# Can signaling assimilation mitigate hiring discrimination? Evidence from a survey experiment

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## Abstract

Using a survey experiment, we test whether discrimination against job candidates with a second-generation migration background varies by signaling either assimilation into the host society or attachment to the country of origin. In our study, Swiss HR managers evaluate descriptions of fictitious CVs in which we vary the origin, language proficiency, and extracurricular activity of the jobseekers with and without a cultural context. The findings reveal that candidates with Polish- or Turkish-sounding names are evaluated worse than candidates with Swiss- or Spanish-sounding names. The effect of signaling attachment to the native and host country culture depends on the perceived distance of the cultural background. A candidate with a Spanish-sounding name who speaks the native language and acts as a chairperson in a Spanish cultural association is granted a better evaluation by employers. Regarding the Polish applicants, neither signaling attachment to the country of origin nor assimilation to the Swiss background makes a significant difference. In contrast, regarding applicants with Turkish-sounding names, signaling assimilation improves employers' evaluation of their profile, whereas signaling attachment to the Turkish culture either by an extra curricula activity or indicating proficiency in both the Swiss and Turkish languages leads to significantly worse evaluations. We conclude that especially for individuals stemming from origins that are perceived as culturally distant, signaling attachment to the culture of origin may result in a higher occurrence of discrimination, even when the signal indicates higher human- or social-capital of the jobseeker.

## Keywords

labor-market access, hiring discrimination, assimilation, cultural distance, survey experiment

**Words:** 7621

# 1. Introduction

Many studies document the disadvantages experienced by non-natives in the labor market and other social outcomes. This disadvantage is particularly salient because it affects not only first-generation immigrants but also their descendants who are raised and educated in the host country (e.g., Riach and Rich 2002; Fibbi et al., 2006; Heath et al., 2008; Liebig, et al. 2012; Hainmueller and Hangartner 2013; Auer and Fossati 2018).

As the numbers of residents with a migration background increase across Europe and worldwide, a pressing question is whether and how the penalty they face can be *mitigated*. This question is especially relevant in modern work-based societies in which employment not only constitutes a way for an individual to foster social contact (with natives) and ensure economic independence from a welfare state (e.g., Drever and Hoffmeister, 2008) but also essentially defines a person's identity, position in society and chances for social mobility (e.g., Fleischmann and Dronkers, 2010: 338; Price, 1992). Therefore, labor-market participation is both an essential prerequisite for and an important outcome of successful integration into a host country (Heath et al., 2008; Heath and Cheung, 2007; Castles et al., 2013). Ultimately, as suggested by Heath et al. (2008), immigrants' and their children's success contribute to a host country's social cohesion.

A large body of research suggests that a substantial part of the disadvantage experienced by first- or second-generation immigrants is caused by employers' discriminatory hiring behavior (e.g., Becker 1957; Arrow 1973; Fiske, 1998; for empirical examples, see Riach and Rich 1991; 2002; Bertrand and Mullainathan, 2004; Zschirnt and Ruedin 2015). Therefore, in this contribution, we focus on employers as key gatekeepers to employment and analyze whether the disadvantage faced by individuals with a migration background varies depending on the level of attachment to the host or country of origin culture signaled to the employer. Thus, we focus on labor-market *access*, i.e., the first step in the employment relationship, because it is widely recognized as the stage most prone to discriminatory behavior driven by employers' uncertainty and particularly high selection hurdles (e.g., Fiske, 1998; Petersen and Togstad, 2006).

Some research suggests that individuals with a migration background are likely to be aware of the possibility that they are discriminated against and may attempt to overcome this discrimination by seeking to appear "as native as possible", especially by not mentioning characteristics that indicate an attachment to their country of origin on their CVs. For instance, Kang et al. (2016) show that ethnic minority candidates in the US often downplay racial cues when applying for jobs, which is a practice known as "CV-whitening" and is expected to lead to more positive employer evaluations. Strategies applied for CV-whitening include, especially among Asian Americans, using/adding a first name that is different from the legal first name, omitting experiences or activities that are associated with a specific racial background, or adding "white" experiences or hobbies, even if these were less central to the job announcement.

Consistent with this research, we analyze whether *signaling a high level of assimilation into a host society* can help second-generation immigrants overcome some of the labor-market disadvantage they face or, conversely, whether *signaling a strong attachment to their country of origin* impairs their labor-market perspectives. Moreover, we test whether this phenomenon applies to all non-native applicants and whether some nationalities face higher penalties than others. We chose three immigrant communities, i.e., Spanish, Polish, and Turkish, because these communities represent salient minorities in the public debate in Switzerland and many other European countries (e.g., Triandafyllidou 2006; Friberg 2012; Eroğlu 2017). Moreover, these groups clearly differ in how culturally distant they are perceived from the native population in Switzerland (Ruedin et al., 2013). Similarly to Hagendoorn (1993), we expect to observe variation in employers' evaluation of candidates depending on this perceived distance and group-specific immigration history and hypothesize that a Spanish background is perceived as culturally closer than a Polish background and that a Turkish background is perceived as the most culturally distant background.

Regarding these salient groups, we test the effect of two types of signals[1] that may affect recruiters' hiring practices by means of a factorial survey experiment. In this experimental setting, we asked HR

[1] Our use of the "signal" concept deviates from economic theory and includes characteristics or activities that are not necessarily costly to acquire but that an individual can choose whether to reveal (for a similar definition, see Liechti et al. 2017).

managers to evaluate the profiles of fictitious job applicants. The candidates varied in several dimensions, including their migration backgrounds and attachment to the host country or country of origin. By *combining* different migration backgrounds with different signals of assimilation, we are able to study how indicating assimilation to the host country or attachment to the (parents') country of origin influences individual hiring chances.

In the context of ethnic discrimination, (perceived) cultural differences (distance[2] hereinafter) play an important role. It is difficult to pinpoint the exact nature of cultural distance perceptions as they are probably multidimensional. We test two signals that are likely to influence the perceived cultural distance to a host society. First, foreign language proficiency indicates a connection to a different cultural background (Kramsch, 1998). In fact, individuals might signal a strong (weak) attachment to their country of origin by (not) revealing their language skills in the relevant "foreign" language. We suspect that if individuals with a foreign-sounding name reveal that they *only* speak the host-country language on their CVs, they could be perceived as *less distant*, thus mitigating the level of discrimination to which they are exposed. Conversely, individuals displaying that they *also* speak the language of their country of origin might signal some form of attachment to the country of origin, i.e., a signal suggestive of being *more distant,* and consequently experience more discrimination. Since we explicitly define second-generation migration in terms of individuals who were educated in Switzerland, the lack of host-country language proficiency can be ruled out in the experiment.

Furthermore, along the same lines, we analyze whether signaling the willingness to contribute to the host society in extracurricular activities facilitates access to the labor market. Drawing upon Putnam (1993), we consider civic engagement a pivotal component of a well-working (democratic) society. Thus, volunteering is a particularly strong form of commitment to a society because it is unpaid and often carried out without formal or monetary recognition. Studies have shown that volunteering can be a useful tool in the labor market to convey desirable qualities, such as motivation, skills, connections

[2] Following the literature, we use cultural distance to denote the perception that an individual with a migration background "differs" from the natives (e.g., Hagendoorn, 1995; Ebner and Helbling, 2015). Notably, the concept of cultural distance is multidimensional; we analyse the effect of the following two elements that influence this perception: language (cultural assimilation) and volunteering (social assimilation).

and networks (e.g., Handy and Greenspan 2009). In the context of migration, we argue that volunteering can signal not only human, social and cultural capital endowment but also attachment to the host society. Consequently, volunteering for a local association (in our case, the Red Cross and Swiss swimming clubs) is likely to be perceived as a positive signal (e.g., Baert and Vujić, 2016). In contrast, disclosing engagement specific to the candidate's ethnic community (such as chairpersonship in a cultural association) could be interpreted as the lack of assimilation into a host society and, thus, be perceived as a negative signal by prospective employers. Therefore, we investigate whether *signaling either assimilation* into a host society or *attachment* to the country of origin influences candidates' likelihood of being hired.

## 2. Migration in Switzerland

Currently, Switzerland is among the European countries with the highest share of people with a migration background (35.6%) with annual inflow rates of 19 immigrants per 1000 inhabitants, which is well above the rates observed in other traditional immigration countries, such as Germany (11) or the United Kingdom (8; Federal Office for Statistics 2017). Furthermore, immigration to Switzerland has been restrictively regulated, serving foremost the demand of the economy for low-skilled labor during the post-World War II period (Piguet 2004). During these years, the Swiss government entered into contracts with various countries, including Italy, Spain, Turkey, and Yugoslavia, to recruit workers. Over time, the situation of guest workers was ameliorated, allowing for family reunions during the early 1960s and resulting in the continued expansion of the permanent foreign resident population (e.g., Ruedin et al. 2013). By the 1990s, the guest-worker system was replaced with a three- and then a two-tiered labor-market model (Pineiro and Haller 2012). Since 2003, following the introduction of the free movement of persons, high-skilled immigration, particularly from European countries, grew relatively stronger (Becker et al. 2008), and the highest share of immigrants arrived from Western European countries, followed by Southern and Eastern Europe. In this study, we focus on individuals with Spanish, Polish or Turkish backgrounds since these communities represent salient minorities in Switzerland and sizeable groups in many European countries, thereby rendering the results relevant in

other contexts. Moreover, the literature suggests that these groups are perceived quite differently from each other in terms of cultural distance (Ruedin et al., 2013).

Migration from Spain began as early as the 1950 as a part of the so-called guest worker model. Immigrants from Spain and Italy constituted the largest population of immigrants during this time (Wanner et al., 2009). Currently, many individuals with a Spanish background are descendants of immigrants who entered as guest workers. After the economic crisis in the 1970s, immigration decreased and only started to increase again in the late 1970s. However, as it was more difficult to find workers from traditional immigrant countries, the demand for low-skilled labor was satisfied by immigrants, including refugees, from the former Yugoslavia and Turkey (Wanner et al., 2009). Immigration from Poland occurred more recently and was mostly a consequence of the free movement of people after the 2004 European Union enlargement (Federal Office for Statistics 2017). Currently, 3.5% of non-Swiss residents have a Turkish nationality and 4% of non-Swiss residents have a Spanish nationality, rendering these groups the 3rd and 4th largest migrant groups, respectively, after excluding the neighboring countries France, Germany and Italy[3] (Federal Office for Statistics 2018). In total, 1.5% of the Swiss resident population are Polish (Federal Office for Statistics 2017). However, the number of individuals with Spanish, Turkish or Polish *backgrounds* is obviously much larger.[4] For instance, immigrants with a Spanish background represent the most common example of a consequence of a recent public referendum in Switzerland that eased the naturalization of third-generation immigrants.

While first-generation immigrants were mainly concentrated in low-skilled occupations, their descendants, whose labor-market disadvantage is investigated here, are similar to natives in terms of human capital. However, Swiss natives more often occupy academic professions, while second-generation immigrants are overrepresented among clerical employees and sales staff. Overall, second-

[3] In this contribution, we do not focus on immigration from neighboring countries for two reasons. First, it is very difficult to clearly signal attachment to a foreign country that shares the same national language as Swiss citizens, and second, neighboring countries contribute a large share of commuters working in border regions, and thus, the perception of these workers can be expected to be theoretically differ from more "traditional" forms of immigration. Since our aim is to test the integration of immigrants, we exclude immigrants from these countries.

[4] Official data do not allow for the tracking of the nationality background of first- and second-generation immigrants.

generation immigrants (7%) suffer from higher unemployment rates than the native population[5] (3%), suggesting that discriminatory mechanisms may play a role. This conclusion may be even more obvious given that Switzerland basically lacks anti-discrimination legislation (Federal Office for Statistics 2017).

## 3. Ethnicity-based perception of distance

Undoubtedly, various factors influence the labor-market disadvantages experienced by immigrants. The lower labor-market achievement may be due to the lack of human and social capital (Heath and Cheung 2007) and driven by aspects, such as (work-related) values and the way these traits relate to the necessities of the host country's labor market (e.g., Koopmans 2016 vs. Auer et al. 2017). However, the recent literature has convincingly argued that differences in labor-market outcomes exist between immigrants and non-immigrants persist even after considering such factors (e.g., Heath and Cheung, 2007; Ballarino and Panichella, 2015). The overarching conclusion is that at least a part of the residual disadvantage results from discriminatory behavior. The outcomes of discriminatory behavior, i.e., the differential treatment resulting from group-specific identifiers, occur independent of the theoretical background and strand of literature that explains the following mechanisms of discriminatory behavior: taste vs. statistical discrimination (Becker, 1957 resp. Arrow, 1973; Spence, 1972) or in- vs. out-group dichotomies in social psychology (Fiske, 1998; Kahneman, 2011). Concisely, independent of the precise mechanisms leading to discrimination, the outcome is a reduction in the labor market chances of immigrants and their descendants. In this contribution, we specifically analyze how employers' perceptions of cultural attachment influence the labor market outcomes of immigrants.

We do not focus on explaining the *nature* of the different mechanisms that engender discrimination. In fact, our main contribution is the assessment of whether there are successful strategies that may help *reduce* the ethnic penalty. According to taste discrimination theory, signaling assimilation may lead to a decreased perception of distance; regarding statistical discrimination, assimilation may reduce the

[5] Official data do not provide separate statistics for labor market outcomes by different nationalities, especially second-generation immigrants. Thus, comparing their outcomes with those of Swiss natives is challenging.

amount of uncertainty associated with a profile; and regarding the social psychological mechanisms, showing a strong connection to the in-group may trigger a lower probability of classifying specific individuals as belonging to the out-group.

Moreover, we propose that a dichotomous distinction between natives and non-natives or in- and out-groups does not fully explain the complex intergroup relationships found in modern societies. Hagendoorn (1995; 1993) suggests that natives ascribe different levels of "distance" to different ethnic groups (or nationalities) according to their perceived position in ethnic rankings. Interestingly, Derous (2009) shows that even minorities apply these rankings when evaluating peers, suggesting that minority-group members are conscious of their group's position in the perceived ethnic ranking, thereby perpetuating its effect.

The literature has found that among Western societies, northern Europeans are ranked the highest in terms of productivity and perceived cultural closeness, followed by southern Europeans, South Americans, and individuals originating from African countries and the Middle East (Hagendoorn and Hraba 1987). More recent studies have found (descriptive) evidence that nationalities' productivity rankings indeed follow the patterns suggested by ethnic rankings (e.g., Snellmann and Ekehammar 2005 for Sweden; Auer and Fossati 2018 for Switzerland). In this study, therefore, we chose nationalities that differ regarding their perception of cultural distance to Swiss natives. Descendants from southern immigrants (Spain, Italy, and Portugal) are currently considered culturally close to Swiss natives (Ruedin et al. 2013). Immigrants from Muslim countries, such as Turkey, are instead perceived as culturally more distant because this group is often negatively portrayed in public debates (Helbling, 2010). Finally, the children of Polish immigrants are perceived as between these groups. On the one hand, these individuals do not have a traditionally long immigration history in Switzerland. On the other hand, following Hagendoorn (1993), Polish immigrants should be perceived culturally (and religiously) as closer to Swiss natives than Turkish immigrants.

We hypothesize that this ethnic ranking will be manifested in employers' evaluation of candidates in our experiment such that perceptions of candidates as more culturally distant will be evaluated more skeptically, and thus, these candidates will be discriminated against. *(H1) The evaluation of applicants*

*by employers worsens with increasing perceived cultural distance from the Swiss native society (i.e., employers will evaluate candidates as follows: Swiss > Spanish > Polish > Turkish).*

## 4. Signaling assimilation: language, volunteering and their combination

Against the backdrop of the large body of research showing that individuals with a migration background are very often disadvantaged during the hiring process (e.g., Bertrand and Mullainathan, 2004; Carlsson and Rooth, 2007; Kaas and Manger, 2010; Liebig et al., 2012; Birkelund et al., 2016; Zschirnt and Ruedin 2015; Auer et al. 2019), we inquire whether certain factors counteract or reduce employers' discrimination. Thus, we test whether signals that either "attach" or "distance" a non-native candidate to/from the in-group influence employers' perception of the candidates. Therefore, we investigate *combinations* of nationalities and signals that convey cultural (language) and social (volunteering) assimilation. In fact, evidence from the U.S. suggests that racial minority candidates in the US "whiten" their résumés and, thus, decrease the saliency of their race in an attempt to reduce the discrimination they face on the labor market (e.g., Kang et al. 2016). Thus, in this study, we aim to create and test CVs that correspond as closely as possible to the real behavior of immigrants and test settings where their distance to the host society is downplayed.

Learning the local language is an essential step for immigrants to integrate into the social fabric of the host country (e.g., Chiswick, 1991; Friedberg, 2000; Alba and Nee, 2003; Dustmann and Fabbri, 2003; Kogan et al., 2011). Regarding first-generation immigrants, the possession of language skills explains a large amount of variance in terms of labor-market performance (e.g., Friedberg, 2000; Liebig, et al. 2012; Auer 2018). We argue that language skills are also important for second-generation immigrants, i.e., individuals with foreign-born parents who were educated in Switzerland, albeit for a different reason. For applicants who were raised and educated in the host country, local language proficiency is usually assumed. Dorner and Pulido (2003) show that children of immigrants acquire language skills easily and often use these skills to help their parents in practical situations. Hence, the command of the local language does not distinguish these applicants from native applicants; however, the question is whether they *choose to reveal* their language of origin as a skill on their CV (see Goffman, 1959; Kang et al., 2016 for examples of concealing or downplaying racial cues in CVs). This decision may have

important implications for employers' *perceptions* of non-native candidates' ethnic distance. Individuals with a foreign-sounding name who indicate speaking the language of their parents' country of origin on their CVs are likely to be perceived as more distant from the host society than individuals with the same name who indicate speaking *only* the local language. Why does conveying proficiency in the language of origin lead to increased discrimination, if speaking multiple languages is otherwise a strong signal of superior cognitive skills and motivation? The literature agrees that language and culture are inseparable. Therefore, speaking a language automatically implies a strong connection to a particular culture and its practices. Kramsch (1998: 6ff.) argues that people who identify with a group acquire specific ways of viewing the world through communication with other group members. We argue that the (conscious or unconscious) decision to signal (or not signal) this cultural connection affects the way an employer evaluates a profile as we expect employers to be prone to perceiving individuals with a foreign-sounding name as less distant and, thus, more employable when they indicate that they *only* speak the local language. In contrast, individuals who disclose their connection to a foreign culture could be perceived as more distant from the host society because they actively signal a connection to another culture. We believe that in contrast to religious affiliation, which is generally not disclosed, language is a particularly good signal for measuring the retention of strong bonds to one's migration background because it is an easily recognizable characteristic and is typically used in applications.[6]

As indicated above, employers may also evaluate language skills positively either because they directly increase the candidate's human capital with a useful skill[7] or they are interpreted as a signal of intellectual capacity. Hence, language as human capital may mitigate the hypothesized penalty of non-native language skills as a distance measure or may even result in a preference for multi-lingual

[6] As Wimmer (2004) shows, cultural distance perceptions are also connected to the timing of immigration. Groups that immigrated more recently are generally perceived as more distant than those who entered a country a long time ago. In Switzerland, Italian, Spanish and Portuguese immigrants are well accepted and integrated into society, while individuals from Eastern Europe and those who have immigrated only recently are likely to be perceived as more distant, even though they stem from geographically similar close regions that are a part of the European Union.

[7] This effect should especially apply to languages that are used internationally (e.g., English or Spanish) but less to languages that are less demanded in the Swiss labor market (e.g., Arabic or Turkish).

candidates if employers value the human capital signal of language more than its cultural aspect. In other words, any negative effect of non-native language proficiency would depict a conservative estimate of discrimination, as this result would be mitigated by employers who do not discriminate and only value the human capital component of language.

*(H2) Individuals who reveal proficiency in their country of origin language are evaluated more negatively by employers than individuals who do not reveal such language skills, while both groups continue to be evaluated worse than Swiss native candidates.*

Second, we investigate volunteering activity as a signal of attachment to or distance from the host society. As argued by Putnam (1993), civic engagement is associated with building trust, which is essential for social interaction, and facilitates activities ranging from trade to the functioning of democratic processes. Thus, a candidate who volunteers for a local organization is expected to care for the host society and its people; thus, volunteering may be a good way to countervail the name-induced distance perception. This effect should be particularly strong for activities with organizations that are typical to the host society's context, i.e., those that have a long tradition or connections to a society's core values (cf. Baert and Vujić 2016).

In contrast, adherence to an association that is closely connected to the candidate's country of origin is likely to convey a reticence or unwillingness to fully integrate into the host community or a strong attachment to the country of origin (cf. Adida et al. 2010; Piern 2013). This signal could trigger a less positive evaluation by employers. A similar signal of cultural attachment may be conveyed by wearing religious symbols, such as headscarves, turbans or other traditional garments. Such easily identifiable clothing signals attachment to another cultural background, thereby increasing labor-market discrimination (c.f. Weichselbaumer 2016).

Summarizing these assumptions regarding volunteering activities, we postulate the following:

*(H3) Employers evaluate candidates who signal assimilation or engagement in the host country more positively than candidates whose nonprofessional engagement conveys a higher level of distance from the host country, while both groups continue to be evaluated worse than Swiss native candidates.*

Finally, we expect that accumulating several signals of distance increases the labor-market disadvantage (cf. Derous 2009).

*(H4) Employers evaluate candidates who convey multiple signals of distance to the host society more negatively than candidates who do not convey multiple signals of distance to the host society, while both groups continue to be evaluated worse than Swiss native candidates.*

# 5. Data and methods

The drivers of employers' hiring behavior are difficult to observe directly. Conducting experiments provides a suitable approach for studying research questions linked to candidate recruitment (e.g., Neumark 2016). For instance, correspondence testing is an often-used method; however, this method raises ethical concerns because it directly affects application and selection processes, possibly creating costs for both candidates and employers (Zschirnt 2016). Thus, we use a less-intrusive experimental methodology consisting of an online factorial survey (FS) of HR managers in Switzerland.

## 5.1. Experimental setup

The use of FS is a widely applied method in the social sciences and is increasingly used to study employers' hiring behavior (van Beek 1993; de Wolf and van der Velden 2001; Biesma et al. 2007; Di Stasio 2014; Di Stasio and Gërxhani 2015; Damelang and Abraham 2016; Auer et al. 2019). In factorial experiments, the participants are confronted with descriptions (vignettes) of fictitious situations. In our online survey, we embedded brief descriptions simulating a schematic CV with some additional information for fictitious candidates as if generated by an online job application portal. For three different jobs, i.e., a caretaker, an HR assistant and an accountant, we asked HR professionals to evaluate these descriptions and rate the probability that they would invite each candidate for a job interview on an 11-point Likert scale (values 0-10). This variable does not directly measure the outcome (i.e., successful hiring) but rather represents an employer's stated willingness to interview a candidate; thus, this approach provides an indirect evaluation of a candidate's productivity. Such experimental settings ensure a high level of internal validity, and the effect of each randomized candidate dimension

can be estimated. Furthermore, we frame the experimental hiring situation closely to real-world situations in which HR managers evaluate competing CVs. Hence, the FS could also produce externally valid results. Relatedly, Webb and Sheeran (2006) and De Dreu et al. (2001) show a high correlation between stated choice and actual behavior. Since several dimensions are varied at random, it is unlikely that the respondents could identify the actual dimension of interest, and therefore, the likelihood of socially desirable answers is reduced.

An advantage of this study is that we rely on respondents who face hiring issues in their everyday professional lives; in contrast to many studies, we do not proxy hiring preferences through student or population samples (e.g., Baert and de Paw, 2014), which should increase the external validity. More generally, the FS approach reduces the risk of attributing employers' preferences to a characteristic that remains unobserved by the researcher but is observed by the employer, thereby increasing the internal validity. Overall, this experimental method delivers a more valid measurement of attitudes and is less biased by social desirability than item-based techniques, such as standard surveys. For the respondent, it is difficult to follow socially desirable patterns when several characteristics associated with labor-market disadvantages vary contemporaneously (Auspurg et al. 2009). Furthermore, this method allows us to investigate the effect of numerous individual attributes simultaneously, which is especially interesting when studying complex phenomena, such as discrimination in recruitment (cf. Andriessen et al. 2012; Hainmueller and Hopkins 2014).

In our experimental setting, we varied the skill levels of the occupations, including a low-skilled (caretaker), a middle-skilled (HR assistant) and a high-skilled (accountant) occupation. Thus, each respondent rated four fictitious CVs for each of these three different jobs. Subsequently, we randomly varied eleven dimensions providing key information regarding the applicants. These dimensions not only include our main variables of interest, i.e., origin (signaled by name), language skills and volunteering activities, but also gender, age, educational attainment, work experience, participation in labor market programs, and the channel of application (see Table A1 in the appendix for a complete list and Table S4 in the supplementary material for the correlations[8] among the vignette dimensions). We

[8] As shown in the correlation matrix, there is no need to control for all vignette dimensions because they are not correlated with the main effects of interest (Table S4 in the Supplementary Material).

relied on a d-efficient (90.70[9]) sample of 670 vignettes from all 203,400 possible combinations to maximize the orthogonality of the eleven dimensions.

Prior to introducing four different vignettes per job, we displayed a general description of the situation, specifying that all candidates had completed their compulsory education in Switzerland to avoid diverging assumptions regarding the language proficiency, work permits, education and recognition of foreign diplomas of the candidates with foreign-sounding names (Gordon 1964). Moreover, we included a brief description of the tasks involved in the different occupations and indicated that the candidates were unemployed due to the closure of the firm where they previously worked to avoid varying interpretations of the reasons for dismissal.[10]

We focus on CV-based applications because they are among the most common application channels and the interaction between the candidate and the employer is not mediated by a third person or actor (a situation that is not easily replicable in an experimental setting).

Because we aimed to study the characteristics that may trigger social desirability bias, this study was publicly framed in general terms as a project inquiring about regional differences in recruitment needs and preferences. The online survey was administered in both the French- and German-speaking parts of Switzerland[11], and the participants could choose the language they preferred. The participants received an e-mail with a survey link through their regional HR association. The data collection occurred between June and October 2016[12]. We obtained data from 712 individuals who completed the survey and rated a total of 5,674 vignettes (response rate ~15%, see Figure S2 in the supplementary material for the distribution of the dependent variable).

Since the sample stems from a homogenous group of specialized HR professionals, we consider the low response rate unproblematic since each vignette is rated by several respondents. The information obtained[13] from the respondents was compared with statistics regarding the Swiss firm structure

[9] A d-efficient sample (Auspurg and Hinz 2015) ensures that the estimation of all single- and two-way interaction effects and two three-way interactions is feasible.

[10] See Table S2 for a description of the vacancy in the different survey languages, Table S3 for a description of the candidates, and Figure S1 for the implementation in Qualtrics.

[11] We excluded the Italian-speaking part of Switzerland from the study because its population accounts for only 4.3% of the Swiss population.

[12] See Table S1 in the supplementary materials for more information regarding the experimental protocol.

[13] See Table S5 in the supplementary material for the descriptive statistics of the respondents.

(Federal Office for Statistics, 2014a) to determine how well the sample represents the national structure. The comparison reveals that in our sample, medium (up to 250 employees) and large firms (more than 250 employees) are overrepresented. While most Swiss firms have 0 to 9 employees, 31% of the respondents in the sample worked in a firm with up to 250 employees, and 52% of the respondents worked in a firm with more than 250 employees, which is unsurprising since medium and large firms are more likely to employ professional HR services. However, we do not consider this distribution problematic for our results since these medium and large firms employ approximately 30% of the Swiss workforce (Federal Office for Statistics, 2014; thus, how these firms screen and evaluate applicants is relevant for a large share of jobseekers in Switzerland.

We consider our results conservative estimates of how individuals with a migration background are evaluated and the extent to which they suffer from a disadvantage due to employers' hiring behavior. First, we test our hypotheses with a sample of HR managers who are more likely to be sensitized to the problem of discrimination than the general population, and second, large firms are overrepresented in our sample. One can assume that due to their formalized hiring procedures and higher visibility, the HR managers in these firms are less likely to discriminate.

### 5.2. Operationalization

We indicated the candidates' migration backgrounds on the CVs by utilizing typical names associated with specific nationalities. Thus, we assigned names from a list of the most common names and surnames in the respective nationalities at random to the different candidate descriptions. We included Swiss candidates as a baseline, and then, following the results reported by Hagendoorn (1993, 1995), we included individuals with Spanish (close), Polish (intermediate), and Turkish (most distant) sounding names. In fact, the literature shows that individuals associated with the Muslim religion often have the most disadvantaged position in the Swiss ethnic ranking (c.f. Krings and Olivares, 2007; Hainmueller and Hangartner 2013; Ruedin et al., 2013; Binggeli et al., 2014).

Subsequently, we operationalized the degree of conveyed assimilation by means of the language(s) disclosed by a candidate as follows: the minority candidates indicated speaking either only the local language (French or German depending on the region where the survey occurred) or the local language

and their language of origin (Spanish, Polish, or Turkish) (see Table 1). All Swiss candidates only speak the local language to limit human-capital bias.

**Table 1**: Operationalization of the following vignette dimensions: migration background, volunteering and spoken language

| Variable | Manipulation | Interpretation |
|---|---|---|
| Nationality/ethnicity | Random allocation of Swiss-/Spanish-/Polish-/Turkish-sounding names | Perceived distance |
| Civic engagement | None (baseline)<br>In her/his free time, s/he volunteers by driving shuttles for the Swiss Red Cross<br>In her/his free time, s/he trains local lifeguards<br>In her/his free time, s/he is the chairman of a Swiss/migrant association | Baseline<br>Swiss-related volunteering<br><br>Swiss-related volunteering<br>Migration-related volunteering |
| Language | *Name of the candidate* speaks German/French<br>*Name of the candidate* speaks German/French and Spanish/Polish/Turkish | Signaling assimilation<br>Signaling cultural attachment to the country of origin's culture |

To capture whether signaling a strong (weak) attachment to the host society increases (decreases) a candidate's labor market chances, we varied the signals relative to the type of civic engagement on the CVs. The baseline candidates do not engage in any voluntary activity. Then, we included the following two categories of voluntary activities that signal civic engagement in traditional Swiss leisure activities: acting as trainers for local lifeguards and volunteering to drive shuttles for the Red Cross. We expect that engagement in either activity signals a strong commitment to the host society as both activities involve voluntary work for organizations that are well-known and renowned in Switzerland. Additionally, we operationalized a high level of distance by indicating that the candidate works as a chairperson of a cultural association connected to their country of origin.[14] In these analyses, we

[14] We chose these activities to ensure that the amount of individual effort is as comparable as possible. All activities involve an important degree of commitment and require active participation. Therefore, we include a position as a chairperson of a cultural association rather than simple membership, which does not necessarily involve much engagement. Additionally, it was important to ensure that each activity is intended to benefit society and is not pursued for personal profit or hedonistic purposes. Finally, we specifically chose volunteering activities that are well-known and convey unidimensional signals. For instance, a very diffused and typical volunteering activity in Switzerland is linked to carnival parades. This type of activity could easily be linked to negative signals in terms of employability, such as partying and alcohol consumption.
Notably, employers might also draw inferences about the fact that someone serves as a chairperson. These individuals might appear to be more outspoken and less tractable and, therefore, could be evaluated less positively. However, this effect should affect both Swiss and immigrant candidates to the same extent; the analysis shows that Swiss candidates are not negatively affected by acting as a chairperson. Thus, the only difference that remains

collapsed the Swiss activities (Red Cross volunteer or trainer) to highlight the dichotomous difference between Swiss- and migration-connected volunteering activities. For the Swiss candidates, we tested the same hobbies but specified that they volunteered as a chairperson of a Swiss cultural association.

### 5.3. Estimation strategy

To test our hypotheses, we performed a sub-group analysis by generating a categorical variable capturing each relevant combination of characteristics (nationality, hobby and language). This analysis resulted in 19 different candidate profiles. In this model, all Swiss candidates were grouped into a single category[15] and used as a reference to analyze whether specific combinations of the factors ameliorate (deteriorate) the labor market chances of non-native applicants. Thus, for each minority group, six different categories, i.e., profiles, were created. The profiles were obtained by combining each hobby (no hobby, a Swiss hobby and a cultural hobby) with speaking either one or two languages for each nationality (Spanish, Polish, and Turkish).

First, we estimate a baseline model with only the migration background, and then, we add the different candidate profiles. We also estimate models with the respondent characteristics for robustness purposes. To account for the nested data structure, we estimated linear OLS-models with fixed effects at the respondent's level and robust standard errors.

### 5.4. Experimental robustness

For experimental robustness, we assess whether the randomization of the candidates' characteristics was successful within the sample of respondents. Since survey experiments are conducted based on respondents' information within the questionnaire, it is impossible to compare the sample groups' attributes with those of the overall population. However, whether the candidates' characteristics are

should be derived from signalling attachment to the country of origin and, thus, a larger distance from the host country.

[15] For plausibility reasons, since the Swiss candidates do not vary in all characteristics, in particular, they do not speak a non-native language we cannot estimate interaction effects that include the Swiss. Additional analyses (available upon request) show that Swiss with a Swiss hobby do not achieve higher ratings than those without any hobby. However, Swiss volunteering for a Swiss cultural association is rated slightly higher (significant at the 10% level).

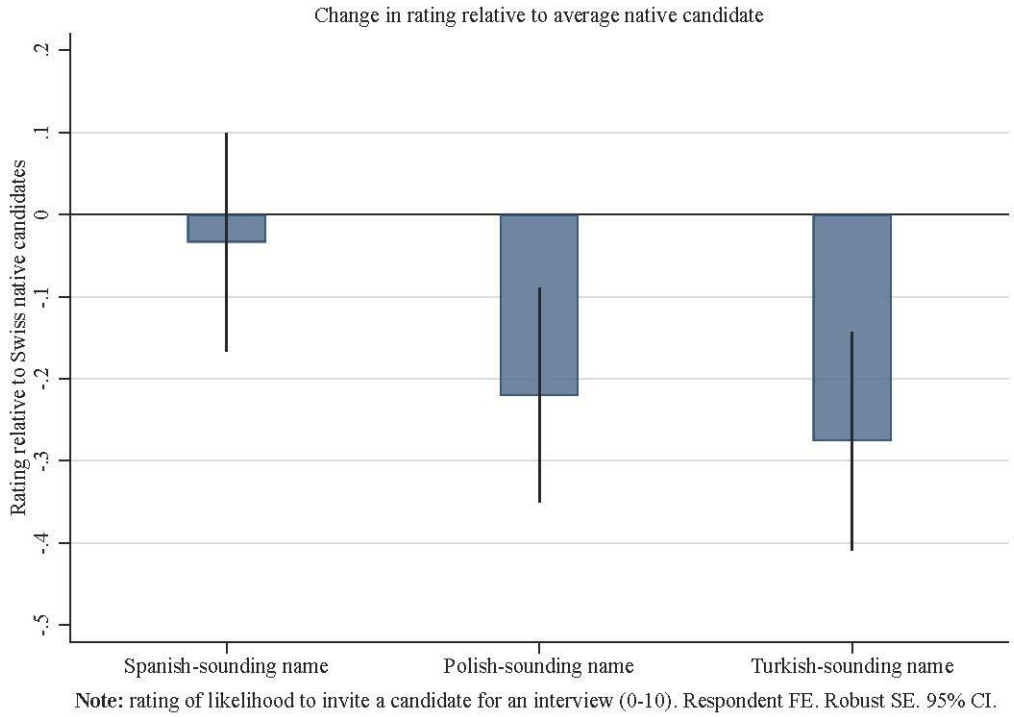
balanced within a given sample can be tested by regressing the key characteristics of the respondents on the list of randomized vignette characteristics. As shown in Table S4, almost all covariates are insignificantly correlated with the key characteristics of the respondents, including gender, age, Swiss citizenship, firm size of the respondent's employer, and whether the respondent has tertiary education, thus indicating that the randomization worked well. Moreover, we tested the responses' stability across the vignettes, i.e., a respondent should rate a specific vignette regardless of how many of the 12 vignettes were previously evaluated. Table S6 shows that the ratings of the fictitious candidates do not significantly change as the number of previously evaluated vignettes increases.

## 6. Results

First, we estimate a baseline OLS model (Model 1, Table A2 in the appendix) revealing that the negative effect of a foreign-sounding name is substantial in magnitude and statistically significant for Polish- and Turkish-sounding names. This disadvantage is persistent across all three occupations and applies to both male and female candidates.[16]

[16] We estimated models including interaction effects between nationality and occupation, gender, and age, and the results (Table S7 in supplementary material) show that the interaction between occupation and gender is not significant. Regarding age, older candidates to suffer more from discrimination; however, as we included five age categories and three nationalities, the small N in each category is an issue.

**Figure 1:** Effect of foreign-sounding names on the probability of an invitation

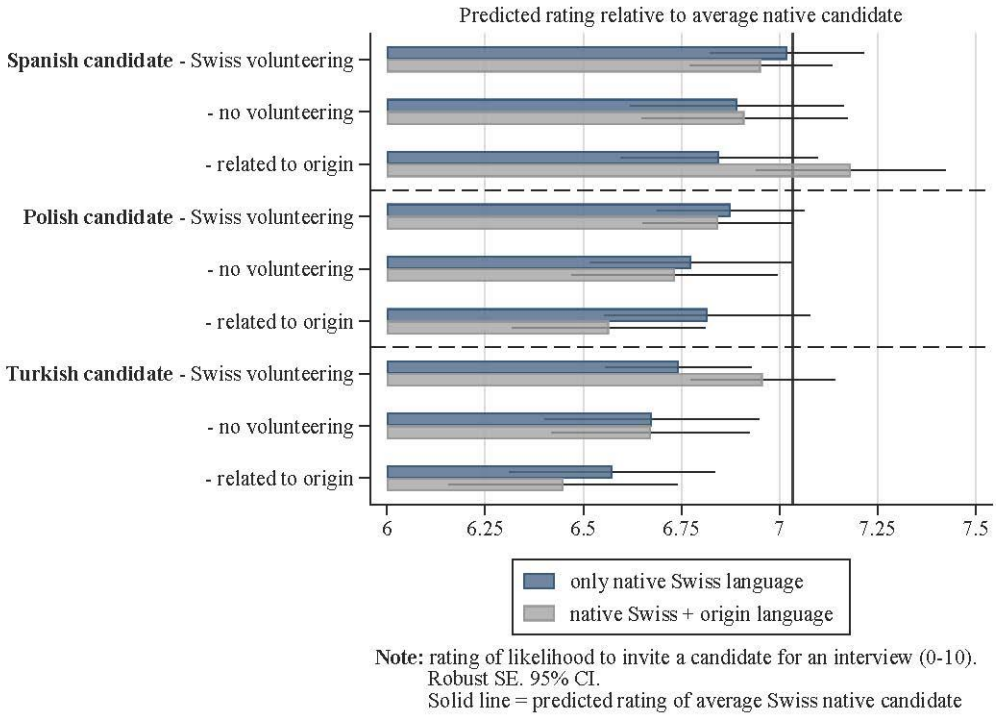



As displayed in Figure 1, individuals with Spanish-sounding names are rated similarly to candidates with Swiss-sounding names. This absence of a disadvantage can be explained by the perceived closeness of the Spanish culture to the Swiss culture compared to other cultures and the timing of concentrated Spanish immigration, which occurred during the earlier immigration waves. In contrast, Polish and Turkish migrants, who are perceived as more culturally distant, entered Switzerland during the subsequent migration waves, and these circumstances are likely to contribute to the assessments of these candidates. Thus, as proposed by Hagendoorn (1995), the rankings of preferred candidates follow some form of ethnic hierarchy (see Hypothesis 1).

In our main models of interest, we estimate the predicted rating of 19 candidate profiles reflecting all relevant combinations of foreign-sounding names, voluntary activities, and non-native language skills related to the parents' country of origin. As a reference category, we define the average native candidate, i.e., a Swiss-sounding name and all volunteering activities combined. Our preferred model reflects an OLS regression of employers' rating of all 19 profiles with respondent fixed effects (see Model 2 in

Table A.2 in the Appendix). As a robustness check, we also present two models with all candidate covariates and respondent covariates (Models 3 and 4 in Table A.2).

**Figure 2:** Ratings of different candidate profiles (nationality, hobby and language combinations)




**Note:** rating of likelihood to invite a candidate for an interview (0-10).
Robust SE. 95% CI.
Solid line = predicted rating of average Swiss native candidate

As shown in Figure 2, the predicted ratings of the different profiles suggest that individuals with a Spanish-sounding name are rated similarly to Swiss candidates, except for those with profiles indicating engagement in a Spanish hobby and speaking Spanish. These profiles are evaluated significantly better than those of native candidates. Apparently, among candidates belonging to a group that is generally perceived as close to natives and potentially associated with positive stereotypes regarding food and culture, providing signals of attachment to one's immigrant background is evaluated positively. Plausibly, employers value the additional human and social capital acquired as a chairperson in a cultural association and appreciate Spanish as a useful language for the job.

As shown in the second graph in Figure 2, the Polish profiles are rated similarly to the native profiles. However, signaling a strong attachment to the polish culture either in terms of language and/or hobbies leads to negative point estimates (although non-significantly).

Finally, the third graph in Figure 2 shows that candidates with Turkish-sounding names are disadvantaged when they signal attachment to their culture of origin. In fact, individuals with a Turkish hobby and individuals with a Turkish hobby who indicate mastery of Turkish on their CV are evaluated significantly worse than Swiss natives. Interestingly, however, if the Turkish applicants signal a strong assimilation to the Swiss way of life by indicating participation in a typical Swiss hobby and suggest that they speak only either French or German, they are no longer evaluated significantly worse than natives.

Overall, the analyses show that distance in terms of nationality has the strongest (negative) effect on candidates' rating. However, we find that non-native candidates can steer at least to some extent the perception of their application by either signaling a strong attachment to the Swiss culture or signaling that they retain an attachment to their culture of origin. Specifically, for those individuals who are disadvantage the most because they are perceived as most distant from the Swiss culture, it is counterproductive to signal attachment to their country of origin. However, the evaluation of these profiles can be ameliorated and rendered non-significantly different from Swiss profiles if they signal a strong assimilation in terms of a Swiss hobby and revealing proficiency only in a Swiss national language.

In summary, minority candidates can counteract employers' discrimination by signaling profound assimilation. In fact, in these cases, their evaluation no longer significantly differs from that of Swiss candidates. However, especially for candidates who are the furthest from the Swiss cultural background, simply a slight suspicion of retaining a strong connection with the culture of origin leads to a significantly less advantageous evaluation of their application.

## 7. Conclusions

This survey experiment shows that job applicants with a foreign-sounding name experience lower evaluations from HR professionals in Switzerland than applicants with a native name. The degree of disadvantage follows the expected cultural distance hierarchy suggested by Haagendoorn (1993; 1995). This direct discrimination based on background is worrisome. Moreover, strikingly, individuals who disclose multiple signals of attachment to their non-native background and more precisely indicate on their CV that they speak a foreign language and/or engage in a cultural association connected to their migration background face an even greater disadvantage if they are already perceived as culturally distant. Specifically, we show that Turkish (Polish) candidates face a significant disadvantage when they signal Turkish (Polish) language proficiency and voluntary activities that match their parents' culture of origin. Thus, the larger the perceived cultural distance, the larger the labor market disadvantage when the CVs are not "whitened". However, from a purely economic perspective, both activities should increase a candidates' employability because of the high degrees of human, social and cultural capital associated with such activities. Our research also complements the findings of previous studies suggesting that volunteering activities lead to more equal treatment of native and non-native candidates when a candidate engages in a typical Swiss volunteering activity. Then, their profile evaluations no longer significantly differ from that of an average Swiss native applicant (c.f. Baert and Vujić, 2016). Moreover, we extend previous studies and show that it is important to distinguish the specific signal attached to volunteering activities because not all volunteering activities are necessarily perceived as assets as previously assumed (e.g., Baert and Vujić 2016). In fact, the accumulation of signals connected to a foreign background triggers the perception of a lack of attachment to the host society and a substantial evaluation penalty.

We believe that our results are likely conservative estimates of the discrimination faced by candidates with a foreign-sounding name because we tested our hypotheses with a sample of professional HR managers who are involved in recruiting on a daily basis and are likely to be aware of diversity issues, especially since most respondents are employed in larger firms that are generally more concerned with corporate diversity. Moreover, the respondents were aware that these are hypothetical situations. Thus,

the ratings of the candidates did not translate into real consequences, suggesting that any incidents of socially desirable behavior could have led to foreign candidates being evaluated more favorably than in a real-world hiring situation. However, since we find discrimination patterns similar to those reported in earlier studies carried out in Switzerland and other European countries using both experimental and administrative data (e.g., Fibbi et al. 2003; Zschrint and Ruedin, 2015; Hagendoorn, 1993), we are confident that our results are valid and generalizable beyond the experimental setting. Finally, language and volunteering are only two ways of revealing attachment to the country of origin and might even have positive human capital effects; however, there may be stronger signals, such as more stereotypical hobbies, that lead to an even more pronounced disadvantage among immigrants.

When analyzing the effects on labor market outcomes, future research should pay more attention to the type of volunteering activities and acknowledge the possibility of diverging perceptions of natives and immigrants. Moreover, it appears that failing to account for different types of signals that connect a candidate to a non-native background masks potentially negative effects that develop as an accumulation of disadvantage. Other promising venues for research include investigating different combinations of variables that may entail a disadvantage and whether a labor market disadvantage can be counteracted by more formal signals of assimilation, such as the acquisition of a host country's nationality, which is a demanding process, at least in Switzerland (Hainmueller et al., 2015), or specific social or integration policies. In fact, the signals conveyed by participation in active labor-market measures might contribute to improving the evaluation of nonnative candidates (e.g., Liechti et al. 2017).

This research seems particularly important during an era of increasing immigration from countries that are often perceived as very distant from the European context. Our results suggest that there is limited room for ameliorating employers' assessments; instead, the most promising strategy is to avoid feeding the perception of distance whenever possible.

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# Appendix:

**Table A1:** Vignette dimensions

| Dimension | Level |
|---|---|
| ***Personal information*** | |
| 1) Gender | Male<br>Female |
| 2) Age | 35, 40, 45, 50, 55 years |
| 3) Civil status | Single<br>Married<br>Divorced |
| 4) Children | None<br>1 child<br>2 children<br>3 children |
| 5) Nationality (random allocation of names) | Swiss<br>Spanish<br>Polish<br>Turkish |
| 6) Mother tongue | French/German (depending on the region)<br>French/German and other language (Spanish/Polish or Turkish for the immigrant candidates) |
| 7) Volunteering | Swiss-connected volunteering<br>- None<br>- Trainer for local lifeguards<br>- Volunteering for the Swiss Red Cross driving service<br>Migration-connected volunteering<br>- Chairperson of a Swiss/Spanish/Polish or Turkish cultural association |
| ***Work-related experience*** | |
| 8) Education | Lower<br>- Caretaker: compulsory education<br>- HR assistant: apprenticeship (EFZ/CFC) as a merchandiser<br>- Accountant: apprenticeship as a merchandiser and federal diploma in Controlling and Accounting<br>Higher<br>- Caretaker: Apprenticeship (EFZ/CFC) as a caretaker<br>- HR assistant: Federal Matura<br>- Bookkeeper: BA in business administration |
| 9)Work experience | Private sector<br>Public sector |
| ***Labor market-related information*** | |
| 10) Channel of application | Advertisement (reference category)<br>Unsolicited application<br>Referral by a local job center<br>Referral by an employee |
| 11) Active labor market policy (ALMP) participation | None<br>Training<br>- Caretaker: further education in facility management<br>- HR assistant: further education in HR management<br>- Accountant: CAS in accounting<br>Adapted employment program: participation in a practice company<br>Non-adapted employment program: recycling of old clothes<br>Subsidy: 40% of the salary is paid by a local job center for the first 6 months |

**Table A2:** Effect of candidate profiles on the probability of an invitation to a job interview (0-10)

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| **Spanish-sounding name** | | | | | | |
| with Swiss hobby | 0.01 | (0.11) | 0.06 | (0.11) | 0.05 | (0.11) |
| with Swiss hobby and 2nd language | -0.05 | (0.10) | -0.05 | (0.10) | -0.10 | (0.10) |
| without hobby | -0.12 | (0.15) | -0.14 | (0.14) | -0.11 | (0.15) |
| without hobby and 2nd language | -0.10 | (0.14) | -0.14 | (0.14) | -0.10 | (0.14) |
| with cultural hobby | -0.16 | (0.14) | -0.16 | (0.13) | -0.16 | (0.13) |
| with cultural hobby and 2nd language | 0.18 | (0.13) | 0.18 | (0.12) | 0.17 | (0.13) |
| **Polish-sounding name** | | | | | | |
| with Swiss hobby | -0.13 | (0.11) | -0.11 | (0.10) | -0.11 | (0.11) |
| with Swiss hobby and 2nd language | -0.16 | (0.11) | -0.16 | (0.11) | -0.20 | (0.11) |
| without hobby | -0.23 | (0.14) | -0.23 | (0.13) | -0.19 | (0.14) |
| without hobby and 2nd language | -0.27 | (0.14) | -0.24 | (0.13) | -0.25 | (0.14) |
| with cultural hobby | -0.19 | (0.14) | -0.18 | (0.13) | -0.19 | (0.14) |
| with cultural hobby and 2nd language | -0.44** | (0.13) | -0.38** | (0.13) | -0.36** | (0.13) |
| **Turkish-sounding name** | | | | | | |
| with Swiss hobby | -0.26* | (0.11) | -0.20* | (0.10) | -0.19 | (0.11) |
| with Swiss hobby and 2nd language | -0.05 | (0.10) | -0.04 | (0.10) | -0.00 | (0.11) |
| without hobby | -0.33* | (0.15) | -0.45** | (0.14) | -0.48** | (0.15) |
| without hobby and 2nd language | -0.33* | (0.14) | -0.28* | (0.13) | -0.24 | (0.14) |
| with cultural hobby | -0.43** | (0.14) | -0.48*** | (0.13) | -0.50*** | (0.14) |
| with cultural hobby and 2nd language | -0.56*** | (0.16) | -0.61*** | (0.15) | -0.60*** | (0.16) |
| **Candidate characteristics** | | | | | | |
| Training ALMP (ref.: none) | | | 0.28*** | (0.08) | 0.36*** | (0.09) |
| Wage subsidy | | | 0.20* | (0.08) | 0.28*** | (0.09) |
| Fitting occupational ALMP | | | 0.05 | (0.08) | 0.08 | (0.08) |
| Non-fitting occupational ALMP | | | -0.22** | (0.08) | -0.20* | (0.08) |
| Job ALMP | | | -0.01 | (0.08) | 0.03 | (0.09) |
| Referral (ref.: written application) | | | 0.33*** | (0.07) | 0.31*** | (0.07) |
| Unsolicited | | | 0.17** | (0.07) | 0.16* | (0.07) |
| Referral by a job-center | | | 0.19** | (0.06) | 0.22** | (0.07) |
| Female | | | 0.01 | (0.04) | 0.01 | (0.05) |
| 40 years old (ref.: 35 years) | | | -0.02 | (0.07) | -0.04 | (0.08) |
| 45 years old | | | -0.04 | (0.07) | -0.05 | (0.07) |
| 50 years old | | | -0.17* | (0.07) | -0.19* | (0.08) |
| 55 years old | | | -0.58*** | (0.07) | -0.63*** | (0.08) |
| 1 child (ref.: no children) | | | -0.03 | (0.07) | -0.03 | (0.07) |
| 2 children | | | -0.10 | (0.06) | -0.10 | (0.07) |
| 3 children | | | -0.13 | (0.07) | -0.13 | (0.07) |
| Divorced (ref.: married) | | | 0.01 | (0.06) | 0.02 | (0.06) |
| Single | | | -0.20*** | (0.06) | -0.22*** | (0.06) |
| General education (ref.: vocational) | | | 0.11* | (0.05) | 0.09 | (0.05) |
| Private sector exp. (ref.: public sector) | | | 0.02 | (0.05) | 0.02 | (0.05) |
| Application for HR (ref.: accountant) | | | -0.87*** | (0.05) | -0.85*** | (0.06) |
| Application for caretaker | | | 0.23*** | (0.06) | 0.26*** | (0.06) |
| **Respondent characteristics** | | | | | | |
| Works in public administration | | | | | 0.15 | (0.60) |
| Age | | | | | 0.12** | (0.04) |
| French speaking | | | | | 4.11*** | (0.78) |
| Foreign nationality | | | | | 2.69** | (0.87) |
| Constant | 8.83*** | (0.44) | 9.13*** | (0.50) | -0.75 | (2.09) |
| Observations | 5674 | | 5674 | | 5097 | |

Note: Robust SE are shown in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

**Table A3**: Predictive ratings of specific candidate profiles

| **Candidate profiles** | **Margin** | **Std. Err.** |
|---|---|---|
| **Swiss** - average | 7.01 | 0.05 |
| **Spanish** | | |
| Swiss hobby 1 language | 7.02 | 0.10 |
| Swiss hobby 2 languages | 6.95 | 0.09 |
| No hobby 1 language | 6.89 | 0.14 |
| No hobby 2 languages | 6.91 | 0.13 |
| Cultural hobby 1 language | 6.84 | 0.13 |
| Cultural hobby 2 languages | 7.18 | 0.13 |
| **Polish** | | |
| Swiss hobby 1 language | 6.87 | 0.09 |
| Swiss hobby 2 languages | 6.84 | 0.10 |
| No hobby 1 language | 6.77 | 0.13 |
| No hobby 2 languages | 6.73 | 0.13 |
| Cultural hobby 1 language | 6.82 | 0.13 |
| Cultural hobby 2 languages | 6.56 | 0.12 |
| **Turkish** | | |
| Swiss hobby 1 language | 6.74 | 0.09 |
| Swiss hobby 2 languages | 6.96 | 0.09 |
| No hobby 1 language | 6.67 | 0.14 |
| No hobby 2 languages | 6.67 | 0.13 |
| Cultural hobby 1 language | 6.57 | 0.13 |
| Cultural hobby 2 languages | 6.45 | 0.15 |

*Notes*: These values represent predictive margins obtained after an OLS-regression with respondent fixed-effects and robust standard errors (see Table A2, Model 2).