Who is the majority group? Signaling majority group membership with name-based treatments in multilingual contexts: the case of Catalonia

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Abstract

An increasing body of work has shown how the selection of names shapes patterns of ethnic and racial discrimination in hiring observed in correspondence audit studies. A clear limitation of the existing research on name perceptions and ethnic discrimination in employment is that is predominantly based in the US, which limits its applicability to contexts with high linguistic diversity among the majority population. These territories confront a reality where language preferences and uses, social class, and ancestry are associated with specific names among the native majority group. The result is notable diversity in the labor market (dis)advantages conferred by different names within the majority population. To fill this gap, this article focuses on Catalonia, a diverse multilingual region and Spain's second most populated area. Using two complementary studies, this work identifies the direct influence of names in the hiring process (Study 1) and evaluates the associations between names and perceptions of geographic origin, social class, and linguistic competence (Study 2). The results show that having a Catalan name confers an advantage in the labour market via three mechanisms. First, names inform a perception of language proficiency, which is tied to an expectation of productivity. Second, names signal social class and certain names in the majority group (applicants with two Catalan surnames, a minority within the region), indicate higher social class, which affords an advantage. Third, some advantage could be linked to tastes that favor an ingroup for reasons of assumed cultural, historical, or political compatibility. The approach adopted in this article holds significant relevance to other research on ethnic discrimination conducted in multilingual contexts with comparable autochthonous diversity.

1. INTRODUCTION

Research on ethnic prejudice and discrimination has often relied on names to signal ethnic majority and minority membership. Growing evidence suggests that names can also convey social class background (Crabtree et al., 2022; Gaddis, 2017a), age (Johfre, 2020), immigration status (Gaddis et al., 2022; Landgrave & Weller, 2022), and certain psychological traits (Mitchell Elder & Hayes, 2023). As a result, the level of ethnic discrimination measured heavily depends on the names selected by researchers to signal majority and minority group status. With some exceptions (see Martiniello &

Verhaeghe, 2023), research on the perception of names has largely focused on the US (Crabtree et al., 2022, 2023; Gaddis, 2017b; Landgrave & Weller, 2022; Mitchell Elder & Hayes, 2023).

This gap, at least in part, is attributable to the reality that where there is effectively a single dominant language, all native majority names should convey high levels of proficiency in the main language regardless of social class perceptions. However, where two or more languages are officially recognized and/or widely spoken by the native majority population, the selection of names to signal majority group status becomes more complex. This complexity arises from the frequent correlation between language skills, social class, identity, and ancestry within the native population. The last decades have witnessed an explosion of the literature on minority languages and nationalism, territorial politics and multilevel governance that have examined the management of cultural and linguistic diversity in countries with regions with distinct national identities and languages (Gagnon, 2021; Guibernau, 1999; Hroch, 2000; Keating, 2001, 2008; Kymlicka, 1996; Requejo, 1999; Tierney, 2005), e.g. Catalonia and Basque Country in Spain, Quebec in Canada, or Flanders in Belgium. In these substate regions, the various linguistic communities within the native majority group are not perceived as distinct ethnicities to the same extent as international migrants and their descendants are, but they are not culturally homogeneous either. As a result of the complex overlap between language skills, identity, social class, and ancestry, multilingual territories have emerged as cases requiring targeted attention.

First, language skills are demonstrably relevant to productivity (Chiswick & Miller, 1995, 2015). Therefore, name-derived perceptions of language proficiency can influence employers' hiring behavior. Variation in perceptions of proficiency in one or more languages relevant for a context can (dis)advantage applicants in the labor market who are named in ways that signal linguistic proficiency or preference. This will directly affect the levels of discrimination measured in studies that rely on names to signal group membership, e.g., correspondence audits.

Second, native majority names in linguistically diverse subnational geographies often mirror distinct ancestral backgrounds that are associated with contextually specific political divisions (Keating, 2001; Tierney, 2005). Languages have instrumental value as a means of communication, but also serve to express personal and political identity, which explains the frequent tension over linguistic policies and language rights between the central state and regional governments (Cetrà, 2019; Pujolar, 2007). The overlap between name-based assumptions about ancestry, language use, and political and national identities results in some majority group names being associated with certain political positions (e.g., supporting succession claims). These associations, which are distinct from those tied to productivity, could potentially lead to dynamics of inclusion and inclusion rooted in hiring preferences linked to perceived ideologically compatibility.

Finally, majority group names reflecting distinct regional ancestries can be associated with different social class backgrounds. Social class differences in name-giving are a well-studied phenomenon (Lieberson & Bell, 1992), and the association of certain names to lower social classes

can negatively affect the labor market trajectory of their bearers (Crabtree et al., 2022). In multilingual territories with distinct cultural identities, there is often an overlap between regional ancestry (evident in names and surnames) and social class, e.g. in Belgium, the Flemish population used to be poorer than the French until the second half of the twentieth century; as a consequence, French language and culture enjoyed higher prestige (Vogl & Hüning, 2010). In Montreal, Quebec, anglophones were the economic elite before the 1970s; as a result, francophones had to learn English when entering the workforce to communicate with their managers, but anglophones did not learn French (Lieberson, 1965). The uses and status of different languages in multilingual territories reflect the power dynamics between linguistic communities, i.e., the group controlling valued economic and political resources is able to impose the linguistic rules of communication, including linguistic policies (Heller, 1992). In other words, the labor market value of bilingualism or monolingual proficiency in a specific language depends on which language(s) dominate communications in formal settings.

A primary goal of this work is to demonstrate that the labor market advantage of some names is not solely driven by social class perceptions of productivity tied to specific names but also by perceptions of linguistic competence, which are contextually determined. To do so, we rely on data from a correspondence audit (Study 1) and an online survey on name perceptions (Study 2), both conducted in Catalonia, a multilingual region in northeastern Spain with 7.8 million inhabitants as of 2022 (Spanish Population Register, 2022). Crucial to the aims of this work, the native majority group is highly diverse in terms of *language use* (Catalan and (Castilian) Spanish are widely spoken and recognized as official languages) and *ancestry* (a substantial share of the population was born in or have parents/grandparents born in other regions of Spain). Catalonia is also ethnically diverse, with 21.2 percent of residents born outside of Spain as of 2022 (ibid.), mainly from Morocco, Colombia, Ecuador, Romania and Pakistan[1].

The results of the correspondence audit (Study 1), show that the level and extent to which we detect hiring discrimination against ethnic minority applicants depends on the names selected to identify the native majority group of reference. Employers are more likely to open applications of candidates with names signaling 'exclusive' Catalan ancestry (Catalan first names and surnames) compared to native applicants conveying (Castilian) Spanish or ethnic minority ancestries. The survey on name perceptions (Study 2) sheds light on the drivers of this differential treatment. We find that names signaling majority group membership—different combinations of Catalan and Spanish first names and surnames[2]—differ widely in terms of perceived social class and linguistic competence in

[1] Descendants of international immigrants are also becoming demographically relevant, although there are no official statistics on their number.

[2] Note that (Castilian) Spanish surnames are common in both Catalonia and the rest of Spain. In the Catalan context, however, having one or two Spanish surnames indicates non-Catalan ancestry, i.e. being born in or with ancestors from other Spanish regions.

Catalan. The results are interpreted in light of statistical and attention discrimination theories (Aigner & Cain, 1977; Arrow, 1974; Bartoš et al., 2016) and ingroup favouritism (Tajfel & Turner, 2004).

First, we argue that the majority group applicants in Study 1 were not considered equally productive due to employers' pre-existing stereotypes about the proficiency in Catalan language of different native name profiles. Given that language proficiency is a key component of productivity (e.g., Chiswick & Miller, 1995, 2015), employers' beliefs about applicants' language skills directly shapes hiring decisions. Second, we suggest that employers' perceptions about candidates' social class play a role in their hiring behavior. This insight is derived from the results of Study 2, which link Catalan surnames to a perception of being upper-middle class relative to other name combinations in the majority group. Third, we acknowledge that the findings could be partially driven by ingroup favoritism, which in this context is understood as having a connection with Catalonia, e.g. growing up in the region and/or having familiarity with Catalan culture, including Catalan language. Study 2 shows that applicants with ethnic minority or Spanish first names and surnames were perceived as being born outside Catalonia and not proficient in Catalan, whereas applicants with at least a Catalan first name or surname were seen as Catalan born and highly proficient in the regional language.

Our findings are of clear relevance to research on discrimination in the labor market conducted in multilingual territories. Western countries such as Canada, Belgium, Spain and Switzerland have been linguistically diverse well before the arrival of large-scale international migration, which resulted in the establishment of identifiable ethnic minority populations (Pettigrew, 1998; Van Mol & de Valk, 2016). Linguistic diversity among the native majority is not limited to just a handful of European countries, as many non-Western countries are home to sizeable ethnic minorities of immigrant descent living alongside linguistically and culturally diverse native majority populations, e.g., China, India, Russia, or South Africa. Researchers using names-based treatments to convey majority and minority statuses in multilingual contexts should, therefore, consider (1) the patterns of language use and skills among the native majority population depending on their ancestry, social class, and political identity, and (2) the dominant language ideologies in a given society, i.e. the prevalent beliefs and attitudes about the role, uses and value of different languages, which are often a reflection of the power inequalities between linguistic communities (Woolard & Schieffelin, 1994).

2. SIGNALING MAJORITY AND MINORITY GROUP MEMBERSHIP WITH NAMES IN MULTILINGUAL COUNTRIES

Names are the main treatment used in correspondence audits and survey experiments to measure the prevalence of discriminatory behavior and prejudicial attitudes in a range of situations (Crabtree et al., 2022; Gaddis, 2017a; Johfre, 2020; Mitchell Elder & Hayes, 2023). The association between discriminatory behavior/attitudes and ethnicity/race and other relevant characteristics—most notably, social class—in terms of name perceptions can be understood as independent or, in contrast,

intersected, such that isolating an independent effect of race/ethnicity is not feasible or desirable (read more about this discussion in Crabtree et al., 2022; and Mitchell Elder & Hayes, 2023). Despite the clear insight and innovative method, most work on name associations and discrimination has been based in the US. An exception to this trend is the recent work by Martiniello and Verhaeghe (2023), where the findings of a correspondence audit in the Flemish rental market are explained based on the population's perceptions of the religiosity, class, and educational level associated with Moroccan, Polish, and Flemish names. The authors focus on a monolingual context (Flanders) and do not ask about language proficiency perceptions of minority names, likely due to their lack of relevance in the rental market.

Correspondence studies relying on name-based treatments to signal majority and minority status have been conducted in countries that are divided along linguistic lines and have regional identities that are politically salient. Most studies, however, avoided dealing with the internal diversity within the native majority group. For example, Baert et al. (2015; 2016) focused on the Belgian labor market, but only considered applicants with Flemish-sounding names in the native group. In Canada, Oreopoulos (2011) and Oreopoulos and Dechief (2012) conducted correspondence studies in Toronto, Montreal, and Vancouver, but the majority group only included applicants with Anglophone names. In Switzerland, Zschirnt (2020) measured hiring discrimination against German, Kosovar and Turkish minorities, but only in German-speaking cantons, and all majority group applicants had Swiss German names. There are some exceptions, however, e.g., Besssudnov and Shcherbak (2020) explored the internal diversity of the Russian Federation to examine how discrimination against immigrant minorities varied across cities based on the ethnic composition of their native population. In some cases, perhaps, the linguistic diversity of the majority group could be considered less relevant due to high levels of residential segregation, e.g., the majority of Flanders or the Quebec province outside of Montreal. However, when the geographic segregation between linguistic groups within the native population is low and languages are in contact in the same geography, the linguistic diversity and the association between names and language proficiency perceptions cannot be ignored.

3. THEORETICAL APPROACHES TO EXPLAIN DISCRIMINATORY BEHAVIOR IN THE LABOR MARKET

Multiple theories have been developed to explain discriminatory and biased behavior. Here, we consider two main strands that have evolved in parallel. The first is based on statistical discrimination theory (Aigner & Cain, 1977), while the second is rooted in social-psychological perspectives, including social identity theory (Tajfel, 1982; Tajfel & Turner, 2004), status-based theories (Ridgeway, 2001), and stereotyping theories (Cuddy et al., 2007; S. T. Fiske et al., 2002;). There are overlaps between these two strands of the literature, but they diverge in three key aspects: (1) the role

of stereotypes and emotions in decision making, (2) the processes through which stereotypes are constructed, and (3) the extent to which stereotypes can be adjusted in light of new information.

3.1. Statistical and attention discrimination theories

Theories of statistical discrimination have been highly influential in economics and have also received considerable attention in sociology (e.g. González et al., 2019; e.g. Koopmans et al., 2019; Lippens et al., 2022; Midtbøen, 2014; Pager & Karafin, 2009; Thijssen et al., 2021). Employers who statistically discriminate are seen as profit-maximizing agents who use all the information available to them in their hiring decisions. When individual-level information about applicants is limited, employers will rely on stereotypes about the average productivity (Phelps, 1972) and variance in productivity (Aigner & Cain, 1977) of groups defined by ascriptive traits such as ethnicity, race, and country of birth. Support for statistical discrimination theory has, however, been mixed (Lippens et al., 2022) and evidence suggests that employers do not change their hiring behavior when they receive additional objective information about applicants' productivity (e.g. Agerström et al., 2012; Hangartner et al., 2021; Oreopoulos, 2011; Thijssen et al., 2021).

Two assumptions of classic statistical discrimination theory have been challenged: (1) the assumption that employers are fully attentive to the information available in job applications and that (2) group stereotypes are *only* relied upon when applications do not include enough information in their application materials. For example, Bartoš et al. (2016) showed that employers do not base their decisions on the available information and, moreover, minority names reduce employers' effort to inspect résumés, which they refer to as 'attention discrimination'. Blommaert et al. (2014) found that Dutch employers were less likely to view résumés of applicants with Arab names as compared to those with Dutch names. However, they did not find differences in callback rates among applicants whose CVs were viewed, suggesting that discrimination mainly occurred in the first step of the screening process, which is driven by name perceptions. By contrast, Hangartner et al. (2021) found that recruiters did not spend less time evaluating profiles of ethnic minority applicants compared to native applicants, but they were more likely to discriminate against racialized minorities at the bottom of the ethnic hierarchy.

Based on statistical and attention discrimination theories, we expect employers to have the strongest preference for applicants who are perceived as being more proficient in Catalonia's main languages (Catalan and Spanish), followed by applicants who are perceived as proficient in only one of the languages. The least preferred will be applicants who are seen as having low skills in both Catalan and Spanish languages.

3.2. Social-psychological theories

Social-psychological research reintroduces the emotional aspect and the conscious and unconscious mechanisms behind preferences, often referred to as 'taste', as key motivators of discriminatory behavior. Emotion and rationality are often interlinked in people's decisions, including those made by employers, who often follow subjective perceptions of applicants' cultural fit to the company to justify their hiring choices (Rivera, 2012, 2015). This perspective finds that most judgments and choices are, in fact, made intuitively and driven by emotions (Kahneman, 2003; Rivera, 2015), particularly under time constraints.

To understand employers' hiring practices, it is key to examine which group stereotypes are prevalent in a given context and the (perceived) social distance and similarities between groups, which are inherently subjective (Rivera, 2020). The literature on heuristics and stereotyping (Bodenhausen & Wyer, 1985; Cuddy et al., 2007b) is vast and has in common with statistical discrimination theory the fact that individuals usually rely on group stereotypes to infer the characteristics of a group member. For example, the positive association between social class and competence perceptions is one of the most robust findings in the literature on group stereotyping (Durante, Tablante, et al., 2017). While in economic theories stereotypes are shaped by groups' average productivity, research in sociology and psychology has shown that group stereotypes both reflect as well as reinforce historical inequalities in terms of power and status between social groups (Caprariello et al., 2009; Durante, Fiske, et al., 2017). With regard to perceptions of social distance and similarity between groups, research in social identity and intergroup relations shows that individuals tend to favor members of the ingroup, with whom they have perceived similarities in defined attributes such as language, political orientation, or social class. Ingroup favoritism and outgroup prejudice can, however, emerge even from notable minimal group-level differences (Tajfel & Turner, 2004). In the context of employers' hiring behavior, the relevance of different cultural and demographic similarities between recruiters and applicants for hiring decisions will likely vary across economic sectors and geographies.

Based on the socio-psychological research discussed above, we expect recruiters to show preference for applicants whose names are associated with higher social status, as they will be perceived as more competent. At the same time, employers will prefer applicants who can signal ingroup membership (and thus, cultural similarity), which, in our case study, translates into having names that convey Catalan ancestry and/or familiarity with Catalan society and culture, including having Catalan language skills.

4. CASE OF STUDY

Catalonia has been considered a classic example of a stateless nation or national minority in the literature on nationalism (Guibernau, 1999; Keating, 2001; Kymlicka, 1996) due to a high degree of political autonomy and a strong national identity defined by a common history, language and culture that are distinctive from the rest of Spain. The region's population is, however, far from

homogenous in terms of ancestry and language. Regarding ancestry, the diversity of the Catalan population becomes apparent when examining the most common first names and surnames in the region, which include a large number of Spanish-sounding names[3]. Several waves of internal migration from other parts of Spain increased the diversity of the Catalan population during the twentieth century, particularly during the 1950s and 1960s when Catalonia received a large influx of internal migrants from poorer areas of rural Spain, similar to other industrialized areas in the country (Bover & Velilla, 1999; Logan, 1978). As a result, 38.3 percent of the Catalan population in 1975 was born in other Spanish regions (Moreno et al., 1998), although this share has been shrinking over the years and was at 15 percent in 2022. Since the early 2000s, the unprecedented arrival of international migrants from Latin America, Eastern Europe and North Africa further increased the diversity of Catalonia and the rest of Spain (Cebolla-Boado & González-Ferrer, 2008). International migrants represented 20.6 percent of Catalonia's population in 2021, five percentage points higher than the Spanish average, but in line with other economically comparable regions like Madrid.

With regard to linguistic diversity, both Spanish and Catalan languages enjoy widespread usage in the region. Catalonia's *Estatut d'autonomia* — the most important legislative body in the region after the Spanish constitution[4] — grants official status to both languages. Catalan language is recognized as Catalonia's own/local language (*llengua pròpia*) and considered 'the language of normal and preferential use in public authority bodies and in the public media of Catalonia, […] [as well as] the language of normal standard use for teaching and learning' (art. 6 *Estatut d'autonomia de Catalunya*, 2006). Although the two languages are widely spoken, the share of people who never use Catalan in their everyday lives is larger (24 percent) compared to those who never use Spanish (6 percent) (Generalitat de Catalunya, 2018). Proficiency levels are higher in Spanish than in Catalan: 94.4 percent of the population above age 14 understand Catalan, but only 81.2 are able to speak it; for Spanish language, however, all the population (99.5 percent) can speak it (ibid.). This gap in oral language skills is not surprising, considering that Spanish is Spain's sole official language (by contrast to other multilingual federations such as Canada and Belgium). That said, proficiency in both spoken and written Catalan has shown a significant increase among younger generations growing up in Catalonia, regardless of their ancestry.

4.1. Patterns of language use and identification in Catalonia: territorial variation and relationship to ancestry and social class

[3] See Table A6 and A7 in the Online Appendix, which include the most common first names and surnames in the region.

[4] All regions in Spain (*Comunidades Autónomas*, translated as "Autonomous Communities") have their own Statutes of Autonomy, which are akin to a constitution and define the organization of the regional government, the distribution of competences between different levels of government and other regional-specific provisions, such as cultural and linguistic rights.

The majority of the population in Catalonia is effectively bilingual, but individuals differ in their preferred language of communication (36.1% primarily use Catalan, while 48.6% primarily use Spanish). Catalan is the dominant language of communication in north and central Catalonia, while Spanish is prevalent in the urban coastal metropolitan areas of Barcelona and Tarragona, which historically have had higher levels of internal and international migration (Statistical Institute of Catalonia, 2018). Over a third of Catalonia's population over age 14 have Catalan as their primary language of communication, but this share decreases to 25 percent in the Barcelona metropolitan area, where half of the Catalan population lives, and rises to around 70 percent in rural districts (ibid.) Despite geographic variations in language use, the level of territorial segregation between linguistic communities is low and the borders between communities are porous (Newman et al., 2008; Sanjaume-Calvet & Riera-Gil, 2022; Woolard, 2016). Bilingual proficiency is more valued now than in the past (Newman et al., 2008) and switching between languages in everyday interactions is very common[5], facilitated by the linguistic proximity between Catalan and Spanish.

People of Catalan ancestry are more likely to use Catalan as their primary language of communication, while those of Spanish ancestry (i.e. born in or with parents/grandparents born in other Spanish regions) are more likely to use Spanish. For instance, Catalan is the preferred language of communication for 74 percent of adults whose four grandparents were Catalan-born, whereas this share drops to 42 and 41 percent among adults who have, respectively, only two grandparents or one grandparent born in Catalonia (authors' calculations based on the Political Context Survey 2018[6]). Among the population born in Catalonia, the primary language of communication varies depending on parental origins, i.e. over three-quarters of those whose parents were also born in Catalonia have Catalan as their primary language of communication, while this figure drops to 49.6 percent among those who only have one Catalan-born parent, and further decreases to 17.9 percent among those whose parents were born in other Spanish regions (authors' calculations based on the Survey on Language Uses of the Population 2018).

Because a significant share of the Catalan population are descendants of less-educated internal migrants from other parts of Spain, there is a persistent correlation between education, socioeconomic status, ancestry, and language use (Miley, 2013; Woolard, 2003). More recent internal migrants from other parts of Spain have significantly higher levels of education than the average[7], which stands in stark contrast to earlier waves of rural migrants from other Spanish regions. People in

[5] The Survey on Language Uses of the Population 2018 collects data on the prevalence of language switching in the Catalan context. Respondents who can speak both languages (81 percent) are asked about their linguistic behaviour in situations where they initiate communication in Catalan and receive a response in Spanish, as well as vice versa. Less than 13 percent of respondents said that they would persist with the language they initiated, which suggests that the majority of people are able to switch between languages on a regular basis.

[6] See breakdown of preferred language of communication by ancestry in Table A3 and Table A5 of the Online Appendix.

[7] In 2018, more than half of adults between the ages of 25 and 45 born in other Spanish regions hold a university degree compared to 38.1 percent among those born in Catalonia with Catalan parents (authors' calculations based on the Political Context Survey 2018).

the top occupational groups (managers and professionals) are more likely to use Catalan as their primary language of communication (45 percent), and over 95 percent are able to speak it (authors' calculations based on Survey on Language Uses of the Population 2018). The pattern reverses in low-skilled occupational groups, especially among individuals in elementary occupations, where only 13.5 percent have Catalan as their primary language of communication and 58 percent have oral proficiency (ibid.).

4.2. The politics of language in the Catalan context: relationship between language use, national identity and territorial preferences

Although bilingual proficiency is highly valued socially and in the labor market (Newman et al., 2008; Rendon, 2007), the prestige associated with speaking Catalan in different social contexts has varied over time and across geographies. During the Franco dictatorship (1939-1977), Catalan was widely spoken by the Catalan-born population, but it was banned from public institutions, including schools. This situation changed in the 1980s after the transition to democracy, when linguistic policies were implemented with the aim of both protecting the Catalan language and improving the Catalan language skills of the population born in other Spanish regions. While acknowledging the complex linguistic realities of the Catalan context, the Catalan language is plausibly interpretable as marker of cultural capital and is inextricably linked to Catalan identity (Woolard, 2016). Since the 1990s, there has been a conscious political effort of 'linguistic de-ethnicization' (i.e. breaking the connection between people's regional ancestry and primary language of use) to make Catalan the main language of communication in the public sphere irrespective of people's ancestry (Franco-Guillén & Zapata-Barrero, 2014; Sanjaume-Calvet & Riera-Gil, 2022). Even though a correlation between language use and ancestry persists at the population level, Catalan political elites never tried to impose monolingualism, by contrast to political elites in Quebec or Flanders.

An indicator of the link between status and language is that people of Catalan ancestry (born in Catalonia to parents born in Catalonia) are over-represented among the Catalan political elites during the democratic period. Catalan nationalist parties, more likely to be supported by people who have Catalan as their primary language of communication, have been in power for 35 years since 1980 (the year the first Catalan executive and Parliament were elected), indicative of a degree of political hegemony (Miley, 2013). In addition, the incorporation of internal migrants from other parts of Spain into regional political elites has been relatively more prevalent in other Spanish regions such as Madrid than in Catalonia (Coller et al., 2008).

There is a burgeoning literature exploring the mechanisms behind the overlap between territorial preferences (unionism vs. secession), subjective national identity and language use in the Catalan case (Guinjoan, 2022; Muñoz & Tormos, 2015; Serrano, 2013). In brief, individuals with Catalan ancestry, who are more likely to have Catalan as their main language of communication

compared to those with Spanish ancestry, are also more likely to self-identify as Catalan rather than Spanish and to support the secession of Catalonia from Spain. For example, 52 percent of adults who have Catalan as their primary language self-identify as Catalan only. This share is 3 percent among those whose primary language is Spanish and who tend to self-identify as equally Catalan and Spanish (authors' calculations based on the Political Context Survey 2018). National identity, as well as support for Catalan nationalist parties, are the main drivers of pro-independence attitudes (Guinjoan, 2022; Muñoz & Tormos, 2015), but sociotropic and economic factors also can play a role, especially among those who self-identify as both Catalan and Spanish. The political conflict over Catalan secession was, in fact, very prominent during the 2010s, and led to the most serious political crisis in Spain since the 1970s. Public support for independence peaked in October 2018 at 48.7 percent, which coincided with the controversial Independence Referendum that the Spanish government attempted to suppress with violence (Balcells et al., 2021). There is evidence that this conflict increased the levels of affective polarization over territorial issues among the Catalan population (Balcells & Kuo, 2023), as well as in-group trust among the Spanish-speaking community, which has been interpreted as a defensive reaction toward the public mobilization for independence (Criado et al., 2018).

5. STUDY 1: a correspondence audit on ethnic minority discrimination

The data for Study 1 is publicly available (Lancee et al., 2021) and come from the first cross-national harmonized correspondence audit —the GEMM study— which was conducted from November 2016 to May 2018 in five European countries: Germany, the Netherlands, Norway, Spain and the United Kingdom. The GEMM study also represents the first correspondence audit on ethnic discrimination in the Spanish labor market that permits an independent assessment of the region of Catalonia. The GEMM study used an unpaired design, whereby a single job application was sent to each job vacancy. A total of 5,241 applications were submitted in Spain. For this article, our analytical sample excludes the following applications: first, women with names from Muslim majority countries who wore the *hijab* in the applications picture (see Fernández-Reino et al., 2023 for an analysis of the penalty experienced by women wearing the Muslim veil using GEMM data). This entails excluding 114 applications in Catalonia and 369 in the rest of Spain. And second, applicants with Spanish names who attached pictures that were not used for applicants with Catalan names. That way, we ensure that the photographs used for applications with Spanish and Catalan names are the same. As a result, we drop 141 applications in Catalonia and 379 in the rest of Spain[8]. The resulting analytical sample in Catalonia is 1,287 while it is 2,951 in the rest of Spain.

[8] This exclusion results in a slightly imbalanced native majority sample in Catalonia, with 268 and 168 applications submitted with Catalan and Spanish names, respectively. The findings are not affected by this exclusion (see Tables A17 and A18 in the Online Appendix)

The native majority group in Catalonia (applicants with Spanish or Catalan first names and surnames) represented a third of all job applications. In the rest of Spain, native majority applicants have Spanish names and represent 15 percent of the sample. Candidates with Moroccan and Ecuadorian names, which represented the two largest Muslim and Latin American minorities in Spain, respectively, in 2017, were overrepresented in the ethnic minority applicant pool. In addition to ethnicity, the GEMM correspondence audit also included a phenotype or race treatment, which was conveyed in applicants' CV picture; and a religious affiliation treatment, which was conveyed to employers through applicants' participation in a secular or religious youth group (see Di Stasio et al., 2019). The race and religious affiliation treatments were dependent on ancestry and applicants in the native majority group were all white in Study 1. Detailed information about the distribution of the race and religion treatment across applicants' ancestries in the sample is included in the Online Appendix. Finally, all ethnic minority applicants were Spanish citizens, but country of birth was randomly assigned, so half were born in Spain, and the other half moved to Spain at age six.

5.1. Measuring employers' behavior: a two-step selection process

The job searching platform through which we submitted the applications of fictitious candidates provided two types of information about employers' behavior in the selection process, which we use as dependent variables in our analysis. First, we observed whether employers opened ($y1$=1) or did not open an application ($y1$=0) for each submission. Second, we observed whether employers showed interest in an application, conditional on having opened it. Employers' interest can be shown with an invitation to an interview, being shortlisted, or receiving a request to provide more information ($y2$=1). Responses were coded as a negative callback if the candidate received an outright rejection, nothing more than a confirmation of receipt, or no response at all ($y2$=0).

Whether employers open/view or ignore an application is typically unobserved in many correspondence audits, with some exceptions, e.g. Blommaert et al. (2014). A key advantage of our design is that it allowed us to observe whether employers opened each of the submitted applications before pre-selecting or rejecting them. The job searching platform provided employers with access to some basic information about candidates without opening their applications, i.e. candidates' first name, surname, age, region of residence, educational qualifications, and years of work experience. Once an application was opened, employers were provided full details about applicants, including their photograph, cover letter, as well as detailed information about their work experience and, crucially, their language proficiency in Catalan, Spanish and other languages (see Table 1). Given that applicants' age, level of education, years of work experience and place of residence were constant across fictitious applicants applying to the same occupational category, the observed differences in employers' behaviour could only be driven by candidates' names.

Table 1. Visibility of treatments in the first and second step of the selection process

Applicants' characteristics	Variation	First step (before opening an application)	Second step (conditional on opening an application)
First name Surnames	Different based on ethnic origin	✓	✓
Proficiency in other language	Ethnic minority applicants were all proficient in the official language of their country of origin	✗	✓
Proficiency in Catalan and Spanish languages	Constant: all applicants were proficient in Catalan and Spanish language	✗	✓
Age Level of education Years of work experience	Constant across applications to the same occupation	✓	✓
Educational institution (name and location)	Constant across applications to the same occupation	✗	✓
Region of residence	Constant: all applicants live in the region of Madrid	✓	✓
Applicants' picture, religion	Different, partially based on ancestry	✗	✓
Country of birth	Country of birth was randomly assigned among ethnic minority applicants	✗	✓
Reason for applying	In the cover letter, applicants said that they grew up in the province where the vacancy was located	✗	✓

Job applications were sent to entry-level job vacancies for hairdressers, shop assistants, receptionists, sales representatives, cooks, payroll clerks, and software developers. The selected occupations vary in their educational requirements (with cooks, shop assistants and hairdressers generally requiring lower qualifications than the others) and degree of face-to-face customer contact. Since all candidates had four years of work experience, the age selected ranged from 21 to 25 at the time of application, depending on the targeted occupation. Applications were not equally distributed across the seven occupations, as there were fewer vacancies for some jobs relative to others. The distribution of treatments is shown in the Online Appendix.

5.2. Signaling majority-minority group membership with names

Initially, the names signaling native majority status in applications sent to vacancies in Catalonia were the same as in the rest of Spain, namely Spanish first names and surnames: *Álvaro* (male) / *Alba* (female) *Martínez García*. Common first names at the time of applicants' birth year in Spain were selected, while surnames were chosen among the top surnames in the Spanish population. At a later

stage, we also created applications with Catalan first names and surnames that were exclusively submitted to vacancies in the Catalonia region: *Jordi* (male) / *Laia* (female) *Puig Solé*.

Catalan names were utilized in applications from late February 2018 to the end of May 2018, while applications from candidates with Spanish names and ethnic minority names were sent from the end of October 2016 to the end of February 2018. While Catalan first names are very popular among the population living in the region, Catalan-origin surnames are not: the ten most common first surnames in the region are all (Castilian) Spanish. To signal ethnic minority membership, the most common first names and surnames in the country of origin at the time of applicants' birth year were chosen. In countries where data by birth year was not available for first names, websites listing countries' popular first names were used in the selection process. The complete list of names used in Study 1 is included in the Online Appendix.

5.3. Methods

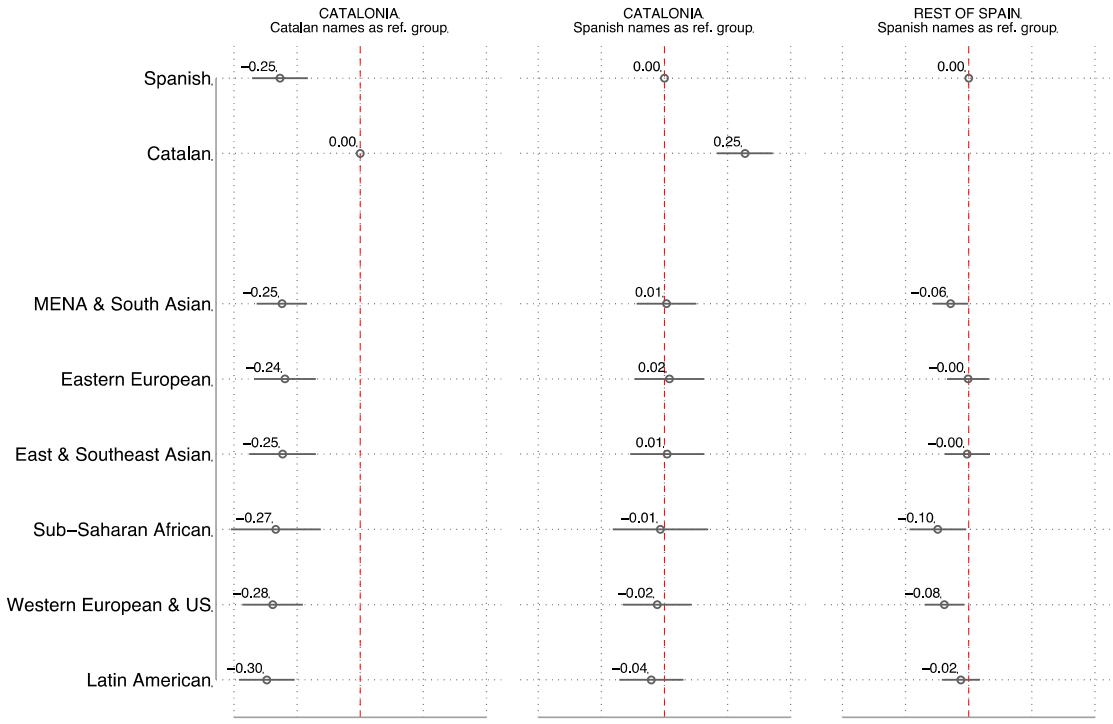
We estimated the probability of employers opening an application (*y1*) and applicants receiving a positive callback (*y2*), conditional on employers opening their application (*y1*=1), with linear probability models (LPM) using robust standard errors. LPM are preferred over logit or probit models when estimating causal effects of experimental treatments (Gomila, 2020). We also estimated discrimination ratios (ratio between two groups' probability of success in *y1* and *y2*) for selected group pairings, which are included in the Online Appendix in Table A23 and are consistent with the LPM. The LPM for *y1* included controls for occupation (since applications were not equally distributed across occupations due to differences in labor demand between occupations) and the number of people applying to each vacancy. The LPM for *y2* included controls for occupations and race, reflected in applicants' CV picture, as employers could see applicants' faces once they opened an application. Although all majority group applicants are white, the phenotypical variation in other groups is larger, e.g., Latin American applicants could have pictures depicting White, Arab and Black phenotypes. We collapsed the original 36 ethnicities and eight pictures that applicants could take into eight and five categories each for power reasons.

5.4. Results

Slightly over half of submitted applications in Catalonia were opened by employers (56 percent) while applications that employers did not open were mostly rejected—97 percent or 548 out of 567 unopened applications. A similar pattern occurs in the rest of Spain, with 51 percent of applications opened and 97 percent of unopened applications rejected.

Figure 1 depicts the predicted probabilities derived from the LPM for outcome *y1*, which represents the first step of the selection process. The first two columns on the left show the predicted probability that employers in Catalonia opened an application based on candidates' names; the first panel has Catalan names as reference group, while the second panel has Spanish names as the reference category. The panel on the right of Figure 1 show the same results for the rest of Spain, where majority group status was signaled with Spanish names only. The rationale for including the third panel is to examine whether minority group applicants are treated equivalently in Catalonia and the rest of Spain when majority applicants with Spanish names are the reference group.

Figure 1. Probability that employers opened an application, by ancestry



Catalonia n=1287; Rest of Spain n=2,951

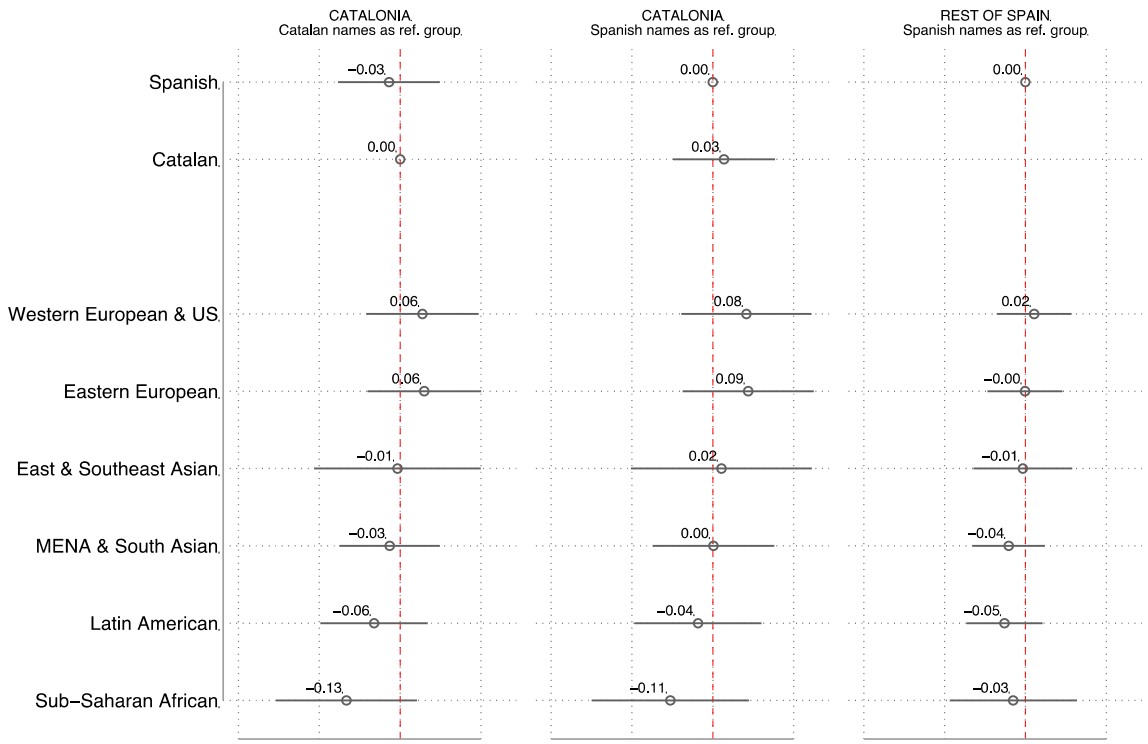
Note: LPM with robust standard errors. Control variables: vacancies' pool of applicants and occupations. In the first step of the selection process, employers only see applicants' names, age, region of residence, and years of work experience.

The key insight is the notable positive bias or premium experienced by majority group applicants with Catalan names, which is observed in the second column of Figure 1: relative to applicants with Spanish names, candidates with Catalan names had an increased probability of having their application opened (b = 0.25, significant at $p<0.05$). By contrast, applications from ethnic minority candidates were not more likely to be opened compared to those of majority applicants with Spanish-sounding names. That is, despite belonging to the contextually understood native majority, applicants with Spanish names did not experience an advantage compared to ethnic minority candidates when applying for jobs in Catalonia. In the rest of Spain, where majority group applicants with Spanish names were the reference group, candidates with names from Sub-Saharan Africa, Western Europe and US, and MENA and South Asia experienced a penalty, i.e. employers were less likely to open their applications compared to those of majority group members based on their names. Their penalty, however, is much smaller in size than the premium experienced by applicants with Catalan names in Catalonia.

Figure 2 depicts the predicted probabilities from the LPM for the second outcome ($y2$), which indicates employers' positive engagement with applicants, conditional on having opened the application in the first place ($y1=1$). In this case, native majority applicants in Catalonia do not

receive different levels of interest from employers based on whether they have Spanish or Catalan names, which suggests that the first step of the selection process, where names were more prominent, is more consequential in the selection process. In addition, no observable (dis)advantage can be attributed to applicants from ethnic minority backgrounds. Note, however, that the size of the coefficient for applicants signaling Ethiopian, Nigerian or Ugandan ancestry, all of whom are black and whose race is only visible in the second step of the selection process, is negative and substantial (b=–0.11 or b=–0.13, depending on who we consider the reference group). We acknowledge that we may lack statistical power to detect an effect of that size at conventional levels of statistical significance due to the small sample size. In the rest of Spain, no (dis)advantage of ethnic minority applicants is detected in this second step of the selection process.

Figure 2. Probability that employers showed interest in an application, conditional on having opened it, by ancestry



Catalonia n=720; Rest of Spain n=1,494 (applications that were not opened by employers are excluded from the analysis)
Note: LPM with robust standard errors. Control variables: occupations and CV picture

5.5. Robustness checks

We first consider whether the premium given to applicants with Catalan names could be accounted for by period effects, particularly the improvement of economic conditions during the fieldwork, from the end of 2016 to mid-2018. The submission of applications with Catalan names took place toward the end of the fieldwork —from March 9, 2018, to May 31, 2018—whereas applications with Spanish and ethnic minority names were submitted earlier and over a longer period of observation —between October 30, 2016, and February 27, 2018. We estimated the models of Figure 1 restricting the period of observation from June 30, 2017, to May 31, 2018, thus excluding all applications submitted between end of October 2016 and end of June 2017. The results, which are included in the Online Appendix (Table A19) do not differ substantively from those where we use the entire sample of applications. There is a small attenuation of the size of the premium for Catalan names (from b=.25 to b=.15, both significant at $p<0.05$) but the effect remains clear. In other words, despite the loss of statistical power attributable to a reduction in the sample, the pattern remains. We thus suggest that the improvement of economic circumstances between 2016 and 2018, for the issue of prejudicial behavior, did not inject a substantive period effect.

Secondly, we considered a different type of period effect related to the impact on public attitudes —and potentially, on Catalan employers' behavior towards applicants with Catalan, Spanish and ethnic minority names— of the unauthorized referendum for independence that took place on October 1, 2017. As discussed earlier, the salience of territorial issues in Catalonia's political debate began to increase in the late 2000s and remained high until the Covid-19 pandemic. In other words, the political discourse centered on the necessity for an independence referendum remained high over an extended period, rather than being limited to the months preceding and following the October 2017 referendum. The turning point was, in fact, the year 2012, when support for independence increased from 29 percent in March to 44 percent in November of that year. As an additional robustness check, however, we estimated two different models to examine the potential effect of the referendum on callback rates, which are reported in Table A20 and Table A21 in the Online Appendix.

In the first model, we reduced the sample to only those applications sent out after the referendum. To do this, we restricted the period of observation to applications submitted after October 1, 2017, when the referendum took place. The resulting sample is substantially smaller, particularly for the native group with Spanish names (34 observations instead of 168). The penalty for Spanish applicants/premium for Catalan names disappears, but this is likely driven by the much-reduced sample size. In any case, the expected pattern — increase in the size of penalty against applicants with Spanish names as a result of polarization— is not observed.

In the second model, we estimated a model where we include an indicator of whether an application was submitted before or after the referendum, which we interacted with applicants' ancestry. Applications with Catalan names were not submitted until February 27, 2018, so we limited the sample to groups that were included in the fieldwork before and after the referendum. To simplify

the analysis, we focused on the over-represented groups, namely candidates with Spanish, Ecuadorian and Moroccan names, with the other ancestries grouped together in a single category. The rationale for doing this is to avoid that slight variations in the composition of the larger ancestry categories before and after the referendum could drive the results. The interactions, none of which are significant, indicate that employers' behavior towards candidates with Spanish, Ecuadorian and Moroccan names did not change after the referendum. The detailed estimates are reported in the Online Appendix, Table A21.

5.6. Discussion

In line with previous research (Blommaert et al. 2014; Bartoš et al. 2016), we find that discrimination occurs early in the selection process and is driven by applicants' names. Recruiters are not attentive to all the available information on candidates, as a large share of them are rejected based on very limited information. In the first step of the selection process, the extent to which we find discrimination against minority candidates of immigrant descent I n Catalonia crucially depends upon which names are chosen to signal majority group membership—Spanish vs. Catalan first names and surnames. This is because employers were more willing to acquire information (open an application) of applicants with Catalan names compared to those with Spanish names. Contrary to our expectations, applicants with Spanish names had no visible advantage over ethnic minorities who do not have Spanish as their mother tongue.

In the rest of Spain, where applicants with Spanish names were the majority group, penalties against applicants with names from Sub-Saharan Africa, Western Europe and US, the Middle East and North Africa (MENA) and South Asia (where Moroccan names represented 55 percent of applications) were detected, although much smaller in size than the premium observed for applications with Catalan names in Catalonia. It is possible that discrimination against foreign names from African, Western, MENA and South Asian ancestries is not observed in Catalonia when applicants with Spanish names are the reference group because the latter are perceived as outgroup members (not born or raised in Catalonia) lacking the required skills in Catalan language. The penalties towards African, Middle East and South Asian names are in line with previous research showing substantial discrimination against black and Muslim minorities in Western societies (Di Stasio et al., 2021; Quillian & Lee, 2023; Thijssen et al., 2022). The penalty against Western minorities, however, who are neither economically nor socially disadvantaged in Spain, is surprising and not easily accounted for by the main theories on prejudice and discrimination. Note, however, that the penalties experienced by ethnic minorities in the rest of Spain are smaller in size compared to other countries, see, e.g. Fernández-Reino et al. (2023). Although there is likely not a single explanation for this phenomenon, immigration and integration-related issues have been less salient in Spain than in other European countries. In Spain, the tension between central and peripheral

nationalism has dominated identity politics and right-wing political discourse (Pardos-Prado 2012), even during the last economic recession (Alonso & Rovira Kaltwasser, 2015).

With regard to the premium that applications with Catalan names received in Catalonia, we offer three potential explanations for this finding: first, applicants with Catalan first names and surnames might be assumed to be of a higher social status than those with Spanish names, as people of Catalan ancestry have been over-represented among political and economic elites in the region during the democratic period (i.e., post-1981) (Coller, Ferreira do Vale, & Meissner, 2008; Miley, 2013). Based on both statistical discrimination theory and status-based theories, applicants whose names convey a higher social status or class will be advantaged in the screening and hiring processes due to recruiters' stereotypes about the competence or average productivity of different social groups.

Second, applicants with Catalan names may be perceived to be more proficient in Catalan language than native applicants with Spanish or ethnic minority names. Despite differences in language use and proficiency within the native majority population based on ancestry, people under 30 with Spanish ancestry who grew up in Catalonia should, in theory, have similar language skills compared to people of Catalan ancestry. As mentioned earlier, Catalan has been the primary language of instruction in compulsory education since the 1980s and the fictitious applicants in Study 1 were all born after 1991. By contrast, the Catalan language skills of people who grew up in another Spanish region and moved to Catalonia during adulthood tend to be lower. Considering that applicants' language skills were not visible in the first step of the selection process and Spanish names alone do not signal a connection to Catalonia, employers may have assumed that the candidates were not fluent in Catalan. Their behavior could thus be the result of a deliberate strategy to maximize the chances that pre-selected applicants have Catalan skills. Employers' preference for applicants with Catalan names could be also interpreted as a preference for ingroup members. In the Catalan context, ingroup membership is defined by a connection to Catalan culture and society (evident in first names) and/or having Catalan ancestry (reflected in surnames). Since Catalan names signal both Catalan ancestry and Catalan cultural upbringing, it is not possible to empirically identify which element drives ingroup favoritism. Nevertheless, given the diversity in surnames within the Catalan population, having a Catalan first name is likely the main driving factor[9].

Finally, it is also possible that employers relied on applicants' place of residence (Madrid, the capital and largest city in Spain) as a proxy for both proficiency in Catalan language and the probability of staying longer in the job if hired. As the data comes from a larger correspondence audit conducted in Spain, all applicants attained their highest level of education in an institution in Madrid and resided there at the time of application. Although candidates clarified in their cover letters that their motivation to relocate was to return to their place of upbringing, this information was not visible

[9] As an additional robustness check, we estimated the models in Figure 1 and Figure 2 only for the Barcelona province, which has the largest presence of people with non-Catalan ancestries. These models are included in the online appendix and are consistent with the findings reported in the article.

to employers during the initial selection process, where variations in callback rates between native applicants with Catalan and Spanish names were observed. I Consequently, it is plausible that employers assumed that applicants with Catalan names (1) were the only ones born in Catalonia and thus fluent in Catalan and (2) were more inclined to take up the job offer and relocate permanently to Catalonia.

6. STUDY 2: an online survey on name perceptions

Study 2 is a pre-registered[10] online survey on name perceptions with a sample of 789 individuals aged 18 to 64 living in the region of Catalonia. The study was designed to address the three potential explanations for the findings of Study 1 discussed above. We asked respondents to rate different combinations of first names and surnames in terms of the most likely region of birth, social class, and proficiency in Catalan and Spanish languages[11].

In Study 1, all job candidates applying to vacancies in Catalonia were living in Madrid, and therefore, we could not test whether employers' differential behavior toward native majority candidates with Catalan vs Spanish names was conditioned by their place of residence at the time of application. In Study 2, respondents were randomly assigned to a treatment condition: *treated respondents* were told to imagine that the name profiles they were asked to evaluate were of people living in Catalonia[12], whereas *untreated respondents* were not provided any information about the place of residence of the hypothetical name profiles. By including this treatment condition in Study 2, we are able to assess whether treated respondents' perceptions of the (1) Catalan language skills and (2) place of birth differ for name profiles that, on their own, do not indicate any connection to the region—specifically, those with Spanish first names and surnames or ethnic minority first names and surnames—compared to the perceptions of respondents who did not receive any information about the place of residence associated with those name profiles. In doing so, we can measure the influence of names relative to the place of residence on perceptions of language proficiency and place of birth.

By contrast to Study 1, where we measured employers' responses to majority group applicants with either Spanish or Catalan first names and surnames, Study 2 includes a larger number of first name and surname combinations that better reflect the name diversity within the native majority group in the region (Table 2). In addition, we also included some of the minority names used

[10] The design and hypotheses of Study 2 were pre-registered in February 2023 with the following pre-registration DOI: https://doi.org/10.17605/OSF.IO/SDHYM

[11] The introduction to the survey read as follows:

> "Sometimes we associate certain first names and surnames to people of a certain age, place or social class. For example, it is likely that *Josefa* is the name of an old woman. Likewise, compound surnames are usually associated to upper-class families.
>
> For each of the first name and surname combinations that you will see below, please tell us what you think is the most likely place of birth, social class and proficiency in Spanish and Catalan of people bearing those names."

[12] At the end of the survey introduction, treated respondents could read the following sentence: "Imagine that the people bearing those names currently live in Catalonia".

in Study 1 (Ecuadorian, Moroccan, Nigerian and Ugandan names), as well as mixed ancestries. Name profiles in Study 2 can thus signal a connection to Catalonia based on ancestry (having at least one Catalan surname) and/or on cultural upbringing (having a Catalan first name), or no connection to the region at all on their own (Spanish and ethnic minority names). Each respondent rated four name profiles, which yielded a total of 3,156 observations.

Table 2. List of name combinations in Study 2

Name (m/f) SURNAME 1 SURNAME 2	First name	Surname(s) Ancestry	Name signals connection with Catalonia	Included in Study 1	N
Álvaro/Alba MARTÍNEZ GARCÍA	Spanish	Spanish	No	Yes	397
Jordi/Laia PUIG SOLÉ	Catalan	Catalan	Yes	Yes	392
Luís Alberto/María Fernanda GUAMÁN ESPINOZA	Ecuadorian	Ecuadorian	No	Yes	200
Said/Rachida EL MOUSSAOUI	Moroccan	Moroccan	No	Yes	197
Wemusa/ Kisakye NDIKUMANA	Ugandan	Ugandan	No	Yes	200
Akintunde/Adeola OLADEJO	Nigerian	Nigerian	No	Yes	192
Álvaro/Alba MARTÍNEZ PUIG	Spanish	Mixed Catalan & Spanish	Yes	No	131
Jordi/Laia MARTÍNEZ PUIG	Catalan		Yes	No	129
Álvaro/Alba PUIG MARTÍNEZ	Spanish		Yes	No	131
Jordi/Laia PUIG MARTÍNEZ	Catalan		Yes	No	128
Álvaro/Alba PUIG SOLÉ	Spanish	Catalan	Yes	No	135
Jordi/Laia MARTÍNEZ GARCÍA	Catalan	Spanish	Yes	No	135
Luís Alberto/María Fernanda PUIG ESPINOZA	Ecuadorian	Mixed Catalan & ethnic minority	Yes	No	115
Said/Rachida PUIG EL MOUSSAOUI	Moroccan		Yes	No	114
Jordi/Laia PUIG EL MOUSSAOUI	Catalan		Yes	No	113
Wemusa/Kisakye PUIG NDIKUMANA	Ugandan		Yes	No	113
Jordi/Laia PUIG NDIKUMANA	Catalan		Yes	No	109
Akintunde/Adeola PUIG OLADEJO	Nigerian		Yes	No	115
Jordi/Laia PUIG OLADEJO	Catalan		Yes	No	110

To explain the results of Study 1, where we observed a premium to applicants with Catalan names and no differential treatment between applicants with Spanish and ethnic minority names, we hypothesized that employers relied on stereotypes related to social class and proficiency in Catalan language associated with various groups. Based on these explanations, we formulate the following hypotheses:

H1. Untreated respondents—who did not receive any information about the profiles' place of residence— rate the Catalan language skills of name profiles that include at least a Catalan first name or surname higher than the Catalan language skills of Spanish and ethnic minority names.

H2. Treated respondents—who were told that the hypothetical name profiles lived in Catalonia— rate the Catalan language skills of Spanish and ethnic minority names higher than untreated respondents— who received no information about the profiles' place of residence.

H3. For both treated and untreated respondents, social class perceptions are highest for names signaling exclusive Catalan ancestry (two Catalan surnames) compared to mixed Catalan-Spanish names and surnames, Spanish names and ethnic minority names. We do not have a clear expectation of the effect of providing information on place of residence on respondents' social class perceptions of different name profiles.

Finally, the last explanation offered for the findings of Study 1 was that employers relied on native majority applicants' names as a proxy for their region of birth and the probability of accepting a job offer in Catalonia, given that all candidates lived in Madrid at the time of application. While we cannot test the latter part of the hypothesis (i.e. probability of taking up a job in Catalonia), we can examine whether having information on individuals' place of residence shapes perceptions of their region of birth. Therefore, H4 reads as follows:

H4. Treated respondents—who were told that the hypothetical name profiles lived in Catalonia— are more likely to think that Spanish and ethnic minority name profiles were born in Catalonia than untreated respondents—who were not provided with any information on place of residence.

6.1. Data and methods

The fieldwork was conducted by Netquest, one of the largest internet polling firms in Spain, during April 2023, with a sex and age representative sample of the Catalan working-age population (n=789). Respondents could choose to do the survey in either Catalan or Spanish language. The questionnaires in the original languages and a translated English version are provided in the Online Appendix.

Each survey respondent was presented with four distinct combinations of first names and surnames, selected from the four groups of names shown in Table 2. For each name combination, they were asked to select the most likely region of birth (Catalonia, rest of Spain, other European countries, Asia, Central and South America, Middle East and North Africa, North America, Oceania, and Sub-Saharan Africa); social class (upper class, upper-middle class, middle class, lower middle class, lower class); and proficiency in Catalan and Spanish languages of people bearing those names. For the two language proficiency questions, respondents rated the profiles on an 11-point scale where 0 meant no proficiency and 10 indicated native proficiency in Catalan or Spanish.

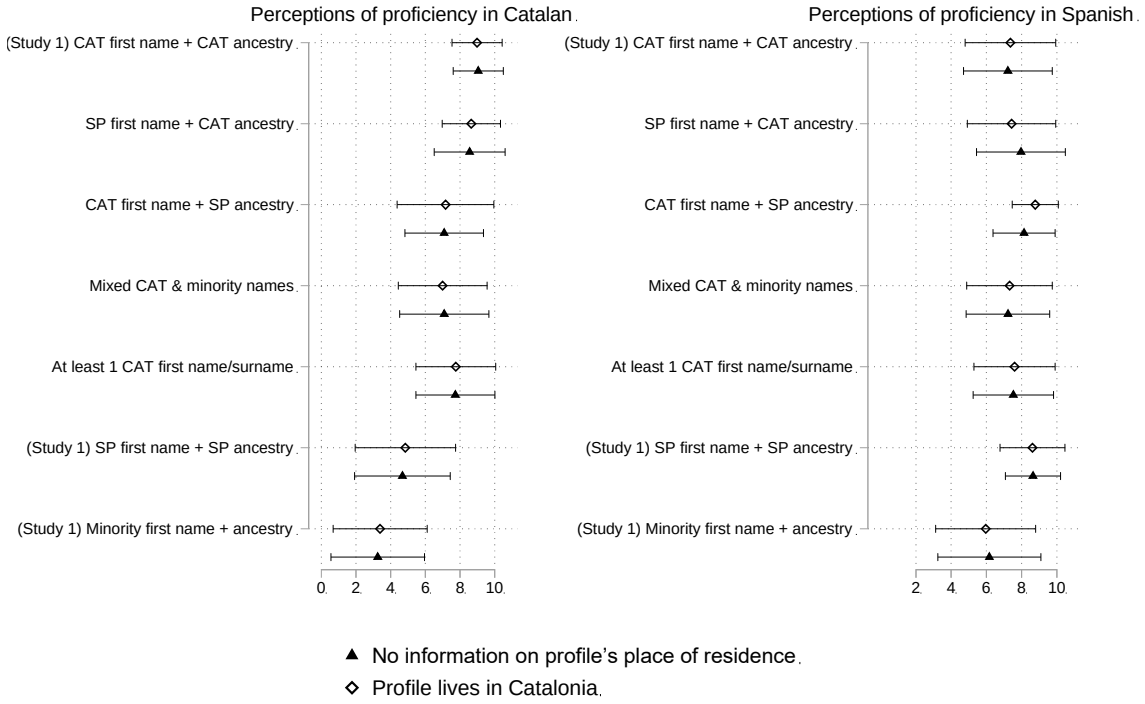
To examine the perceptions of language proficiency associated with each name combination included in the study, we calculated the mean and standard deviation for respondents who were told that the name profiles live in Catalonia (treated respondents) and for those who were not given this information (untreated respondents). For H1, H2, H3 and H5, we conducted one-tail T-tests to test for statistically significant differences in means across name profiles and F-tests to test for differences in

standard deviations. H4 is tested with a Chi-squared test of the proportion of each social class category.

6.2. Results

The results are shown only for a subset of the names (for the full results, see Tables A25 and A26 in the Online Appendix). Proficiency in Catalan language was perceived to be greater among name profiles that included at least a Catalan first name and/or surname than among names that did not signal any connection to the region on their own, i.e. Spanish and ethnic minority first names and surnames. The results, disaggregated for treated and untreated respondents, are presented in Figure 3. H1 is clearly supported in that, among untreated respondents—who received no information on the name profiles' living in Catalonia—the Catalan language skills of name profiles that included at least a Catalan first name or surname were perceived to be higher (7.7) than those of Spanish names used in Study 1 (4.7). At the same time, the assumed proficiency of Spanish names, though low, was higher than that of ethnic minority names (3.2). For the Catalan names used in Study 1, the expected proficiency increased up to 9 points. It is also worth noting that respondents assumed that the Catalan language skills of names conveying mixed Catalan and minority ancestries were higher than those of Spanish names (Spanish first names and surnames. Regarding Spanish language proficiency, the variations in perceptions among names are relatively minor, except for names associated with ethnic minorities, which are perceived as having significantly lower Spanish language skills than other name profiles. This result is driven by the Moroccan, Ugandan and Nigerian name profiles, whereas Ecuadorian names are perceived as highly proficient in Spanish (8.4).

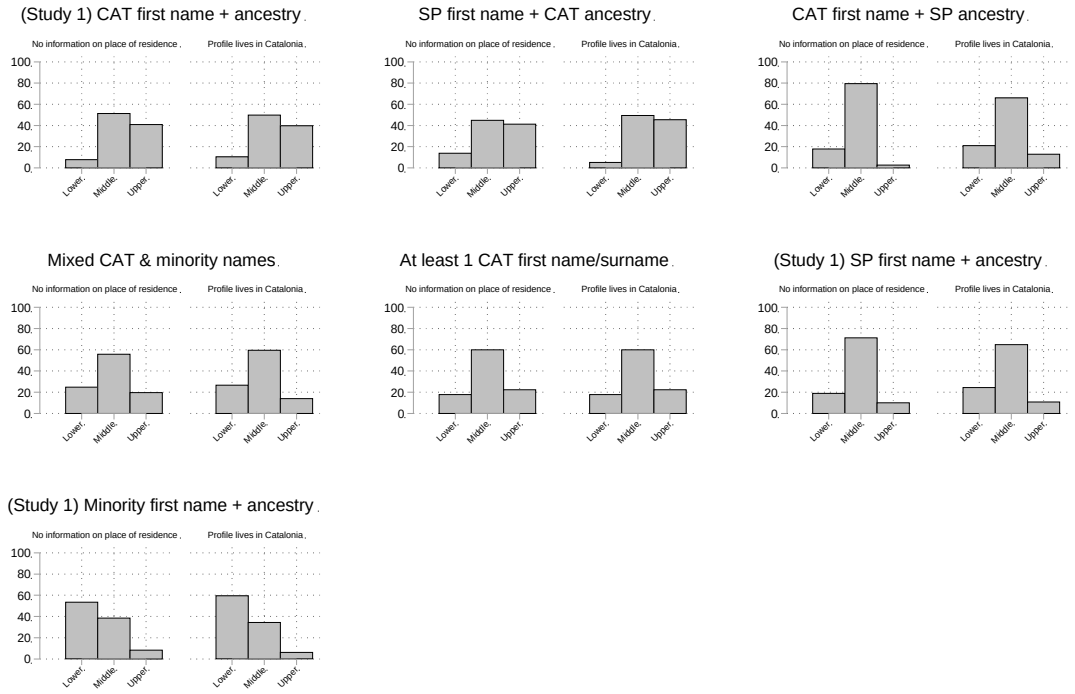
Figure 3. Perceptions of proficiency in Catalan and Spanish language by name profiles



Note: The category "At least 1 CAT first name/surname" includes all names with a Catalan first name and/or surname. Results for all the name combinations are included in the Online Appendix

We calculated one-tailed T-tests comparing the mean proficiency score in Catalan language for Spanish and ethnic minority name profiles relative to names with at least a Catalan first name or surname. Contrary to our expectations, respondents who were told that the name profiles corresponded to hypothetical people living in the region did not rate their Catalan language skills higher than respondents who were not provided with any information about the place of residence. The findings indicate that names serve as a more accurate predictor of stereotypes related to Catalan language skills compared to place of residence. Hence, we reject H2.

Figure 4. Social class perceptions by name profile

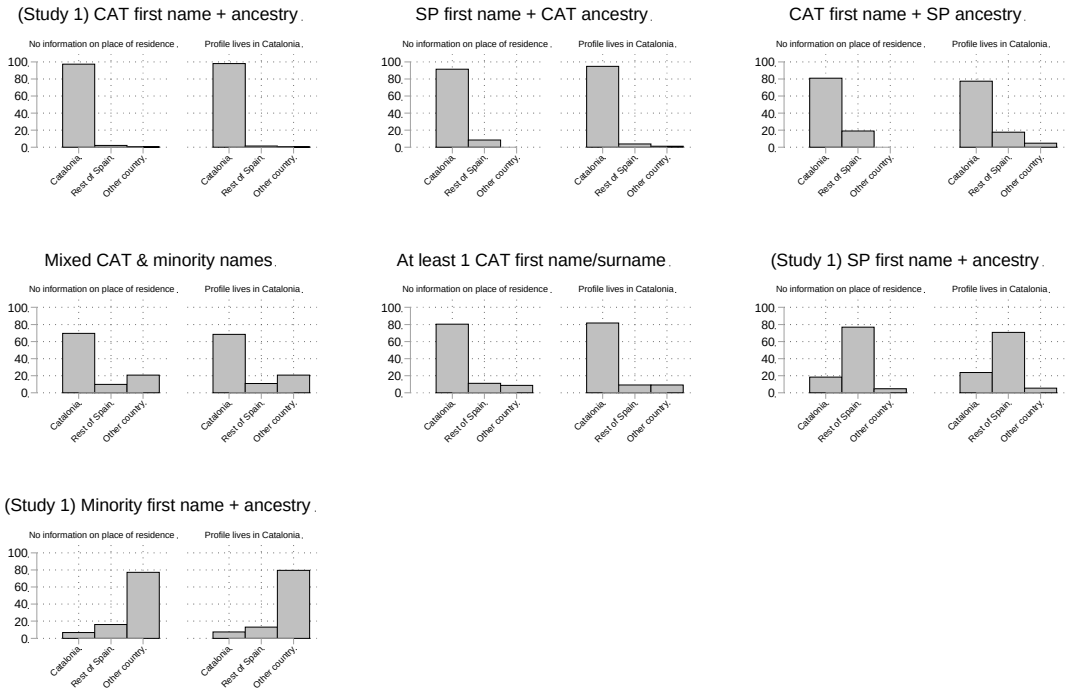


Note: The category "At least 1 CAT first name/surname" includes all names with a Catalan first name and/or surname. Results for all the name combinations are included in the Online Appendix

Figure 4 offers insight into the association of names with social class. For all names except for those exclusively signaling ethnic minority status, the prevailing perception was middle class. That said, having exclusive Catalan ancestry, signaled with two Catalan surnames, was more strongly associated with being perceived as upper/middle class compared to other native majority names: over 40 percent considered these name profiles as upper or upper-middle class, while only 15.6 percent of respondents thought so of names signaling mixed Spanish and Catalan ancestry. H3 is thus supported. Overall, name profiles with at least a Catalan first name or surname were more likely to be considered upper-middle and upper class (23 percent) compared to Spanish names (10 percent) and ethnic minority names (7 percent). Ethnic minority and Spanish names were also more likely to be considered lower or lower-middle class (56 and 21 percent, respectively).

We did not have any theoretical expectation about the effect of informing respondents that name profiles live in Catalonia on their perceptions of social class. However, Figure 4 shows that applicants with Spanish first names and surnames are more likely to be perceived as lower/lower-middle class when respondents are told that they correspond to hypothetical people living in Catalonia (24 vs 19 percent). The same pattern is observed for ethnic minority names.

Figure 5. Perceptions of region of birth by name profile



Note: The category "At least 1 CAT first name/surname" includes all names with a Catalan first name and/or surname. Results for all the name combinations are included in the Online Appendix

Finally, Figure 5 shows respondents' perceptions of region of birth by name profile, disaggregating between respondents who received information on the name profiles' place of residence and those who did not receive any information. Spanish and ethnic minority name profiles used in Study 1 are overwhelmingly perceived as being born outside Catalonia. By contrast, over 95 percent of respondents thought that the Catalan names used in Study 1 were born in Catalonia. As depicted in Figure 5, names are more important than place of residence for region of birth perceptions; in fact, the T-tests (included in the online appendix) show that for Spanish and ethnic minority name profiles, providing information about their residence in Catalonia did not increase the share of respondents who thought they were born in Catalonia. H4 is therefore rejected.

6.3. Discussion

The results of the online survey shed light on some of the mechanisms underlying the findings of Study 1. Specifically, we demonstrated that names are employed as proxies for individuals' Catalan language proficiency, whereas place of residence is not. This finding may not be entirely surprising, given that having Catalan ancestry correlates with Catalan language skill level and usage among the native majority population in the region, as discussed earlier. The expected proficiency in Catalan language of Spanish and ethnic minority names was low, and informing respondents that these name profiles lived in Catalonia did not significantly affect perceptions. By contrast, the assumed

proficiency of applicants with at least a Catalan first name or surname was at least 7, increasing to 9 for name profiles with Catalan first names and surnames used in Study 1. Name profiles signaling exclusive Catalan ancestry (i.e., two Catalan surnames) were also assumed to belong to a higher social class compared to the rest. Overall, name profiles with a Catalan first name or surname were perceived as being of a higher social class than Spanish and ethnic minority names. Finally, informing respondents of the name profiles' residence in Catalonia did not influence their perceptions of the region of birth.

7. CONCLUSION

This article focuses on the case of Catalonia, a region in Spain with high linguistic and ancestral diversity among its native majority population. The case of Catalonia highlights the complexities of interpreting findings of ethnic discrimination in hiring in multilingual contexts. The approach taken here informs our understanding of multilingual societies such as Catalonia where language serves as a marker of ancestry, identity, and social class. As a result, a simplistic delineation of groups (i.e., homogenous native majority vs. one or several ethnic minorities) would not meaningfully reflect the contextual reality. These complexities are particularly salient when designing labor market correspondence audits, where employers use names as proxies for (1) language proficiency, which shapes perceptions of candidates' productivity; (2) social status, which affect perceptions of competence; and (3) ingroup membership, which can activate preferences rooted in assumptions about cultural and political compatibility. The primary insights are threefold.

First, perceptions of language proficiency and social class are associated with perceptions of ancestry and cultural background. Based on the findings from both Study 1 and 2, applicants with Catalan names were likely perceived as highly proficient in Catalan, whereas applicants with Spanish and ethnic minority names were not. As opening an application was a necessary step to see self-reported objective measures of language skills, it was very difficult, if not impossible, for language ability to compensate for employers' assumptions on applicants' proficiency in Catalan based on names. This reflects an instant advantage that names can confer in signaling language skills.

Second, the premium that applicants with Catalan names received in the first step of the screening process in Study 1 was likely not only driven exclusively by expectations of language ability. It also carried expectations about social class. Names signaling 'exclusive' Catalan ancestry (i.e., two Catalan surnames), which represent a minority among the Catalan population[13], were more likely to be perceived as upper-middle class than other name combinations. As such, a group already advantaged in terms of perceived language skills also enjoys that advantage linked to a perception of

[13] Based on the Political Context Survey 2018, only 21 percent of adults in Catalonia had four Catalan grandparents.

higher social status, which reflects contextual patterns of social stratification and intergenerational mobility in the region (Güell et al., 2013). In other words, people of 'exclusive' Catalan ancestry are more likely to have higher levels of education and income than the descendants of internal migrants from other Spanish regions.

Third, the premium given to applicants with Catalan names in Study 1 can also be partially driven by ingroup favoritism towards candidates perceived as Catalan-born or familiar with Catalan culture. In Study 1, applicants with Catalan names could have been seen as ingroup members, whereas applicants with Spanish names may have not. This is reinforced by the fact that, in the correspondence audit, only candidates with Catalan names signaled a clear connection with Catalonia, as all applicants provided postal addresses in Madrid. As shown in Study 2, Catalan names used in Study 1 unequivocally convey Catalan ancestry, Catalan language skills, and high social status. As a result, it is not possible to identify the singular preference driving employers' ingroup perceptions. That said, having Catalan ancestry (signaled by two Catalan surnames) is unlikely to be the sole determinant of belonging to the ingroup — Catalan society is highly diverse in terms of ancestry. However, residing in Madrid and having a name that, by itself, does not signal any connection to Catalonia likely led to Spanish and ethnic minority applicants being perceived as non-Catalan born or raised and, consequently, as outgroup members. This conclusion is tempered by the fact that we do not have information about recruiters, which prevents us from directly observing the role of employers' perceptions of cultural fit. That said, 81.7 of the vacancies in Catalonia were located in the Barcelona province, which is notably diverse, so recruiters likely mirrored this diversity in terms of ancestry, political identity, and language use.

In both multilingual and monolingual societies, applicants who are perceived as having poor skills in the dominant language(s) of communication and to be of lower social status will be disadvantaged when applying for jobs. In monolingual contexts, identifying the dominant language is straightforward and assumptions of low language capacity only affect ethnic minorities of immigrant descent (Birkelund et al., 2020). In multilingual societies, identifying the dominant language is more difficult, as different languages may prevail in different contexts. Consequently, not all members of the native majority population will be proficient in both languages, as is the case in Catalonia. The language ideology in the region favors bilingual proficiency, which inevitably disadvantages those who lack bilingual skills. As long as disparities in Catalan language proficiency persist depending on the region of birth, language stereotypes are likely to continue influencing the hiring prospects of natives based on their names. These stereotypes will also impact the Catalan-born population with (Castilian) Spanish names even though they are, based on self-reported data, able to speak both local languages. The preference for Catalan first names among the Catalan-born population, regardless of their ancestry, could potentially be attributed to the advantage associated with signaling belonging to the region or assimilation to Catalan culture.

There are some limitations that indicate clear pathways forward for future work. First, we could not determine the relative influence of language skills stereotypes, social class perceptions, and perceptions of cultural matching on employers' behavior in Study 1. With regard to the latter, future work should try to collect personal information about recruiters, although this does not come without challenges. Recruiters are less likely to answer scholars' surveys (Bills et al., 2017) and are more inclined to conceal prejudiced behavior when they know they are being observed (Wulff & Villadsen, 2020). With respect to the language and class stereotypes tied to names, it is possible that fully disentangling the two is not feasible. In multilingual contexts, names signaling both ancestry, language proficiency and class can be considered a 'feature, not a bug' (Crabtree et al., 2022, p. 463), i.e., perceptions of ancestry will be linked to perceptions of language skills and social class as long as these correlations persist at the population level. Furthermore, in our case, it was not possible to include a social class treatment that could be visible to employers in the first step of the selection process, as the recruitment platform determined the amount of information that employers could see at that stage. That said, in future correspondence audits conducted within the Spanish and Catalan context, it would be beneficial to include a wider range of name combinations similar to those considered in Study 2.

An additional limitation of our work is that we focus on a single context, which precludes us from examining the impact of different language ideologies on the patterns of (dis)advantage of linguistic communities. The social norms and policies regulating the use and functions of languages vary substantially across multilingual regions depending on the distribution of political and economic power across linguistic communities. In some contexts, there has been a clear preference for imposing monolingualism in territories where a linguistic community is numerically a majority (e.g., Belgium), which reinforces segregation between groups over time. In other contexts, territorial monolingualism is not feasible or even desirable. Nonetheless, even in regions where two languages coexist with minimal segregation between linguistic communities, one language invariably takes precedence in formal settings and is consequently highly valued in the labor market. Names perceived as having low skills in the most valued language will inevitably be disadvantaged. Our findings could have been different if we had conducted the same study in other multilingual regions of Spain, like the Valencian Community, where both Catalan and Spanish coexist, but Spanish prevails in formal settings. In such a context, proficiency in Catalan might not be regarded as a highly prized skill, and as a result, Valencian names might not be advantaged in hiring. Considering the increasing number of experimental research relying on name-based treatments to measure discrimination and prejudice, there is a growing need for further research on name perceptions beyond the confines of the US. This is especially crucial in multilingual contexts, where the language skills perceptions of names can influence labor market outcomes differently than in monolingual settings.

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