by industry and by firm size for both candidates. Other characteristics that cannot be attributed pseudo-randomly during the experiment will be controlled for in the regression analysis.

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[7] A few ads were disregarded because the e-mail address given in the ad turned out to be wrong or none was given.

Implications

The results of our experiment contribute to document the discrimination against individual of foreign origin in France. We used fictitious candidates for accounting positions in the greater Paris area, as in Duguet et al. (2004), but with French-sounding names.

Our results also directly contradict the charter on "*Online Social Networks, Internet, Privacy and Hiring*" which was signed on January 14, 2010 between seven French national organizations, among which the employers' association (Medef), the privacy regulator (Cnil) and the main human resources association (Andrh). Most relevant to our experiment are the first four points, in which the charter differentiates personal from professional online social networks and encourages HR managers to use the latter. Points 3 and 4 specifically forbids the use of any search engine to lookup a candidate's name as well as considering information obtained this way.

The wording of the charter : 1. Limit the use of personal online social network as Facebook to the transmission of job offers [...] 2. Use professional online social networks as LinkedIn [...] when it comes to contacting the candidates, 3. Do not use search engine or online social networks as inquiry tools to collect or otherwise obtain information of personal nature, even if such information are made accessible by the users themselves, which would constitute of breach of privacy and be a source of discrimination, 4. Educate hiring officers about the need to not collect not consider such information , 5. Alert users of online social networks about the information they are making accessible [...].

Annexes

Table 1. Variable Description

Name	Description	Control candidate	Minority candidate
Job opening's date	Date of publication or update	03/19/2012-03/16/2013	03/19/2012-03/16/2013
Date of reply		03/19/2012-02/25/2013	03/19/2012-22/02/2013
Hour of reply		17:20	16:50
Reference number		n.s.	n.s.
Position	Job position	Accountant: 41.5% Specialized acc.: 12.6% Acc. assistant: 26.4% Acc. & secretary assistant: 16.6% Other assist. acc.: 3.0%	Accountant: 40.0% Specialized acc.: 13.0% Acc. assistant: 25.5% Acc. & secretary assistant: 14.8% Other assist. acc.: 2.8%
Contract	Long-term (*CDI*) or short-term (*CDD*)	Long-term: 75.1% Short-term: 24.9%	Long-term: 74.5% Short-term: 25.5%
Duration	Fort short-term CDDs	mean: 7.9 (sd: 3.7)	mean: 8.1 (sd: 4.2)
Workhours	Standard is 35h weekly	mean: 33.8 (sd: 6.2)	mean: 34.0 (sd: 5.8)
Education		Not specified: 37.7% CAP/BEP: 2.0% Bac: 10.8% Bac+2: 45.0% Bac+3: 4.5%	Not specified: 39.5% CAP/BEP: 2.5% Bac: 6.5% Bac+2: 47.0% Bac+3: 4.5%
Previous Experience	Number of years of previous experience required	0: 23.4% 1: 12.8% 2: 28.2% 3: 16.9% 4: 3.3% 5: 16.4%	0: 23.8% 1: 12.5% 2: 24.3% 3: 20.0% 4: 2.8% 5: 16.5%
Experience in similar position	Is the previous experience required in the same position	yes: 10.6%	yes: 9.8%
Software		yes: 10.6%	yes: 10.5%
Wage/hour in Euros (min/mean/max)		Min: 8.5/12.0/59.2 Mean: 8.6/12.8/68.7 Max: 8.5/13.5/82.5	Min: 7.5/11.8/55.4 Mean: 8.5/12.5/57.4 Max: 8.5/13.1/59.4
13-months	Is the wage specified for 13 months or more	yes: 12.6%	yes: 12.2%
Extra benefits	Is there any benefits specified in addition to the wage (negociable wage, health benefits)	yes: 24.8%	yes: 26.8%
Company name		n.s.	n.s.

Company status	Private company, public company, or not-for-profit	Private: 83.2% Public: 5.5% Association: 10.7% Other: 0.6%	Private: 82.7% Public: 4.4% Association: 11.8% Other: 1.0%
Size	Number of employees (range)	0-5 emp.:23.7% 6-19 emp.: 27.2% 20-49 emp.: 19.4% 50-250 emp.: 20.7% 250+ emp.: 9.1%	0-5 emp.: 23.8% 6-19 emp.: 28.1% 20-49 emp.: 20.0% 50-250 emp.: 18.7% 250+ emp.: 9.4%
Sector		See Table n°X	See Table n°X
Postal Code		n.s.	n.s.
Callback date		03/27/2012-XX/XX/2012	03/21/2012-XX/XX/2012
Decline	Binary. We always decline the job interview		
Positive callback type	E-mail, phone or regular mail	Mail: 26.1% Phone: 69.6% Mail + phone: 4.4% Regular mail: 0.0%	Mail: 28.6% Phone: 65.3% Mail + phone: 6.1% Regular mail: 0.0%
Callback number		n.s.	n.s.

Figure 1. Cumulative number of applications
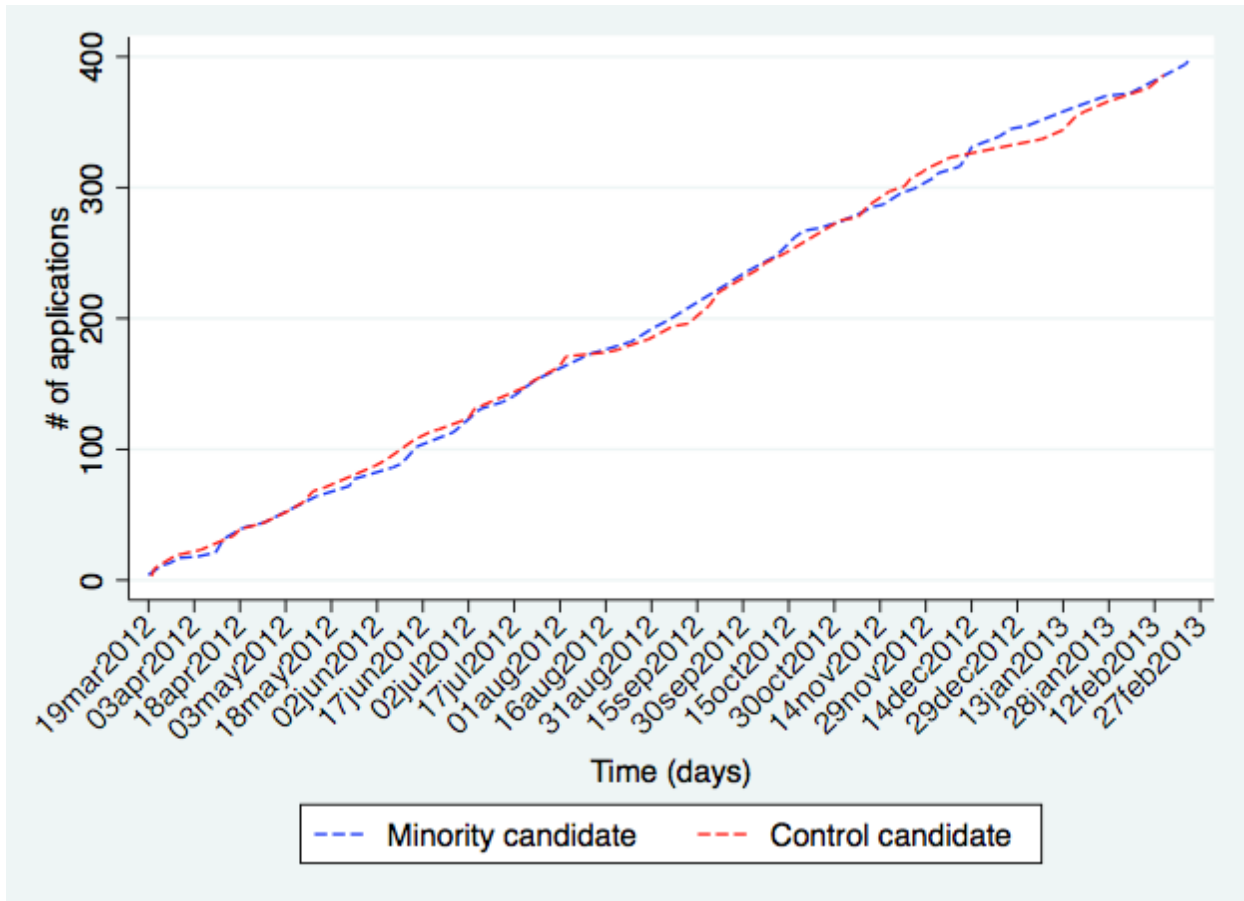
Table 2. Applications by industry

Sector	Control	Minority	Total
asso_syndic	16	16	32
auto_transp	17	18	35
banque_assur	12	17	29
btp	14	19	33
com_det	22	23	45
com_gros	43	42	85
comptabilite	41	42	83
conseil_aff	25	23	48
culture_loisir	8	8	16
direction	18	16	34
energie_dechet	4	2	6
enseignt_rech	13	12	25
hotel_restau	15	15	30
immobilier	19	20	39
industrie	21	19	40
info_telecom	16	17	33
medico_soc	24	24	48
orga_pub	7	7	14
pub_edition_com	15	13	28
service_ent	36	31	67
service_pers	12	16	28
Total	398	400	798

Table 3. Applications by firm size

Firm's size	Control candidate	Minority candidate	Total
0-5 emp.	94	94	188
6-19 emp.	108	111	219
20-49 emp.	77	79	156
50-249 emp.	82	74	156
250+ emp.	36	37	73
Total	397	395	792

Table 4. Job's location

Location	Control candidate	Minority candidate	Total
77	19	19	38
78	39	37	76
91	25	29	54
92	68	69	137
93	43	42	85
94	38	40	78
95	17	16	33
Central Paris	26	24	50
North-East Paris	23	24	47
North-West Paris	55	51	106
South-East Paris	17	16	33
ne + connex districts	28	30	58
Total	398	397	795

Figure 2. Number of positive returns from recruiters (cumulative)
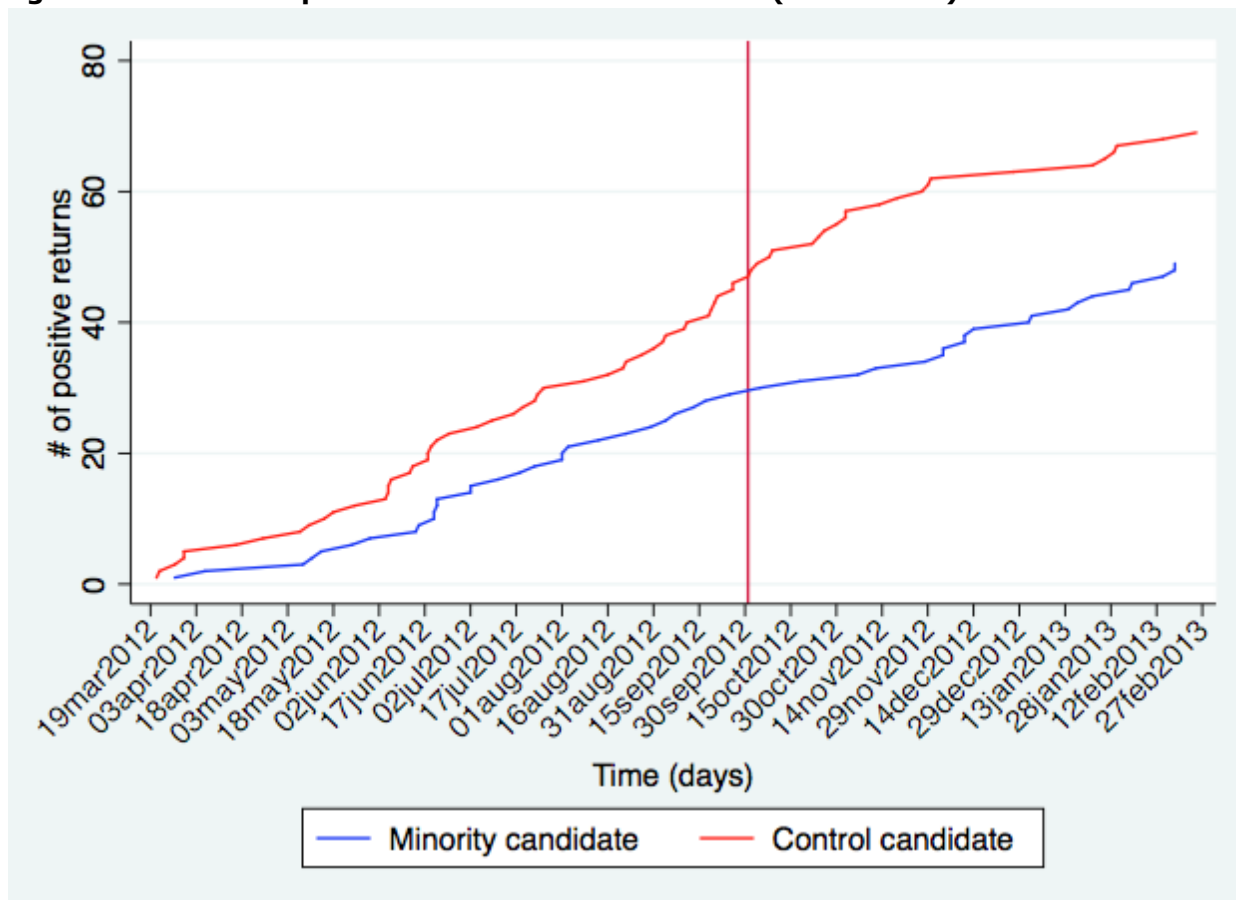
Table 5. Applications Sent and Outcomes

	No	Yes	Total
Control candidate	329	69	398
Minority candidate	351	49	400
Total	680	118	798

Pearson chi2(1) = 4.09   Pr = 0.043

Table 6. Callbacks by month and applicant

	Control candidate	Minority candidate	Total
03/12	7	2	9
04/12	0	2	2
05/12	7	4	11
06/12	11	8	19
07/12	8	5	13
08/12	9	4	13
09/12	7	6	13
10/12	7	3	10
11/12	6	2	8
12/12	1	5	6
01/13	4	3	7
Total	67	44	111

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