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When the context matters: Identity, secession and the spatial dimension in Catalonia*

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Regional and national identities are significant determinants of people's support for secession. Most previous works, however, have implicitly assumed that national identity has a linear unconditional effect. We complement previous works by showing that the relationship between identity and support for secession changes as a function of the context in which an individual interacts, an effect particularly important among those with mixed national and regional identities. The first stage of our empirical analysis is based on a pool of 22,000 individuals in the context of Catalonia (Spain). Findings confirm that dual-identity individuals are especially affected by their immediate surroundings: the probability to vote in favour of independence among them substantially increases when the percentage of people speaking Catalan increases. On a second stage, we explore the existence of a social interaction mechanism by employing a survey that measures the preferences of people's close networks. We show that individual's interaction in like-minded networks modifies the relationship between identity and secession, with the effect being again strong among dual-identity individuals. This group is six times more likely to vote for secession when having only pro-secession close contacts, as compared to having none. These results have implications for studies on regionalism and preferences for territorial decentralization.

Keywords: identity, context, personal networks, independence, social relations, geography.

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1. Introduction

National identity—the cognitive (evaluative and affective) attachment that subjectively links individuals to the nation—has been identified as a major force driving preferences towards territorial decentralization or secession. The general claim in the literature contends that, in contexts where national and regional identities coexist, the higher the regional identity, the more intense the individual's preference for decentralization or secession. Indeed, most previous works have found a strong link between regional identity and secessionist attitudes (see, for instance, Hooghe & Marks, 2004; Paasi, 2009; Sorens, 2005; Webster, 2007).

However, when explaining decentralization or secessionism, the consequences of the (uneven) geographical distribution of national preferences have been largely neglected. Previous works have generally considered, mostly by default, that regional/national identity is a factor that directly and unconditionally affects an individual's regionalist or secessionist preferences. That is, national identity is supposed to drive citizens' territorial preferences, regardless of where the individual lives or interacts. This assumption implies that, in plurinational contexts, people rarely interact with other identities or, when they do, this interaction does not modulate the relationship between identity and territorial preferences. This widely assumed postulate is strongly rooted to the influential theoretical position of primordialism (Smith, 1995), based on the idea that identities in plurinational contexts are natural phenomena and immutable.

The main goal of this article is to analyse whether (and to what direction) the context plays a role in explaining the relationship between identity and support for secession. We aimed at complementing previous literature by analysing whether identity plays a different role at explaining support for secession in different contexts. This is a relevant question as it addresses the influence an individual's immediate surrounding has in shaping the relationship between identity and support for independence, a hitherto neglected topic in the literature of decentralization and territorial preferences

We complement previous approaches by arguing that, contrary to the assumption of close communities with no interaction between them, most stateless nations tend to have a fair degree of internal heterogeneity. As a result, daily interactions with like-minded

individuals or with individuals with different national feelings may modulate the association between identity and secessionist preferences.

As in previous findings, we expect people's national identity to play a major effect in shaping their preferences over secession. However, we take a step further and claim that the context crucially affects the role played by an individual's national identity. We argue that the effect of the immediate context is higher among dual-identity individuals and lower among individuals with exclusive national or regional identities. In this sense, this article integrates a geographical focus on the study of secessionism, a dimension that has largely been neglected (Paasi, 2016).

We investigate this claim by following a research design in two stages. Firstly, we employ a pool of more than 22,500 individuals interviewed in Catalonia in different surveys carried out between June 2011 and November 2014. Catalonia provides an ideal case study given the uneven geographical distribution of political identities across space (Muñoz & Guinjoan, 2013) and the relevance of the ongoing secession debate since 2010 (Cuadras-Morató, 2016). By combining individual and aggregate data at the municipal level, we show that identity plays a differential role according to people's immediate context, and that the effect of the environment is particularly strong among individuals with a dual identity—regional and national. In fact, our evidence shows that for individuals with dual identities, a ten-points increase in the percentage of people speaking Catalan in their immediate surroundings increases their probability to vote in favour of independence more than 7 percentage points.

In the second part of the article, we complement this finding by highlighting the social interaction mechanism—that is, the role played by individual-level networks. By using data from a survey including 1,500 individuals interviewed in Barcelona, the capital of Catalonia, we show that the effect of identity on preferences for secession changes as a function of whether an individual's close contacts share the same preference for secession. Findings show that, among dual-identity individuals, moving from a close relational network composed of five anti-secession close contacts to five pro-secession contacts multiplies by six the likelihood of being in favour of independence. Overall, our results challenge previous monolithic assumptions about identity and territorial preferences and emphasize the importance of the context where an individual develops and interacts as a crucial factor that shapes support for secession, especially among individuals with mixed national and regional identities.

2. Previous research on context and identity

The place where people live has deep, lasting effects on people's lives. The immediate context in which individuals interact, namely the social composition of the neighbourhood (Simpson, Maclennan, van Ham, Manley, & Bailey, 2011), is likely to affect an individual's attitudes, opinion or behaviour. This process, conceptualized in the literature as the neighbourhood effects, has triggered a massive volume of work in different fields (Sampson, Morenoff, & Gannon-Rowley, 2002; Sharkey & Faber, 2014). A major part of extant research has devoted intense efforts to confirm that individuals reinforce, change or adapt their attitudes and behaviour as a function of their immediate context (Sampson et al., 2002; Sharkey & Faber, 2014), in which family, friends and workplace contacts can play different roles (Rindfuss, Choe, Bumpass, & Tsuya, 2004). The debate, however, is still vivid, as previous works still not offer a definitive conclusion. As Simpson et al. put it, "we are still no closer to answering the question of how important neighbourhood effects actually are" (Simpson et al., 2011, p. 3). Part of this might be due to the concept's ambiguity: according to Galster (2012) there are up to fifteen different causal mechanisms explaining the 'neighbouring effects', organised in four broad groups of explanations: the social interaction, the environment, the geography and the institutions. It is beyond the scope of this article to summarize all the literature on neighbourhood effects, although it is important to point out that the general finding in political science is that the 'neighbourhood' significantly influences an individual's attitudes or behaviour.¹

The importance of the immediate social context has also been considered to study individual's national identity. Previous works have mainly tried to understand whether immigrants living in heterogeneous communities, where natives and foreigners easily interact, are more likely to develop a more pro-integration national identity to the recipient society than immigrants living in homogenous neighbourhoods. For example, Patacchini and Zenou (2016) find that African American students in poor areas develop

¹ For instance, Pattie and Johnston (2000) showed that people are much more likely to change their votes if those with whom they discuss political issues support that direction. Similarly, Enos (2016) showed that, consistent with psychological theories of racial threats, in the US, white voters' turnout dropped by over 10 percentage points after they stopped living close to African Americans.

a different oppositional identity than those living in more affluent areas. Similarly, Bisin and colleagues (Bisin, Patacchini, Verdier, & Zenou, 2016) find that ethnic minorities are more motivated in retaining their own distinctive cultural heritage the more integrated are the neighbourhoods where they reside and work. In a different context, Lin (2006) shows that voters of the same subethnicity who reside in different geographic locations can have different levels of national identity.

Despite the previous prolific literature, less is known about how the spatial dimension—the ‘neighbourhood’—shapes the effect of regional identity in stateless nations.

Crucially, identity in these contexts plays a different role than identity among the immigrant population. As compared to the immigrant’s identity, the minority’s group regional identity can hold a majority in its region, while still being a minority in the State. This is the case, for example, of Catalonia, Quebec, or Scotland, among others. In nationally-fragmented countries, the state and the region’s minority regularly compete against each other to become the dominant framework of reference in the region. In addition, in these contexts, regional identity is considered to have a certain degree of dissimilarity against national identity and both identities (regional and national) are thought to be exclusive for a share of the population. In practical terms, this implies a negative correlation between both identities: people scoring high in regional identity tend to score low in national sentiment and vice versa (Guinjoan & Rodon, 2016).²

Most importantly, in contexts where regional and national identities are perceived, by most of the population, as exclusive rather than nested (Medrano & Gutiérrez, 2001),

² The literature has conceived the relationship between national and regional identities as either nested or exclusive (Medrano & Gutiérrez, 2001). In most plurinational countries, several identities may coexist in an individual if the construction of the different identities is not built in exclusive terms. Under these circumstances, nested identities emerge when one identity (the regional) helps to cement and reinforce the other identity (the national) (Sidanius, Feshbach, Levin, & Pratto, 1997, p. 104). However, in other multinational communities, some individuals hold less patriotic views of the whole country and they are more strongly attached to their own regional/ethnic group, in contraposition to the national group (Dowley & Silver, 2000, p. 359). In this case, while some individuals understand the region and national identity as complementary, other individuals do not express attachment to a ‘local’ or ‘folkloric’ identity, but to a whole system of values and culture with a different basis than the other identity” (Guinjoan & Rodon, 2016). In these regions, identities are said to be confronted (or exclusive) for some individuals rather than complementary (or nested). Finally, the regional identity is only be a determinant of territorial preferences when regional and national identities are structured as exclusive, but not when these are nested (Guinjoan & Rodon, 2013).

regional identities will be associated with higher decentralisation or secessionist preferences, whereas ‘statist’ identities will gear towards higher centralization policies or the preservation of the status quo (Bond, 2000; Costa-Font & Tremosa-Balcells, 2008; Dowley & Silver, 2000; Hooghe & Marks, 2004; Mendelsohn, 2003; Paasi, 2009; Spinner-Halev & Theiss-Morse, 2003). Ultimately, the role of national identity among national minorities in plurinational states becomes crucial during most region’s struggle to achieve self-government or outright independence. For instance, as shown by Serrano (2013) in the Catalan context, individuals that feel only Catalan are more than 4 times more likely to support independence than those feeling only Spanish. Similarly, Pattie and Johnston (2017) found that people feeling Scottish were twice as likely to vote ‘Yes’ in the 2014 independence referendum than people feeling British. Similar evidence was found in Quebec in the early 90s (Nadeau & Blais, 1991). In short, there is widespread evidence that regional identity/ies has a positive and significant effect on pro-secessionist predispositions (Sorens, 2005; Webster, 2007).

Despite the importance of national identity in these contexts, as well as the renewed academic interested on why (some) individuals support the creation of a new State, while others are opposed to it (Cuadras-Morató, 2016; Muñoz & Tormos, 2015; Muro & Vlaskamp, 2016; Verge, Guinjoan, & Rodon, 2015), little is known about whether (and how) individual’s immediate context shapes the effect of national identity on secessionist preferences. This is surprising given that different theoretical expectations can explain how the neighbourhood composition may shape the relationship between national identity and pro-independence attitudes. In sum, the jury is still out on whether the ‘neighbourhood’ modulates (and how) the effect of national identity.

3. The geographical context matters: the conditional relationship between national identity and support for secession

The main argument of this article is that the role of national identity on secessionist preferences is likely to vary as a function of the individual’s immediate context. Despite the indisputable role of identity in explaining attitudes towards independence, the potential role of the context in shaping the impact of identity on support for secession still remains to be addressed. We therefore complement previous research on the effect of national identity on secessionist preferences by analysing whether heterogeneous

contexts, as compared to homogeneous ones, are likely to increase or decrease the relationship between national identity and support for independence.

Hitherto, previous works have assumed, mostly by default, that identity rarely changes and that its effect is contextually unconditional. That is, once national identity is developed or acquired, it is assumed to have a direct effect on territorial preferences, regardless of the context in which the individual interacts. This implies that identities have a direct positive or negative effect and that this effect does not change according to an individual's contextual environment.³

Notwithstanding this implicit assumption, there are strong theoretical reasons to expect that context matters: The same concept of identity is, in fact, dependent on the place where it originated and evolved (Nogué & Vicente, 2004). Social interaction does not take place in a vacuum and, as research in social networks has shown, the immediate social setting serves as an intervening mechanism (Leszczensky, Stark, Flache, & Munniksma, 2016; Simpson et al., 2011): individuals interact between each other, which is likely to have an impact on their identity.

Social interaction in the immediate context makes people living in different places think about identity differently (Bernard, Berelson, Lazarsfeld, & McPhee, 1954; Butler & Stokes, 1971; MacKuen & Brown, 1987). Following this line of reasoning, we expect national identity to be positively/negatively associated with secession in places where social interaction mainly occurs with like-minded individuals. Hence, for individuals with predominantly national (regional) identities, interacting with like-minded individuals will lower (increase) their likelihood of favouring secession. In sum, we expect homophily to reinforce an individual's positioning towards secession preferences⁴. More generally:

H₁: The effect of national or regional identity on support for secession is conditional upon the context in which the individual interacts.

³ Although it is possible to envisage different circumstances under which a change in national identity could be possible (Hierro, 2012; Tormos, Muñoz, & Hierro, 2015), identity has been shown to be relatively stable and only prone to changes in the mid- or long-run.

⁴ Homophily is a social interaction pattern that occurs when people are likely to establish relationships among individuals or groups that share similar characteristics or attributes. In contrast, heterophily occurs when individuals interact with agents who are different from themselves. For a discussion on the uses of the concept and the main findings in the literature, see McPherson et al. (2001).

There is, however, an important nuance to the previous hypothesis. As mentioned above, national identities are not always exclusive (Medrano & Gutiérrez, 2001). In fact, as we shall see below, a fair number of individuals in stateless nations have some degree of dual identity. Then, we expect individuals with dual identities to be more easily influenced by the immediate context than those with a predominantly regional/national identity, and particularly more than those with exclusive national or regional identities. We hypothesize that the effect of the context on support for secession will be especially relevant among dual-identity individuals, as they are more likely to be cross-pressured by both the pro- and anti-secession camps and can more easily opt for one side or the other when social interactions occur in homogeneous contexts (that is, where homophily is likely to be higher). In contrast, individuals with predominantly and, particularly, exclusive national or regional identities, will hold stronger positions towards independence, irrespective of where and with whom they interact.

Therefore, support for secession is expected to vary across contextual characteristics, but the effect is likely to be higher among dual-identity individuals.

H₂: The effect of context on support for secession will be stronger for individuals with dual identities. We expect no differences among individuals with exclusive regional/national identities.

Our expectations can be summarized in Table 1. The rows include an individual's national identity and the columns illustrate different contextual circumstances. For the sake of simplification, we consider an individual's national identity to be divided into three categories: only national, only regional and dual-identity individuals. We also consider that the immediate context can be mainly composed of citizens with a predominant national/ regional identity (homogeneous contexts) or equal identities can be present at roughly equal numbers (mixed context). The cells include our theoretical expectations. For each cell, we first include the expected effect of identity and, then, the estimated support for secession among each identity-group. For instance, as hypothesized in H₂, we expect dual-identity individuals to be particularly affected by the context (second row). Thus, secessionist support among dual-identity individuals should be low in national-minded contexts, intermediate in mixed contexts and high in regional-minded contexts. In sum, dual-identity individuals are expected to be pushed towards one side of the territorial debate or the other as a function of the context in

which they live. In contrast, as displayed in the first and third row, support for secession among only national/regional individuals will only discreetly vary as a function of the context where the individual lives (from very low/high to slightly low/high).

[[TABLE 1 ABOUT HERE]]

We aim to corroborate our expectations by exploring one of the individual-level mechanisms accounting for the relationship between the context and identity. We focus here on what Galster calls the “social contagion” effect. This is based on the idea that “behaviours, aspirations, and attitudes may be changed by contact with peers who are neighbours” (Galster, 2012, p. 25). Thus, the underlying idea is that having contact with other people reinforces or changes individual’s attitudes or behaviour. We focus on this particular mechanism for two reasons: Firstly, it constitutes one of the most-studied mechanisms in the neighbourhood effects literature and the results are mixed (Galster, 2012). Secondly, in practice the social contagion mechanism is easier to operationalise. Despite individuals self-select into certain networks, analysing whether the people’s relational network modulates the effect of identity on support for secession may give us further confidence that the context matters.

Thus, we analyse how an individual’s interactions with their immediate networks shape the effect of identity on preferences for secession. If individuals have contact with people with the same or different territorial preferences, they are likely to process national identity in a different way. Social interactions lead individuals to pick up information and knowledge about others, both through personal interaction and impersonal encounters or observations—what is known as the knowledge accumulation mechanism (Bailey, Gannon, Kearns, Livingston, & Leyland, 2013). The immediate environment in which individuals interact has a strong effect on shaping his/her political behaviour (Cox, 1969; Johnston et al., 2004). If this is also the case for national identity, we should also expect its effects to be modulated according to people’s relational network.

In sum, we suggest that social contagion offers a compelling theoretical explanation for understanding the relationship between people’s national identity and support for secession. In particular, we expect the interaction with one’s relatives, friends or people

at work, as well as the daily impersonal interactions (people's relational network), will modulate the effect of the individual's national identity on support for independence. Again, we expect this effect to be higher among dual-identity individuals.

H₃: The effect of identity on favouring (rejecting) secession will vary as a function of the pro-secession (anti-secession) attitudes held by people's close relational network. This effect will be stronger among dual-identity individuals.

4. The role of identity on Catalan independence

The Catalan case offers an appropriate scenario to study the conditional effect of identity on preferences towards secession, at least for three different reasons. Firstly, Catalan and Spanish identities are conceived as having some degree of exclusivity for a relevant part of the population. For another segment, identities are more likely to be considered as nested—dual-identity individuals (Guinjoan & Rodon, 2016). The relevant aspect here is that, for an important part of the population, each identity encompasses different cultural values, social norms and mental frameworks of reference. That is, for a share of the Catalan population the two identities can be considered as exclusive, rather than nested.

Secondly, the debate over Catalan secession has been prominent in recent years (Cuadras-Morató, 2016). After the 2012 regional elections, the Catalan government, together with different parties in the Parliament, embarked on a process to organize a referendum on secession on similar terms to the Scottish referendum undertaken in 2014 (Pérez Lozano & Sanjaume Calvet, 2013). Due to the impossibility of organising a legally binding referendum, an early regional election was called for the 27 September 2015, which was rapidly framed as an imperfect plebiscite on independence (Orriols & Rodon, 2016).⁵ Therefore, after 2010-2011, the independence of Catalonia became a hot issue for public debate. This is ultimately important for our analysis, as saliency may

⁵ The 27th September elections were won by the pro-secessionist coalition *Junts pel Sí*, which achieved 62 deputies out of a possible 135, and 39.54% of the votes. The extreme-left and secessionist CUP achieved 10 seats and 8.20% of the votes. Altogether, the secessionist camp obtained 47.74% of the votes and 72 of the 135 deputies in the Catalan Parliament. After this election, Catalan independence remained as a hot issue in the public agenda. In October 2017 the Catalan government organized an independence referendum that was considered illegal by the Spanish institutions. The "Yes" side won, with 92.01% of voters opting for independence, and a participation of 42.7%.

decrease uncertainty towards the issue and decrease weak or elusive preferences towards independence (Behrens, Woolrich, Walton, & Rushworth, 2007; Van Schie & Van Der Pligt, 1995).

Finally, there is a substantial variation in preferences for secession across the Catalan geography (Muñoz & Guinjoan, 2013). The probability of voting in favour or against independence in a hypothetical referendum is not randomly distributed across space. Figure 1 shows the expected favourable vote in each municipality in a referendum, obtained from weighting the support for each party in the Catalan legislative elections in September 2015 and support for secession as expressed by the *Centre d'Estudis d'Opinió* (CEO), the Catalan polling institute, in its barometer from November 2015.⁶ The figure shows that pro-secession preferences are spatially concentrated in the northern parts of Catalonia, and specifically in the north-east (Girona) and the centre (rural counties of the Barcelona province). In the northwest (Lleida) as well as in the interior areas of the south (Tarragona) support for secession is also high. In contrast, unionist supporters are higher along the coast (particularly in Barcelona) and its metropolitan area. Thus, spatial patterns of nationalist affiliations are clustered and place-specific, bringing about different contextual scenarios. As Lepič (2017) puts it, “if spatial specificities are not taken into account [in Catalonia], all geographically aimed analyses would be biased” (2017, p. 1999).

[[FIGURE 1 ABOUT HERE]]

Along these lines, there is substantial variation in the linguistic composition across Catalan municipalities. In Catalonia, language constitutes a good proxy for the cultural interactions that take place in certain areas (Clots-Figueras & Masella, 2013). Cultural, social and political values are likely to be different as language heterogeneity increases. This variation ultimately allows us to investigate how the context of where people live

⁶ The estimation of secession support assumes linearity. This is because we apply the same weighting coefficient of support for independence by party throughout Catalonia, despite of the fact that this coefficient may show geographical variation. As support for secession is higher in the heartland and lower in the coast, we may be underestimating support in the heartland municipalities and overestimating it in the coast. Notwithstanding this, other estimation methods (clustering by province) yield a very similar spatial distribution.

shapes the relationship between identity and support for secession. Figure 2 shows the geographical distribution of this variable. As the map illustrates, the geographical variation in the number of Catalan speakers is substantial, bringing about different contextual circumstances.

[[FIGURE 2 ABOUT HERE]]

Thus, an individual's position on the national/regional identity scale emerges as a prominent factor in explaining support for secession (Sorens, 2005). The most common measure of identity in empirical analyses has been the Linz-Moreno question (Moreno, 1995), that asks respondents to choose a single identity from a range of options along a unique dimension whose extreme points are "I feel only [national]" and "I feel only [regional]". Previous studies have shown that national/regional identity explains most of the variance of territorial preferences or support for secession (Serrano, 2013). Indeed, Figure 3 illustrates the frequency distribution of national identity (bars) as of November 2015. Catalans self-placement on the Linz-Moreno question is skewed towards "Catalan" positions and most of the population chooses either the dual category ("as Catalan as Spanish") or the "only Catalan" one. The line trajectory superimposed in the figure shows the predicted values obtained from a logistic regression model explaining support for secession in Catalonia across the different identity groups (conventional controls are included).⁷ As can be seen, support for secession increases when national identity moves towards Catalan identity positions (and decreases otherwise). Thus, among those that feel "only Catalan", more than 90% of respondents would vote in favour of independence in a referendum. The percentage decreases to 65% for those that feel "more Catalan than Spanish". Dual-identity individuals have a much lower propensity to vote in favour (slightly less than 20% would do so), and a similar trend is reported for more pro-Spanish identity positions.

[[FIGURE 3 ABOUT HERE]]

⁷ Source is also the barometer of public opinion from the *Centre d'Estudis d'Opinió* (CEO) from November 2015. The model includes ideology, language, education, gender and age as controls.

5. Data and Methods

To test whether the relationship between identity and support for secession is conditional on the context in which an individual interacts we proceed in two stages, making use of two different data sources. H1 and H2 are tested through a large-N survey combining individual and contextual data, and to study the moderating effect of the close network on the relationship between national identity and support for secession (H3) we use a novel individual-level survey carried out in Barcelona.

In the first part of the empirical analysis, we employ a pool of 10 different surveys and a total of 22,500 individuals interviewed by the Catalan public opinion institute, the *Centre d'Estudis d'Opinió* (CEO), from June 2011 to November 2014 (both months included). Each dataset includes information on where the individual lived, ultimately allowing the linking of the individual-level variables with our contextual variables. Our sample contains observations for 811 of the 947 municipalities and for all the 42 counties in Catalonia, representing most of the population⁸.

Our dependent variable is the intended vote in a referendum. Respondents consistently had the following options: “I would vote in favour”, “I would vote against”, “I would abstain”, “Other options”, as well as the “don’t know” and “no answer” categories. This question was unfortunately not included in the CEO surveys until June 2011, and it changed in the 2015 barometers to fit the exact writing of the double-question asked in the consultation that took place on 9 November 2014.⁹ For clarity purposes, our outcome of interest is a dichotomous variable, with 1 being in favour of independence

⁸ The online Appendix provides additional details of the operationalization of the variables, their sources and the number of interviews performed in each municipality.

⁹ The different barometers were administered in June 2011, October 2011, February 2012, June 2012, October 2012, February 2013, June 2013, November 2013, April 2014 and November 2014. In all the barometers up to October 2012, 2,500 individuals were interviewed; from 2013 onwards, the barometers include 2,000 individuals. The telephone surveys conducted by the CEO were stratified by province and size of the municipality, and the individuals were selected according to quotas by sex and age. Datasets are available at <http://ceo.gencat.cat/>.

and 0 against it. Therefore, our empirical analyses are based on a set of Linear Probability Models¹⁰.

In line with our arguments on the conditional relationship between identity and the context, we make use of two explanatory variables. The first one is an individual's identity, measured through the classic Linz-Moreno question (Guinjoan & Rodon, 2016; Moreno, 1995). As we detailed before, this variable, which we label *National-regional identity*, asks individuals to identify themselves along a five-category scale, ranging from “only regional” to “only national”: I feel only Spanish; I feel more Spanish than Catalan; I feel as Catalan as Spanish; I feel more Catalan than Spanish; and I feel only Catalan.

The second independent variable aims at tackling the identity context in which an individual often interacts. This variable is coded at the contextual-level and measures the percentage of individuals in each of the Catalan municipalities that speak Catalan. This information is extracted from the 2011 Census, which included the following question: “What is your knowledge of the Catalan language”. We took those that responded the option “I know how to speak it”.¹¹ This indicator is employed to assess whether the effect of an individual's identity on support for secession changes as a function of the context in which the individual lives. As mentioned before, in Catalonia the language spoken in a given municipality crucially shapes different frameworks of reference. The geographical distribution of the use of Catalan or Spanish drives citizens' media and cultural consumption patterns, thereby triggering different identity-contexts. For instance, in places where most of the population speaks Catalan, the regional TV and radio are more popular than in places where Spanish-speakers represent a higher share of the population. Language gives form to different contextual circumstances (Barceló, 2014; Fernández-Marín & López, 2010), which, we argue, should eventually

¹⁰ Abstention and “other options”, the “don't know” and the “no answer” categories are considered as missing. See the Appendix for a list of alternative specifications and robustness checks.

¹¹ The source is the *Institut d'Estadística de Catalunya* (Catalan Statistics Institute). The most updated data is from 2011 and is available at <http://www.idescat.cat/pub/?id=censph&n=17> [last accessed 15th March, 2017]. Unfortunately, the Census does not distinguish how often people speak Catalan or with whom they do it. Other response options were “I do not understand it”, “I know how to write it” and “I know how to read it”. While the first option has almost no variation (almost everyone understands Catalan), the second one essentially captures an individual private dimension. Ultimately, “speaking Catalan” is important for our analyses as it captures in which language social interaction takes place.

modify the relationship between an individual's national identity and secession. The variable *Percentage of people speaking Catalan* ranges from 50.67% to 100%, with a mean value of 75.89% and a median of 75.18%.

Therefore, our coefficient of interest comes from the interaction between National-Regional identity and the percentage of people speaking Catalan. As we argued, we expect the characteristics of the 'neighbourhood' to shape the effect of national identity on secession, especially among dual-identity individuals.

Our empirical models also include controls for *Ideology*, ranging from 1 (extreme left) to 7 (extreme right); a 4-scale variable for the *Interest in politics*, where 1 is no interest at all and 4 a lot of interest; *Employment*, a categorical variable identifying those that work, those that are unemployed and those who are inactive; *Origin*, with three different categories: Catalonia, the rest of Spain and the rest of the world; *Male*, with 1 being Men; *Age*, where 1 includes individual ranging from 18 to 34 years old, 2 from 35 to 49, 3 from 50 to 64 and 4 for people older than 64 years old; and net household income, a categorical variable that ranges from 1 (less than 1,000 euros) to 15 (more than 6000€). We also include several controls at the municipal level to account for potential differences across municipalities that might affect the relationship between the contextual characteristics and identity. Thus, models control for the population density, the percentage of foreign population and the size of the municipality. The latter is particularly important as the percentage of people speaking Catalan varies within town and is highly correlated with the size of the municipality. Finally, to account for the different support towards independence across regions, all models include province fixed effects and standard errors clustered by county.¹² To control for the longitudinal structure of our data, we also include survey wave fixed effects. Table A1 in the Appendix includes the wording of the questions and Table A2 presents the summary statistics for the variables included in this first part of the analysis. Table A3 reports some socio-economic characteristics of the CEO surveys and compare them to data for

¹² Results are still robust when we include both province and county fixed effects. Similarly, if we weight regression estimates by municipality size, results still hold. Finally, the inclusion of other controls such as the individual's education or the percentage of retirees at each municipality, among others, does not affect our estimates. For the sake of simplicity, and to avoid collinearity between some indicators (i.e. individual's income and education), we ultimately decided not to include these control variables into our models.

the entire population. Figure A6 in the Appendix shows the number of interviews by municipality.

In the second part of the empirical analysis, we address how the people's close relational network shapes the effect of identity on secession by focusing on the city of Barcelona. The Catalan capital is a good case of study because of its internal heterogeneity in what concerns the use of the Catalan language. Similarly, in Barcelona the pro and against independence parties receive a similar amount of support as compared to the Catalan average. Overall, Barcelona is a good microcosm to study how context—in the form of the immediate relational network—moderates the relationship between identity and support for secession. We employ the survey “Emerging forms of political protest in Barcelona: pathways to political inclusion”, which includes several questions that identify people's immediate network and, most importantly, their preferences for secession. The survey included 1,500 adult residents in Barcelona who were interviewed face-to-face between 3 May and 9 June 2016. The sample followed a stratified sampling approach with the 73 neighbourhoods of the city that have more than 8,000 inhabitants as strata, and used quotas for sex and age. This sampling strategy properly captures the internal heterogeneity that the Catalan capital has in what concerns preferences for secession. Figure 4 plots the spatial distribution of support for secession across Barcelona neighbourhoods. As the map illustrates, there is substantial spatial heterogeneity within the Catalan capital, a “microcosm” of the Catalan reality.

[[FIGURE 4 ABOUT HERE]]

The appendix includes the wording of the questions (Table A4), the summary statistics of the variables employed in the model (Table A5), and the distribution of interviews across the different neighbourhoods (Figure A7).

The novelty of this survey is that it captures people's immediate relational network and the secessionist preferences they have, allowing us to dig into the social interaction mechanism. More concretely, in the middle of the questionnaire, the survey asked the interviewee to “name 5 adults, that reside in Catalonia, with whom the respondent habitually talks to”. The interviewee needed to provide five names (or five initials).

After naming them, the interviewer asked, for each of them, whether they were family members, friends, co-workers, neighbours or the type of relationship they had. Later, there was a battery of questions about several items, the third of which asked whether the interviewee thinks, “this person wants Catalonia to be an independent State”. The possible answers were “Yes”, “No”, “I do not care” or “I don’t know” (the last two are not listed by the interviewer). This question was asked for each of the five names listed at the beginning. Although endogeneity concerns may be present, respondents were not primed to think about their close network in terms of political preferences (and even less in terms of territorial preferences), which alleviates the selection of a close network according to the respondent’s own attitudes towards secession. All in all, and despite not entirely dealing with endogeneity, this survey allows us to capture the attitudes of respondents’ immediate social network and, therefore, offers an appropriate setting to examine how the immediate context shapes the relationship between identity and secession.

As in the first part of the analysis, our outcome of interest is whether the individual is in favour (1) or not (0) of Catalonia becoming an independent State. The identity variable is again measured through the Linz-Moreno question¹³. The contextual variable is a measure that identifies the difference between the number of contacts in favour and against independence (we impute a value of zero when close contacts are indifferent towards independence). We label this variable *Difference in the number of contacts in favour and against independence*. The variable ranges from -5 (all of the contacts are opposed to secession) to 5 (all of them are pro-independence supporters), with 0 identifying those individuals whose number of contacts in favour of secession is equal to those opposing it. Descriptive data show that people first mention friends or family members when asked with whom the respondent habitually talks to (between 75-80% of the respondents mention them as belonging to this category). However, there is substantial variation on how many close members hold pro-secession attitudes. Around 20% of the sample has habitual interaction with only one pro-secession close member, 15% with two and with three individuals, 10% with four and 8% list only pro-secession

¹³ Due to their negative connotations by an important part of the population, few people select the pro-Spanish categories (Guinjoan & Rodon, 2013). We collapsed the “Only Spanish” and “More Spanish than Catalan” categories to make the graph easier to read, but even when we do not collapse them, results still hold.

individuals. Around 30% of the sample asserts having no pro-secession close members. Overall, when we cross-tabulate the secessionist preferences of the close network and an individual's own identity, the data show that homophily among Spanish-identity individuals is higher than among Catalan-identity individuals. Figure A8 in the Appendix shows the distribution of the variable.

In this second stage, our empirical strategy consists again in a LPM that includes the interaction term between *Identity* and the *Difference in the number of contacts in favour and against independence*. We also include the same controls as in the first empirical analysis (respondent's ideological self-placement, political interest, occupational situation, whether he/she was born in Catalonia, age, gender), as well as district fixed effects.

6. Results

The results section proceeds in two steps: First, we look at how the geographical distribution of identity-contexts shape the relationship between individual identity and secession. Second, we analyse how people's immediate network modifies the impact of identity on secessionist preferences.

Table 2 shows the results of the linear probability models. M1 includes national self-identification and the percentage of people speaking Catalan at the municipality level. M2 includes the interaction between both terms. M1 confirms that, as shown by previous research, identity has a statistically significant effect on support for secession. Thus, an individual that feels Only Spanish is eight times less likely to support independence than an individual feeling Only Catalan. As for dual identity individuals, their likelihood of voting in favour of independence is lower as compared to only Catalan respondents. The variable Percentage of people speaking Catalan is also statistically and positive. In other words, a one-unit change in the percentage of people speaking Catalan increases the probability an individual voting in favour of secession by 0.2%.

As for the remaining variables, the models show that individuals born in the rest of Spain are less likely to be in favour of independence. We also detect non-statistically significant differences by age, income, or gender.

[[TABLE 2 ABOUT HERE]]

M2 includes the interaction between national self-identification and the percentage of people speaking Catalan. According to our hypotheses, we expect to find differences across identity groups as a function of our moderating variable. Indeed, the interaction coefficients show that this differential effect exists, but it is only significant for the dual identity and the only Spanish individuals.

To properly understand the results of the interaction, Figure 5 plots the expected support for independence for each identity group and across the percentage of people speaking Catalan in the municipality. As the graphs show, the context modifies the expected support for independence, as we suggested in H1, although the impact crucially depends on the identity group, with dual identity individuals being more likely to be affected by context (as suggested in H2).

In order to understand the magnitude of the effect, it is helpful to look at the change in the probability of voting in favour of secession of two identical individuals, but with a different identity, that live in municipalities where the number of Catalan speakers differs. Starting for dual identity individuals, we observe that their predicted probability to favour secession equals 16% in municipalities where the number of Catalan speakers is at its minimum, while it increases to 53% when the percentage of Catalan speakers reaches its maximum. In other words, when the percentage of people speaking Catalan increases ten points, the probability of favouring independence increases more than 7 percentage points. The effect, albeit much lower, is also significant for the Only Spanish category. Although this effect might come as a surprise, the estimates' margin of error is very big and it might be driven by the low number of 'I feel only Spanish' individuals living in municipalities where the use of the Catalan language is dominant.

As for the other identity categories, the effects are statistically indistinguishable from zero. In the case of those feeling More Catalan than Spanish and Only Catalan, the effect is not significant, although it is slightly positive for the former category. For those feeling only Catalan, the impact is very small (+1%) and also indistinguishable from 0, a phenomenon that can be reasonably explained by the ceiling effect: 94% of the individuals that feel exclusively Catalan favour secession in municipalities where only 50% of people speak Catalan.

Overall, differences are significantly positive and distinguishable from 0 among the dual-identity individuals. The evidence presented up to this point supports our H2 for which we were expecting that the effect of the context would be stronger among dual-identity individuals.

[[FIGURE 5 ABOUT HERE]]

To better clarify our findings, we next present two real examples in Catalonia of how the context may affect support for secession. Sant Feliu de Llobregat and Esplugues de Llobregat are two towns near the capital-city of Barcelona of 44,000 and 46,000 inhabitants, respectively. The identity composition in the two cities is identical, with 59% of the individuals (in our survey) with a dual Catalan-Spanish identity, and a mean value of identity of 2.4 (where 0 equals to “Only Spanish”, 4 to “Only Catalan”). The crucial difference is that 71% of the population in Sant Feliu is able to speak Catalan, while in Esplugues the percentage falls to 64%. As expected, the support for independence in our sample is larger in the more Catalan-speaking municipality (44% vs 36%). Most importantly, the effect is much larger if we consider support for secession among the dual-identity individuals—the group most affected by the context. Among dual-identity individuals living in Sant Feliu, where the percentage of Catalan speakers is higher, support for independence is 31%, while in Esplugues equals 21%. That is, in similar towns where our contextual variable of interest crucially varies, support for secession among this group changes substantially. Similarly, the two towns of Vilanova del Camí and Torelló (in the province of Barcelona) entail another clear example of how the context may affect the relationship between identity and support for secession. With a population of 12,500 and 13,500, a mean in identity of 2.5, and 35% and 33% of dual identity individuals, respectively, support for secession in Vilanova is 53% (17% among dual-identity individuals), whereas in Torelló is 73% (60% among duals). These are similar towns with one crucial difference: the percentage of people speaking Catalan in Vilanova is 68%, whereas in Torelló is 84%.

If the ‘neighbourhood’ matters for dual identity individuals, it is reasonable to think that the size of the municipality also plays a significant role. Exposure to Catalan speakers in an individual’s immediate area is more likely to happen in small towns than in big urban

spaces. Therefore, the relationship between national identity and the percentage of people speaking Catalan is likely to be more intense in small municipalities. To explore this possibility, we split the sample by municipality size and run the same models than before. Figure 6 shows how predicted support among dual identity individuals varies across different contextual circumstances and across different municipality sizes. As the Figure portrays, the effect is positive and significant in municipalities that have up until 50,000 inhabitants. For bigger municipalities, the effect is statistically significant but only at the 10% level. In smaller municipalities, an increase in 10 points in the percentage of people speaking Catalan increases the probability of voting in favour of secession among dual identity individuals by approximately 6 percentage points.

[[FIGURE 6 ABOUT HERE]]

Notwithstanding the robustness of our findings up to this point, the previous analyses leave room for two concerns related to the relationship between the variables. The main concern in our case is the presence of endogeneity. The relationship between the individual's identity and the context in which he/she develops may not be unidirectional: as Barceló (2014) and Rico and Jennings (2012) have shown, two individuals with the same sociological background may develop different identities depending on the context in which they grew up –our own calculations using the contextual variable Percentage of people speaking Catalan confirm the existence of a relationship between the two variables, as explained in the Appendix, Section B, and as shown in Figure A1. To ameliorate this effect, we employ an instrumental variable approach (Angrist & Pischke, 2008). The selected instrument for the endogenous covariate, the percentage of people speaking Catalan in the municipality, is the percentage of votes cast for the communist party Partit Socialista Unificat de Catalunya (Unified Socialist Party of Catalonia, PSUC) in the Catalan regional elections in 1980 at the municipal level.

We understand that this is a suitable instrumental variable for two reasons: Firstly, the PSUC votes in 1980 primarily came from the working classes, a social group whose language was mainly Spanish and therefore is negatively correlated with the percentage of people speaking Catalan. Secondly, while the percentage of PSUC votes is negatively

correlated with the percentage of people speaking Catalan, the same relationship with regard to support for secession does not take place—the PSUC neither favoured secession nor the centralization of power to the Spanish government (Moreno, Arriba, & Serrano, 1998, p. 75). Therefore, the only reason for why the variable votes for the PSUC in 1980 is correlated with support for secession is through its (negative) correlation with context. Data shows that, while the correlation of the instrumental variable Percentage of votes to the PSUC in 1980 with the percentage of people speaking Catalan in the municipality is -0.56, the correlation of the instrument decreases to -0.16 when confronted with support for secession (satisfying the exclusion restriction requirement)¹⁴.

When we use an instrumental variable approach, coefficients are in line with our findings. As before, dual-identity individuals are more likely to be affected by their immediate surroundings (see Table A6 and Figure A2 in the Appendix). When the percentage of people speaking Catalan increases, dual-identity individuals are more likely to be in favour of independence. In sum, the IV model adds further confidence to the results presented in this article.

Finally, results are robust when we use a multinomial model (see Table A7 and Figure A3 in the Appendix) or a Linear Probability Model in which support for secession takes the value 1, abstention value 0 and opposition to secession value -1 (see Table A8 in the Appendix). Likewise, the results are virtually identical if we consider the three excluded categories (1.9% of the sample) as another category or if we consider each of them as a distinct category.

In the second part of the empirical analysis, we further explore the moderating role of context on the relationship between identity and support for secession. Although the percentage of people speaking Catalan across the Catalan territory offers a good proxy for the context in which individuals interact, it does not provide direct information on the territorial preferences of an individual's immediate network. In the second part we specifically focus on people's relational network and test whether the secessionist preferences of an individual's close networks affect the relationship between identity and voting for secession. As explained before, to do this we employ data from the

¹⁴ The Appendix provides the full estimates of the different models, as well as additional descriptive information, such as the distribution of votes for the PSUC in the 1980 Catalan regional elections (Figure A9).

survey “Emerging forms of political protest in Barcelona: pathways to political inclusion”.

We again run a linear probability model in which support for secession is the outcome. The coefficient of interest comes from the interaction between an individual’s national identity and the difference in the number of close contacts favouring and opposing secession. Recall that when this indicator is positive, it means that an individual has more pro than anti-secessionist friends, and negative otherwise. Zero means that the individual has the same number of anti and pro-secession friends. Table A9 in the Appendix shows the results of the LPM in Barcelona and Figure 7 below plots the predicted support of independence across the difference in the number of pro and anti-secession close contacts (an individual’s close relational network) by different identity groups.

Figure 7 portrays, with only a few differences, a similar relationship to the first-stage analysis. Firstly, it shows that the effect of close networks is especially prominent among dual-identity individuals. On this group, when an individual’s close relation network is composed of five pro-secession contacts, the likelihood of voting in favour of secession is about six times higher than when an individual has five anti-secession close contacts. Interestingly, when dual-identity individuals have the same amount of pro and anti-secessionist close contacts, their probability in favour of independence equals around 30%.

Secondly, the analysis confirms that the effect of close networks is especially prominent among “Dual identity” individuals, but also among “More Catalan than Spanish” ones. Among the latter, as the close network becomes more pro-secession, the likelihood of supporting independence also goes up. Individuals feeling only Catalan or Only and More Spanish do not report a different likelihood to support independence as the secessionist preferences of their close relational network change. As in the first part of the analysis, when we include abstention in the dependent variable and run a LPM or a multinomial model, results still hold (Table A10 and A11, in the Appendix).

[[FIGURE 7 ABOUT HERE]]

Finally, as in the first part of the analysis, causality concerns may be also present. More politicised individuals could have chosen to mention people with whom they frequently talk about politics. To alleviate this problem, we have replicated the same model only for individuals with low or no interest at all in politics (44.67% of the sample), for whom the selection of friends based on their political orientation is much lower. As Figure A4 in the Appendix shows, the evidence provides very similar results than in Figure 7. A second concern could be that respondents chose to mention friends (and workmates) based on their political preferences. Causality concerns may be of lower relevance when considering family members instead of friends. The replication of the models only for family members provides even more conclusive results, as the Figure A5 in the Appendix shows. Among dual-identity individuals, when all family members support independence, individual's probability to vote in favour of secession is about six times higher as compared to a situation in which none of the family members is pro-independence. Third, we have checked whether those respondents that have lived in the city for a long time—and therefore more likely to self-select into particular networks—portray a different pattern than the rest. The evidence however does not support this idea and our findings are again confirmed. Finally, we have analysed whether the pattern is different in neighbourhoods that are more heterogeneous. In diverse neighbourhoods, individuals might be more likely to build a relational network with different preferences than their own than in homogenous neighbourhoods. Results show, however, no noticeable differences among neighbourhoods. In all instances findings show that people's relational network matters, especially for dual identity individuals, thus confirming our H3.

All in all, our findings are robust across different specifications and suggest that the context in which an individual interacts modulates how identity shapes support for secession (as suggested in H1). Results show, as hypothesized, that the relationship is particularly relevant among those that do not have a strong primordialistic positioning, i.e. dual-identity individuals (H2). Ultimately, we confirm that the relationship between context and support for secession is partially shaped by people's immediate relational network (H3), with the effects being particularly strong again for dual-identity individuals (and, to a lower degree, among those feeling more Catalan than Spanish). Although other 'neighbourhood' mechanisms can still play a role, and despite causality concerns cannot be fully alleviated, the evidence is conclusive at showing that people's

immediate networks emerge as an important modulator of the relationship between an individual's identity and support for secession.

7. Conclusions

Our results show that the general expectation that an individual's national identity is a prevalent factor in explaining secessionist attitudes needs an important nuance: the immediate context shapes the relationship between identity and attitudes towards independence. In the first part of our two-stage empirical analysis, we show that the association between identity and support for Catalan secession is stronger in contexts where the percentage of Catalan speakers is higher. However, this is particularly the case for those that feel as Catalan as Spanish (dual-identity category). Most importantly, the effect is small and medium-size municipalities than in big towns.

In the second part of the empirical analysis, we studied a specific mechanism that mediates the relationship between context and, in our case, national identity. Namely, we focus on whether the homophily of close networks modulates the association between identity and secessionist preferences. Context can shape attitudes in many ways and social interactions constitute a key factor in this process, thereby confirming the effect of a social interaction mechanism. We have reported evidence that the secessionist attitudes held by people's immediate context are able to shape the effect of individual's identity. Again, this modifying effect is strong among dual-identity and more Catalan than Spanish individuals.

Overall, these findings complement the view of national identity given by previous works: it is essentially true that ranking high in regional identity (or high in national identity) makes you more likely to support (oppose) secession. However, we have shown that the effect is not linear when we take into account contextual circumstances. Interaction with different identities shapes support for secessionism.

A clear implication of these results is that national/regional identity may not always be the best analytical tool to measure support for secession, especially in contexts where there is a high percentage of dual-identity individuals or where both identities interact and represent a similar share of the population. Along these lines, and although our research has attempted to tackle the endogenous problem between national identity and contextual circumstances, future research needs to dig deeper on this relationship and better understand the implications of the geographical distribution of political identities.

Causality concerns are a particular concern in the second part of the empirical analysis, in which we use Barcelona as a case of study. Despite the design of the survey was intended to alleviate them, the selection of an individual's close network may not be completely exogenous from his or her political preferences. In this sense, further research could explore the social interaction mechanism by refining the identification strategy. One plausible strategy would consist in priming respondents about the territorial preferences of their close network and see whether this reduces or increases the effect of identity. A second alternative could explore exogenous sources of variation, such as workers experiencing a change in their workplace and, therefore, in their close relational network.

All in all, non-randomly distributed identities across space bring about different contextual situations, which means that different frameworks of reference compete against each other to gain individual's attention. In this article, we have unravelled some mechanisms for why people's immediate context shapes the relationship between identity and support for independence. Our study has shown that the assumption that identity is a factor that directly and unconditionally affects an individual's regionalist or secessionist preferences cannot be taken for granted, especially for an important part of the population: those individuals having mixed national identities.

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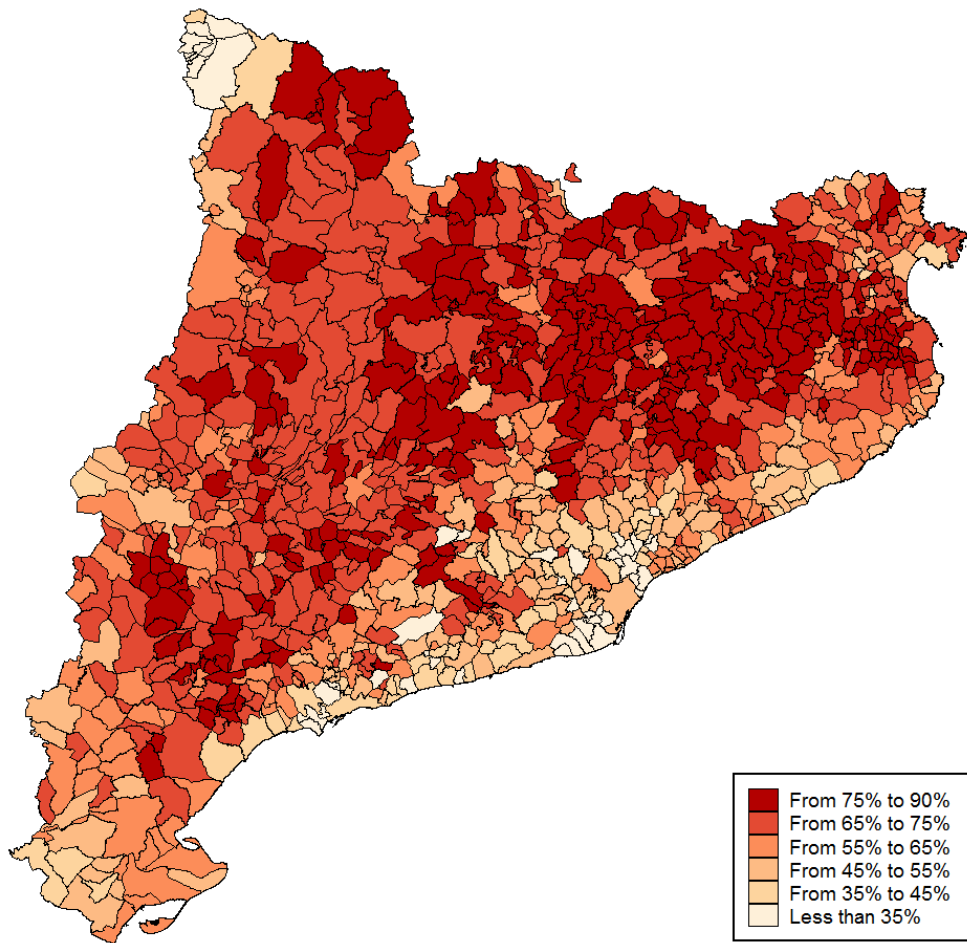
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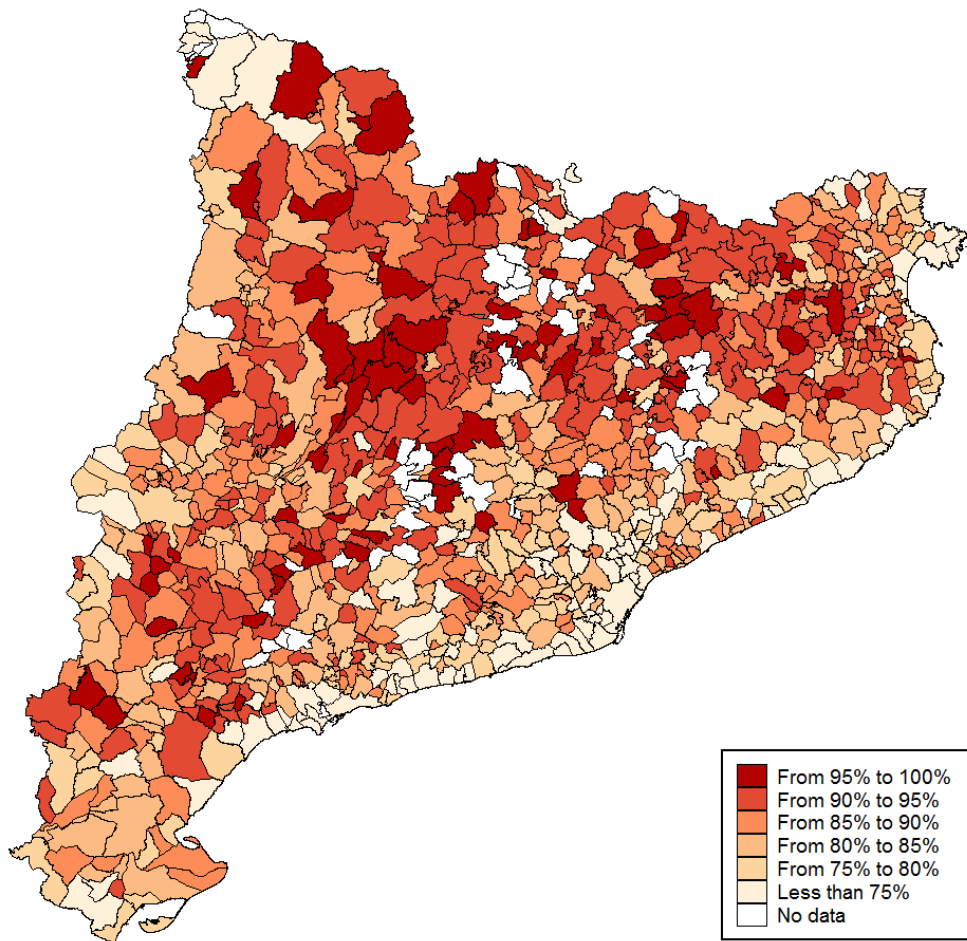
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Figure 1: Percentage of support for secession in Catalonia, 2015



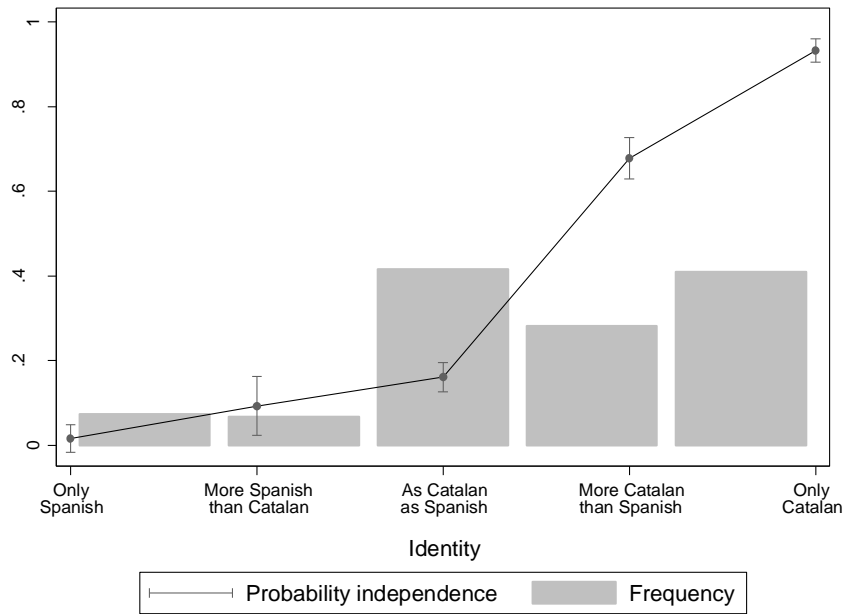
Note: Estimates are extracted after weighting results of the Catalan legislative elections in September 2015 (at the municipal level) and support for secession, split by party choice, as expressed in the barometer of public opinion from the Centre d'Estudis i Opinió No. 804 (November 2015).

Figure 2. Percentage of people speaking Catalan by municipality, 2011



Source: IDESCAT

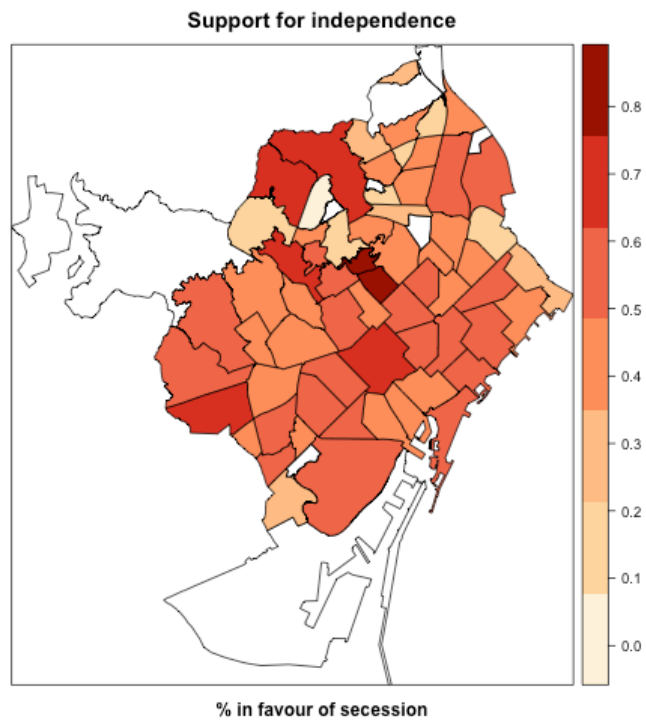
Figure 3: Support for secession across identity group, 2015



Note: Dots represent the predicted support for secession across different values of national self-identification. Whiskers depict 95% confidence intervals. Bars represent the percentage of population under each category of self-identification.

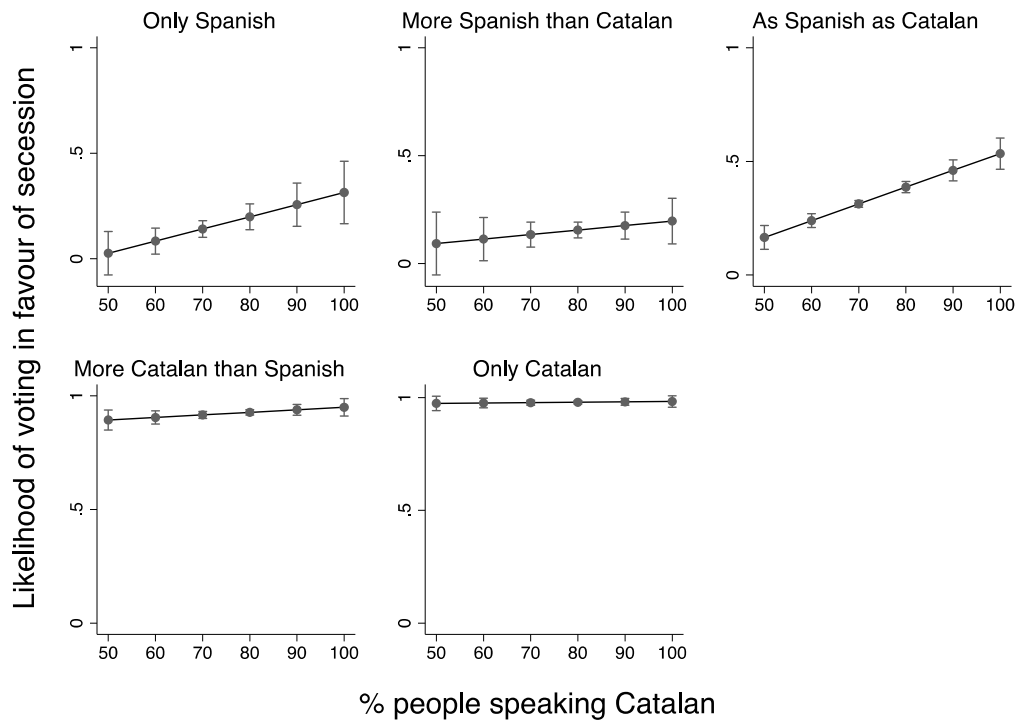
Source: Barometer CEO num. 804, November 2015

Figure 4: Percentage of support for secession by neighbourhood



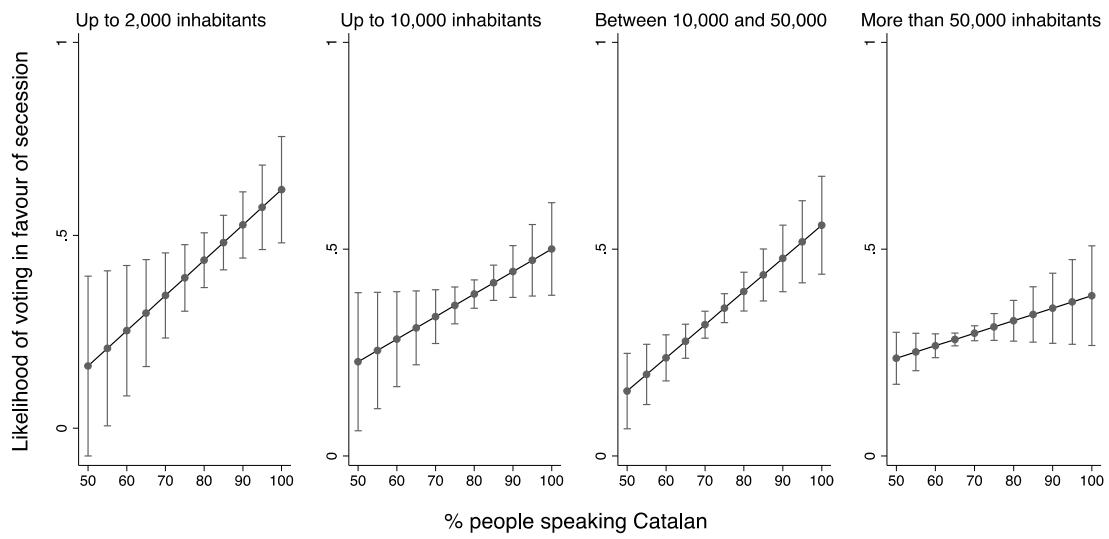
Source: Survey 'Emerging forms of political protest in Barcelona: pathways to political inclusion' (Recercaixa 2014) Note: Blank neighbourhoods represent neighbourhoods with no cases.

Figure 5. Contextual environment and support for secession among different identity groups



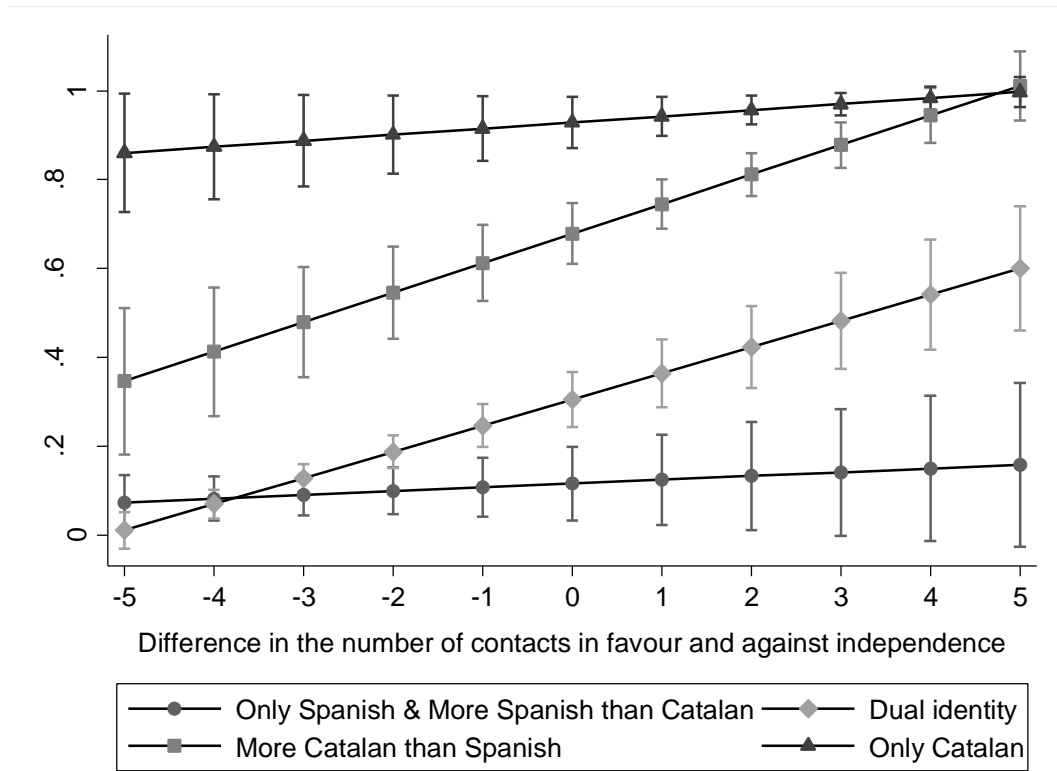
Note: Values represent the predicted support for secession across different categories of self-conceived national identity and different values of the percentage of Catalan speakers at the municipality level. Whiskers depict 95% confidence intervals. Our outcome is support for independence, with 1 being in favour and 0 against. These predicted effects are based on the interaction included in the LPM in Table 2 (second column).

Figure 6. Contextual environment and support for secession among dual identity individuals



Note: Values represent the predicted support for secession among dual identity individuals across different values of the percentage of Catalan speakers at the municipality level and across different municipality sizes. Whiskers depict 95% confidence intervals. Our outcome is support for independence, with 1 being in favour and 0 against. We extracted the predicted effects after running the same LPMs shown in Table 2, but one for each population group.

Figure 7. Support for secession as a function of close contacts' territorial preferences



Note: Values represent the predicted support for secession across different values of close contacts' territorial preferences. Whiskers depict 95% confidence intervals. Our outcome is support for independence, with 1 being in favour and 0 against. Positive values for the difference in the number of contacts in favour and against independence mean that the individual has more pro-independence close contacts than anti-independence. Negative values mean otherwise. These predicted effects are based on the interaction included in the LPM in Table A9 in the Appendix.

Table 1: Summary of theoretical expectations

		Context		
		National-minded context	Mixt context	Regional-minded context
Individual's national-regional identity	Only national	Strong effect of identity <i>Very low support for secession</i>	Moderate effect of identity <i>Low support for secession</i>	Low effect of identity <i>Slightly low support for secession</i>
	Dual identity	Moderate effect of identity <i>Low support for secession</i>	Weak effect of identity <i>Intermediate support for secession</i>	Moderate effect of identity <i>High support for secession</i>
	Only regional	Low effect of identity <i>Slightly high support for secession</i>	Moderate effect of identity <i>High support for secession</i>	Strong effect of identity <i>Very high support for secession</i>

Table 2. The effect of context and identity on support for secession (LPM)

	M1	M2
National-regional identity (Only Catalan reference category)		
Only Spanish	-0.807*** (0.024)	-1.227*** (0.153)
More Spanish than Catalan	-0.823*** (0.026)	-0.977*** (0.178)
As Spanish as Catalan	-0.626*** (0.018)	-1.169*** (0.073)
More Catalan than Spanish	-0.052*** (0.005)	-0.128** (0.037)
% of people speaking Catalan	0.002*** (0.001)	0.000 (0.000)
Ideology	-0.020*** (0.002)	-0.020*** (0.002)
Interest in politics	-0.004 (0.003)	-0.004 (0.003)
Place of birth (Catalonia reference category)		
Born in the rest of Spain	-0.070*** (0.009)	-0.067*** (0.010)
Born outside Spain	0.047* (0.022)	0.049* (0.022)
Employment status (Employed reference category)		
Unemployed	0.004 (0.009)	0.004 (0.008)
Inactive	0.005 (0.007)	0.005 (0.007)
Age (18-34 reference category)		
From 35 to 49 years	-0.003 (0.006)	-0.005 (0.006)
From 50 to 64 years	0.003 (0.004)	0.001 (0.004)
65+ years	0.016 (0.009)	0.013 (0.009)
Women	-0.003 (0.006)	-0.002 (0.005)
Individual's net household income	-0.000 (0.002)	-0.000 (0.002)
Population density	-0.000 (0.000)	0.000 (0.000)
% Foreign population	0.002** (0.001)	0.002** (0.001)
Municipality size (< 2.000 reference category)		
2.001 - 10.000	-0.014 (0.010)	-0.020 (0.011)
10.001 - 50.000	-0.016 (0.012)	-0.026 (0.013)

50.001 - 150.000	-0.023 (0.013)	-0.035* (0.014)
150.001 - 1.000.000	-0.015 (0.015)	-0.034* (0.016)
> 1 million	-0.039* (0.018)	-0.077** (0.022)
Only Spanish* % speaking Catalan		0.006* (0.002)
More Spanish than Catalan* % speaking Catalan		0.002 (0.002)
As Spanish as Catalan* % speaking Catalan		0.007*** (0.001)
More Catalan than Spanish* % speaking Catalan		0.001 (0.000)
Constant	0.793*** (0.072)	0.999*** (0.062)
Province FE	✓	✓
Survey wave FE	✓	✓
Log likelihood	-2382.384	-2331.830
N	12866.000	12866.000

Note: Model 1 and Model 2 are Linear Probability Models (LPM). The outcome is support for independence, with 1 being in favour and 0 against. For each predictor we present regression coefficients and robust standard errors in parentheses. Estimates are clustered at the county level.

* p<0.05, ** p<0.01, *** p<0.001

Appendix

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A. Descriptive

Table A1 shows the variables used in the first part of the empirical analysis, corresponding to the analysis of how context shapes support for secession across Catalan municipalities.

Table A1: Variables used in the first part of the empirical analysis (Catalonia)

Variable	Wording / Coding
Dependent variable	
Support for independence	“What would you vote in a referendum of independence?” 1 In favour of independence, 0 Against independence.
Independent variables (individual level)	
National-regional identity	“With which of the following sentences do you feel more identified? I feel” 1 Only Spanish, 2 More Spanish than Catalan, 3 Equally Spanish and Catalan, 4 More Catalan than Spanish, 5 Only Catalan.
Ideology	“When talking about politics, we commonly use the expressions left and right. Could you tell me where would you place yourself in a scale from 0 to 10, where 0 means left and 10 right?”.
Interest in politics	“How interested would you say you are in politics: very much, rather, not very or not at all interested?” 1 Not interest at all, 2 Not very interested, 3 Somewhat interest, 4 Very interested.
Place of birth	“Could you tell me where were you born?” 1 Catalonia, 2 Other Autonomous Communities, 3 The rest of the world.
Employment status	“In which of the following situations do you find yourself currently?” 1 Employed, 2 Unemployed, 3 Inactive.
Age	“Tell me your age, please” Recoded: 1 18-34 years, 2 35-49 years, 3 50-64 years, 4 65 and more years.

Gender	Gender of respondent. 1 Men, 0 Women
Net household income	“If you add the monthly net income of these [number of people in the household] people, approximately, which is the family income per month in your household?” 1 Less or equal to 300€ to 15 More than 6000€.

Independent variables (aggregate level)

Percentage of people speaking Catalan	“What is your knowledge of the Catalan language?”.
Percentage of foreign population	Continuous variable.
Municipality size	Continuous variable.
Population density	Continuous variable.

Note: Individual-level variables come from the institute CEO (<http://ceo.gencat.cat>). Aggregate level variables are extracted from the Idescat (<http://idescat.cat/>). The percentage of people speaking Catalan was compiled by the 2011 Census.

Table A2 shows descriptive statistics extracted from the CEO surveys employed in the first part of our empirical analyses.

Table A2. Descriptive statistics of CEO survey

Variable	N	Mean	Std. Dev.	Min	Max
Support for secession					
<i>In favour</i>	22,078	0.561	0.496	0	1
<i>Against</i>	22,078	0.207	0.405	0	1
<i>Abstention</i>	22,078	0.232	0.422	0	1
National-regional identity					
<i>Only Spanish</i>	22,031	0.038	0.191	0	1
<i>More Spanish</i>	22,031	0.032	0.176	0	1
<i>Dual</i>	22,031	0.346	0.476	0	1
<i>More Catalan</i>	22,031	0.290	0.454	0	1
<i>Only Catalan</i>	22,031	0.293	0.455	0	1
Ideology	19,696	3.149	1.321	1	7
Interest	22,329	2.510	0.964	1	4
Net household income	18,806	3.308	2.299	1	15
Place born					
<i>Born Catalonia</i>	22,486	0.790	0.407	0	1
<i>Born rest Spain</i>	22,486	0.179	0.383	0	1
<i>Born rest world</i>	22,486	0.031	0.172	0	1
Employment					
<i>Employed</i>	22,468	0.488	0.500	0	1
<i>Unemployed</i>	22,468	0.128	0.334	0	1
<i>Inactive</i>	22,468	0.384	0.486	0	1
Age groups					
<i>18-34 years</i>	22,500	0.240	0.427	0	1
<i>35-49 years</i>	22,500	0.287	0.452	0	1
<i>50-64 years</i>	22,500	0.235	0.424	0	1
<i>65+ years</i>	22,500	0.238	0.426	0	1
Size of municipality					
<i>< 2.000</i>	22,500	11.28	0.427	0	1
<i>2.001 - 10.000</i>	22,500	20.36	0.452	0	1
<i>10.001 - 50.000</i>	22,500	28.76	0.424	0	1
<i>50.001 - 150.000</i>	22,500	22.12	0.426	0	1
<i>150.001 - 1.000.000</i>	22,500	6.15	0.426	0	1
<i>> 1 million</i>	22,500	11.34	0.426	0	1
Male	22,500	0.48	0.500	0	1
Population density	811	3602.379	5616.25	1.4	20730.4
% of people speaking Catalan	801	75.892	8.847	50.67	100
% Foreign population	808	18.164	7.174	0	48.321

Table A3 reports some socio-economic characteristics of the CEO surveys and compare them to data for the entire population, as reported by different sources. As the comparison shows, our survey data is fairly representative to the entire population. In our sample, one of our key variables, the percentage of people that speak Catalan at the municipality level, closely resembles the percentage of people that speak Catalan in all Catalan municipalities. The only profile that seems slightly overrepresented in the surveys employed in the article is the number of Catalan-born individuals. However, this overrepresentation does not go at the expense of individuals born in the rest of Spain, who are correctly represented in the sample. Underrepresentation occurs, in our case, for those born in the rest of the world, a group difficult to capture in surveys.

Accordingly, our empirical models include as controls where the individual was born and the percentage of foreigners living in each municipality. In addition, if we run several robustness checks excluding those that were born outside Spain or weighting by the place where the individual was born, results remain unchanged.

Table A3. Representativeness of the CEO sample

	<i>CEO surveys</i>	<i>Data for the entire population in Catalonia (Year in parenthesis)</i>
Place born		
<i>Born Catalonia</i>	79.0%	63.2% (2012)
<i>Born rest Spain</i>	17.9%	19.1% (2012)
<i>Born rest world</i>	3.1%	17.7% (2012)
Employment		
<i>Employed</i>	48.8%	48.7% (2011)
<i>Unemployed</i>	12.8%	16.9% (2011)
<i>Inactive</i>	38.4%	34.3% (2011)
Age groups		
<i>18-34 years</i>	24.0%	27.0% (2012)
<i>35-49 years</i>	28.7%	30.5% (2012)
<i>50-64 years</i>	23.5%	21.7% (2012)
<i>65+ years</i>	23.8%	20.8% (2012)
Male	48.7%	49.4% (2012)

% of people speaking Catalan	75.89%	73.2% (2011)
------------------------------	--------	--------------

Sources: Data from CEO surveys comes from different weights, as detailed in Table A1. Data for the entire population is compiled from the Statistical Institute of Catalonia (Idescat). The original sources are the following: Place born, age groups and gender composition: Municipal Population Registers. Employment data and knowledge of Catalan data: 2011 Population Census. All data can be found in www.idescat.cat

Table A4 shows the variables used in the second part of the empirical analysis, corresponding to the empirical test of how people's close relational network shape support for secession.

Table A4: Variables used in the second part of the empirical analysis (Barcelona)

Variable	Wording / Coding
Dependent variable	
Support for independence	“Do you want that Catalonia becomes an independent State?” 1 Yes, 0 No.
Independent variables (individual level)	
National-regional identity	“Would you say that you feel...?” 1 Only Spanish, 2 More Spanish than Catalan, 3 Equally Spanish and Catalan, 4 More Catalan than Spanish, 5 Only Catalan.
Selection of the close contacts	“Tell me the name, please, of the 5-adult people with which you speak more frequently (approximately every week) and they are living in Catalonia (his/her name or the initial is enough). Think about the first [second/ third/ fourth/ fifth] person, [NAME] and tell me: Which relation do you have with this person? 1 Family, 2 Friend, 3 Workmate, 4 Neighbour, 5 Other.
Speak about politics with this contact	Do you speak about politics with this person? 1 Yes, 0 No.
Contacts supporting secession	Do you think that this person wants that Catalonia becomes an independent State? 0 No, 1 Yes, 2 Indifferent.
Ideology	“When talking about politics, we commonly use the expressions left and right. Using this scale where 0 means left and 10 right, where would you place yourself?”.
Interest in politics	“To what extent does politics interest you...?” 1 Not at all, 2 Not much, 3 Somewhat, 4 A lot.
Place of birth	“Where did your parents live when you were born?” 1 Catalonia, 2 In another

	Autonomous Community from Spain, 3 Outside Spain.
Employment status	“In which of the following situations are you currently?” 1 Employed, 2 Unemployed, 3 Inactive.
Age	“In which year were you born?” Recoded: 1 18-34 years, 2 35-49 years, 3 50-64 years, 4 65 and more years.
Gender	“Gender of respondent” 1 Men, 0 Women.
Net household income	“Nowadays, and summing all the items, which is the monthly net income in your household?” 1 750€ or less, to 10 More than 3,550€.

Table A5 shows descriptive statistics extracted from the survey “Emerging forms of political protest in Barcelona: pathways to political inclusion” employed in the second part of our empirical analyses.

Table A5. Descriptive statistics of survey “Emerging forms of political protest in Barcelona: pathways to political inclusion”

Variable	N	Mean	Std. Dev.	Min	Max
Support for secession					
<i>In favour</i>	1,500	0.401	0.490	0	1
<i>Against</i>	1,500	0.456	0.498	0	1
<i>Indifference</i>	1,500	0.143	0.351	0	1
National-regional identity					
<i>Only & More Spanish</i>	1,340	0.085	0.279	0	1
<i>Dual</i>	1,340	0.409	0.492	0	1
<i>More Catalan</i>	1,340	0.236	0.425	0	1
<i>Only Catalan</i>	1,340	0.209	0.407	0	1
Ideology	1,351	3.682	2.237	0	10
Interest	1,500	2.564	0.995	1	4
Place born					
<i>Born Catalonia</i>	1,499	0.630	0.483	0	1
<i>Born rest Spain</i>	1,499	0.181	0.385	0	1
<i>Born rest world</i>	1,499	0.189	0.392	0	1
Employment					
<i>Employed</i>	1,499	0.490	0.500	0	1
<i>Unemployed</i>	1,499	0.109	0.312	0	1
<i>Inactive</i>	1,499	0.401	0.490	0	1
Age groups					
<i>18-34 years</i>	1,500	0.249	0.433	0	1
<i>35-49 years</i>	1,500	0.270	0.444	0	1
<i>50-64 years</i>	1,500	0.227	0.419	0	1
<i>65+ years</i>	1,500	0.253	0.435	0	1
Male	1,500	0.467	0.499	0	1
# close contacts favouring secession	1,500	1.800	1.642	0	5

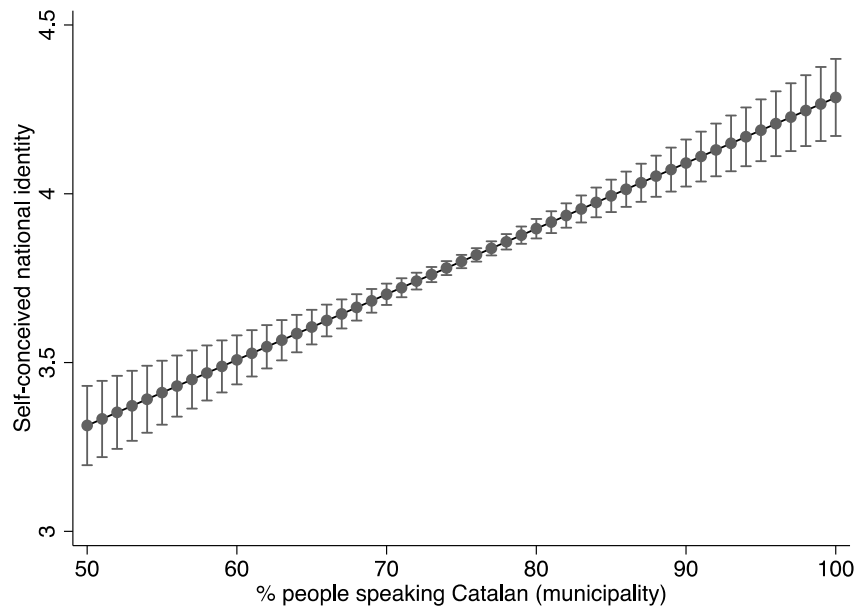
B. Instrumental variable estimation

As we explained in the article, the relationship between an individual's identity, preferences for secession and contextual-level variables deserve close analytic attention. In the article, our expectation was that the relationship between an individual's identity and support for secession was crucially shaped by the percentage of people speaking Catalan in the municipality (our contextual moderator). Although we empirically confirm this relationship, we cannot rule out the possibility that this same context may shape an individual's identity. In a nutshell, two individuals with the same sociological background may develop different identities depending on the context in which they grow up. Along these lines, Rico and Jennings (2012) have shown that, in Catalonia, in those municipalities with a higher percentage of people born in the rest of Spain, individuals develop more dual Spanish-Catalan identities than in municipalities with fewer people born in the rest of Spain. Also, Barceló (2014) has shown that the Catalan/Spanish identity is crucially determined by the context in which an individual develops.

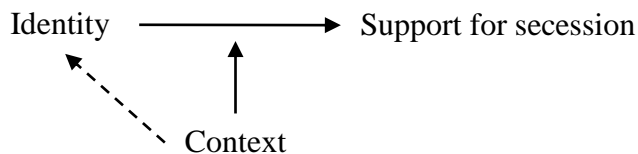
Similarly, our own calculations using the contextual variable Percentage of people speaking Catalan confirm the existence of a relationship between the two variables. The following figure plots the results of an LPM using the same dataset and the same control variables included in Table 2 in the manuscript, where the main covariate is the percentage of people speaking Catalan in the municipality and the dependent variable is the Linz-Moreno question.

Figure A1 confirms that it is not only that identity is affecting an individual's support for secession and that context is modulating the effect of the identity on support for independence, but also that the context is able to shape identity formation.

Figure A1. Placement in the Linz-Moreno question and the percentage of people speaking Catalan in the municipality



Hence, an individual will develop a different identity, ceteris paribus, depending on the context of where he lives.



The conventional approach to solve this endogeneity problem is the use of an instrumental variable (Angrist & Pischke, 2008). The tenet of this approach is based on employing a variable that is correlated with the endogenous variable in our model (the context) but not with support for secession, our response variable. We have tested the robustness of our empirical analysis by using an instrumental variable that identifies the percentage of votes for the post-communist party Partit Socialista Unificat de Catalunya (Unified Socialist Party of Catalonia, PSUC) in the Catalan regional elections in 1980 at the municipal level. There are several reasons that make this variable a suitable instrument.

First, the PSUC votes in 1980 mainly came from the working classes (Colomé, 1994), a social group whose language was mainly Spanish. Therefore, and given the limited residential mobility in Catalonia (Alberich González, 2009), we expect this variable to

be negatively correlated with the percentage of people speaking Catalan in the municipality, our endogenous variable. Second, while we expect the percentage of PSUC votes to be negatively correlated with the percentage of people speaking Catalan, we cannot expect the same relationship with regard to support for secession. This is so because the PSUC, although having a territorial support focused in the areas with concentrations of working class and Spanish-speaking people (see Figure A5), was by no means favourable either to a centralised territorial distribution of power or to secession (Moreno et al., 1998, p. 75). In addition, the PSUC was a leftist party –as most of the pro-independence movement is nowadays (Guinjoan & Rodon, 2016)– that disappeared in 1997, many years before the debate on secession became prevalent in Catalan society.

Therefore, we believe that this instrumental variable meets the exclusion restriction criteria: that is, the only reason why the variable votes for the PSUC in 1980 is correlated with support for secession is through its correlation with context; the instrument has no independent effect on preferences for secession. As mentioned in the manuscript, the correlation of the instrumental variable Percentage of votes for the PSUC in 1980 with the percentage of people speaking Catalan in the municipality is -0.56, whereas the correlation of the instrument decreases to -0.13 when confronted with support for secession.

Finally, the indicator shows favourable evaluations in the Cragg-Donald Wald F statistic, rejecting the null hypothesis of a weak instrument; also in the Stock-Yogo F test for single endogenous regressors; and in the exogeneity of regressors assumption, as indicated by Wu-Hasuman tests.

Table A6 reports the linear probability model on support for secession using an instrumental variable approach. As it can be seen, the variable percentage of people speaking Catalan is only significant (and positive) among dual-identity individuals.

Table A6. Linear probability model on support for secession in Catalonia instrumented with the % of votes to the PSUC in 1980 by municipality

	Only Spanish	More Spanish	Dual identity	More Catalan	Only Catalan
Ideology	0.001 (0.011)	-0.022 (0.013)	-0.041*** (0.005)	-0.011** (0.004)	-0.002 (0.001)
Interest politics	0.011 (0.016)	0.002 (0.023)	0.008 (0.009)	0.001 (0.005)	-0.004* (0.002)
Place of birth (Catalonia reference category)					
Born rest Spain	-0.058 (0.049)	-0.082** (0.031)	-0.099*** (0.014)	-0.039* (0.019)	-0.019 (0.011)
Born rest world	0.137* (0.069)	0.081 (0.105)	0.070 (0.036)	-0.012 (0.043)	-0.017 (0.021)
Employment status (Employed reference category)					
Unemployed	-0.079 (0.043)	0.051 (0.034)	-0.005 (0.022)	0.023 (0.012)	-0.001 (0.006)
Inactive	-0.047 (0.042)	-0.019 (0.040)	-0.005 (0.021)	0.020 (0.013)	-0.001 (0.004)
Age (18-34 reference category)					
35-49 years	0.014 (0.050)	0.070 (0.063)	-0.030 (0.016)	-0.007 (0.011)	0.001 (0.003)
50-64 years	0.022 (0.051)	0.036 (0.041)	0.020 (0.014)	-0.022 (0.012)	-0.005 (0.003)
65+ years	-0.012 (0.078)	0.109 (0.062)	0.052 (0.028)	-0.013 (0.013)	0.000 (0.005)
Women	0.027 (0.034)	-0.033 (0.041)	0.009 (0.017)	-0.012 (0.007)	-0.003 (0.003)
Net household income	-0.016 (0.012)	0.003 (0.010)	-0.002 (0.005)	0.001 (0.003)	0.001 (0.001)
Population density	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)
% Foreign population	0.009 (0.011)	-0.003 (0.009)	0.002 (0.003)	0.002 (0.002)	0.000 (0.001)
Municipality size (< 2.000 reference category)					
2.001 - 10.000	-0.111 (0.111)	-0.057 (0.143)	-0.079 (0.050)	-0.022 (0.017)	0.006 (0.004)

10.001 - 50.000	-0.093 (0.117)	0.018 (0.122)	-0.122* (0.054)	-0.004 (0.021)	0.006 (0.004)
50.001 - 150.000	-0.084 (0.115)	-0.015 (0.111)	-0.130* (0.055)	-0.018 (0.026)	-0.001 (0.006)
150.001 - 1.000.000	-0.261* (0.121)	-0.174 (0.108)	-0.121* (0.053)	0.010 (0.029)	0.011 (0.013)
> 1 million	-0.443 (0.229)	-0.046 (0.162)	-0.152* (0.060)	-0.066 (0.034)	0.017 (0.011)
% of people speaking Catalan	0.017 (0.012)	-0.006 (0.011)	0.007* (0.002)	0.005 (0.003)	0.000 (0.001)
Constant	-1.066 (1.106)	0.666 (1.016)	0.267 (0.441)	0.531* (0.259)	1.001*** (0.073)
Province FE	✓	✓	✓	✓	✓
Survey wave FE	✓	✓	✓	✓	✓
Log likelihood	-80.208	-83.018	-2102.301	-219.951	4978.106
N	370	359	3380	3857	4666

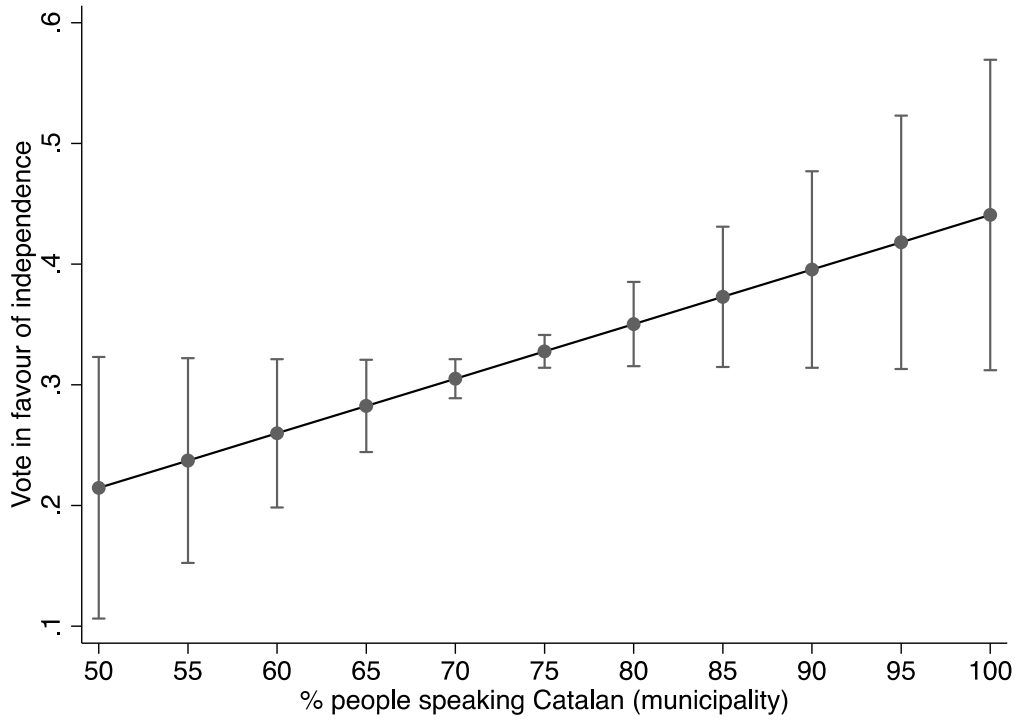
Robust standard errors in parentheses (clustered at the county level).

* p<0.05, ** p<0.01, *** p<0.001

Figure A2 shows the predicted effect of context on support for secession among dual-identity individuals, extracted from the third model in Table A6.

Figure A2. Contextual environment and support for secession among dual identity individuals.

Instrumental variable= % of votes to the PSUC in 1980 by municipality



Note: Values represent the predicted support for secession among dual-identity individuals across different values of the percentage of people speaking Catalan at the municipality level. Whiskers depict 95% confidence intervals. Our outcome is support for independence, with 1 being in favour and 0 against. These predicted effects are based on the instrumented LPM shown in Table A6 (third column).

C. Robustness checks – Catalan municipalities

Table A7 shows the coefficients corresponding to a multinomial model, in which the outcome is voting in favour, against or abstaining. Even when we incorporate abstention into the outcome, results remain robust. For the sake of simplicity, we only show here the coefficients corresponding to the category “I would vote in favour [of independence]”.

Table A7. Multinomial model on support for secession in Catalonia, by identity group

	Only Spanish	More Spanish	Dual identity	More Catalan	Only Catalan
Vote in favour					
Ideology	0.038 (0.127)	-0.224 (0.137)	-0.226*** (0.027)	-0.165** (0.053)	-0.254 (0.141)
Interest politics	0.115 (0.151)	0.041 (0.263)	0.032 (0.041)	0.015 (0.072)	-0.537* (0.220)
Place of birth (Catalonia reference category)					
Born rest Spain	-0.822 (0.480)	-0.774* (0.302)	-0.487*** (0.082)	-0.576** (0.194)	-1.178 (0.603)
Born rest world	0.845 (0.518)	0.558 (0.688)	0.320* (0.158)	-0.163 (0.618)	-1.526 (1.069)
Employment status (Employed reference category)					
Unemployed	-0.996 (0.553)	0.392 (0.342)	-0.041 (0.117)	0.405* (0.205)	-0.081 (0.775)
Inactive	-0.340 (0.479)	-0.447 (0.554)	-0.016 (0.104)	0.349 (0.190)	-0.057 (0.571)
Age (18-34 reference category)					
35-49 years	0.266 (0.552)	0.481 (0.526)	-0.116 (0.077)	-0.092 (0.176)	0.207 (0.555)
50-64 years	0.375 (0.581)	0.211 (0.459)	0.151* (0.070)	-0.310 (0.172)	-0.660 (0.393)
65+ years	-0.525 (0.934)	1.133 (0.735)	0.285* (0.134)	-0.199 (0.214)	0.072 (0.692)
Women	0.301 (0.386)	-0.230 (0.449)	0.053 (0.083)	-0.186 (0.116)	-0.521 (0.362)
Net household income	-0.163 (0.136)	0.010 (0.089)	-0.010 (0.028)	0.028 (0.049)	0.100 (0.150)
Population density	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)
% Foreign population	0.004 (0.050)	0.011 (0.066)	0.021* (0.009)	0.002 (0.016)	0.059 (0.033)

Municipality size (< 2.000
reference category)

2.001 - 10.000	-0.968 (0.667)	-0.071 (1.171)	-0.184 (0.199)	-0.585 (0.314)	1.113 (0.704)
10.001 - 50.000	-0.827 (0.839)	0.675 (0.857)	-0.364 (0.200)	-0.431 (0.331)	0.919 (0.712)
50.001 - 150.000	-0.762 (0.833)	0.577 (0.754)	-0.377 (0.195)	-0.725* (0.326)	-0.009 (0.632)
150.001 - 1.000.000	-2.799** (1.059)	-14.200*** (1.064)	-0.357 (0.223)	-0.337 (0.420)	1.478 (1.329)
> 1 million	-2.867 (1.485)	-0.973 (1.605)	-0.829*** (0.231)	-0.739 (0.457)	1.054 (1.050)
% of people speaking Catalan	0.048 (0.044)	0.016 (0.057)	0.036*** (0.007)	0.015 (0.015)	0.051* (0.023)
Constant	-4.069 (4.418)	-3.534 (5.219)	-2.907*** (0.795)	1.850 (1.267)	2.459 (2.137)
Province FE	✓	✓	✓	✓	✓
Survey wave FE	✓	✓	✓	✓	✓
Log likelihood	-378.507	-338.098	-5372.159	-	-909.285
N	515	478	5300	3139.838	4963

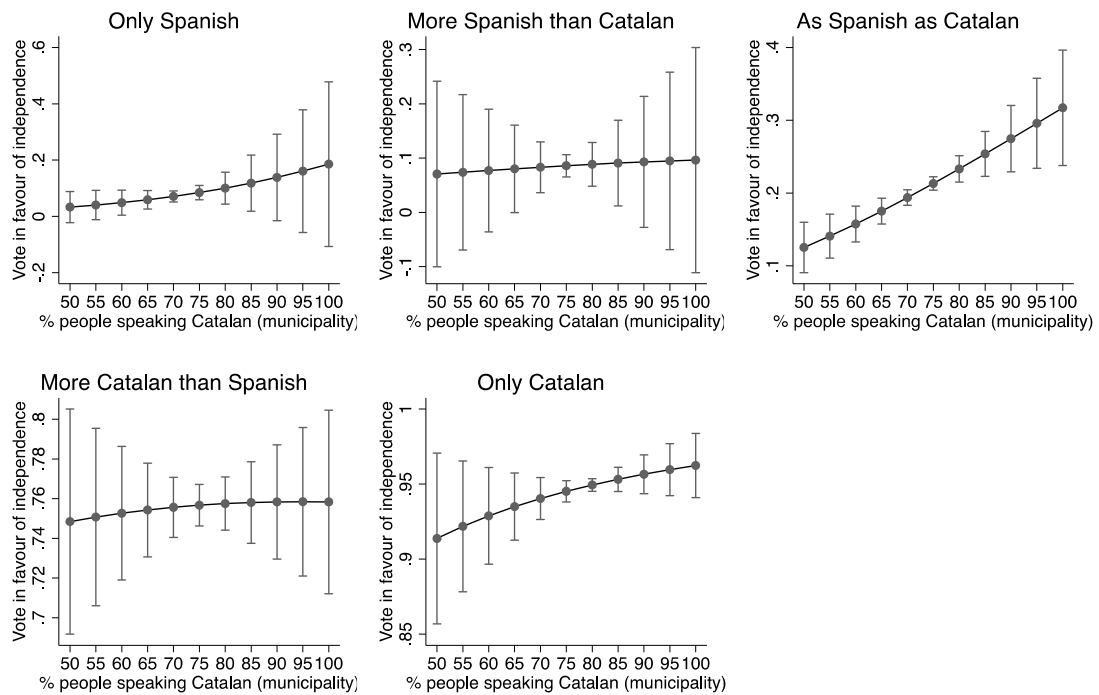
Robust standard errors in parentheses (clustered at the county level).

* p<0.05, ** p<0.01, *** p<0.001

Note: For the sake of simplicity, we do not display the coefficients for the category “Abstention”.

Figure A3 uses the results in Table A7 to plot the predicted support for secession by each identity group, as a function of the percentage of people speaking Catalan in the municipality, using a multinomial regression model. As it can be seen, the effect of the context is particularly strong among dual-identity individuals.

Figure A3. Predicted support for secession across the percentage of people speaking Catalan in the municipality by different identity groups (multinomial model)



Note: Values represent the predicted support for secession across different values of the percentage of Catalan speakers at the municipality level and by different identity groups. Whiskers depict 95% confidence intervals. Our outcome is categorical (1 support for independence; 0 abstention; 2 against independence). These predicted effects are based on the multinomial model shown in Table A7.

In addition, we ran the same Linear Probability Model but, in this case, incorporating abstention into the outcome (- 1 against secession, 0 abstention, 1 favour secession). Results remain robust, as shown in Table A8.

Table A8: Linear probability model on support for secession in Catalonia (- 1 against secession, 0 abstention, 1 favour secession)

	M1	M2
National-regional identity (Only Catalan reference category)		
Only Spanish	-0.461*** (0.053)	-1.491*** (0.267)
More Spanish than Catalan	-0.497*** (0.047)	-0.551 (0.328)
As Spanish as Catalan	-0.154*** (0.025)	-0.859*** (0.097)
More Catalan than Spanish	0.067*** (0.009)	0.107 (0.062)
% of people speaking Catalan	0.005*** (0.001)	0.001 (0.001)
Ideology	-0.012** (0.004)	-0.012* (0.004)
Interest in politics	0.064*** (0.006)	0.065*** (0.006)
Place of birth (Catalonia reference category)		
Born in the rest of Spain	-0.029 (0.022)	-0.023 (0.021)
Born outside Spain	0.043 (0.031)	0.047 (0.031)
Employment status (Employed reference category)		
Unemployed	-0.003 (0.019)	-0.003 (0.019)
Inactive	0.013 (0.016)	0.013 (0.016)
Age (18-34 reference category)		
From 35 to 49 years	-0.001 (0.013)	-0.002 (0.013)
From 50 to 64 years	0.020 (0.014)	0.019 (0.013)
65+ years	0.051* (0.020)	0.047* (0.019)
Women	0.038*** (0.009)	0.039*** (0.009)

Individual's net household income	-0.013** (0.004)	-0.013** (0.004)
Population density	0.000 (0.000)	0.000* (0.000)
% Foreign population	0.003* (0.001)	0.003* (0.001)
Municipality size (< 2.000 reference category)		
2.001 - 10.000	-0.022 (0.017)	-0.031 (0.018)
10.001 - 50.000	-0.011 (0.021)	-0.024 (0.020)
50.001 - 150.000	-0.003 (0.022)	-0.021 (0.021)
150.001 - 1.000.000	0.027 (0.029)	0.000 (0.029)
> 1 million	-0.054 (0.029)	-0.106** (0.033)
Only Spanish* % speaking Catalan		0.014*** (0.004)
More Spanish than Catalan* % speaking Catalan		0.000 (0.004)
As Spanish as Catalan* % speaking Catalan		0.009*** (0.001)
More Catalan than Spanish* % speaking Catalan		-0.001 (0.001)
Constant	0.565*** (0.110)	0.846*** (0.094)
Province FE	✓	✓
Survey wave FE	✓	✓
Log likelihood	-14979.839	-14942.838
N	16069.000	16069.000

Robust standard errors in parentheses (clustered at the county level).

* p<0.05, ** p<0.01, *** p<0.001

D. Robustness checks - Barcelona

Table A9 shows the coefficients for the main model of the second part of the empirical analysis. Results are illustrated in Figure 7 in the manuscript.

Table A9: Linear probability model on support for secession in Barcelona

	M1	M2
National-regional identity (Only Catalan reference category)		
Only Spanish & More Spanish than Catalan	-0.645*** (0.039)	-0.836*** (0.042)
As Spanish as Catalan	-0.564*** (0.036)	-0.627*** (0.031)
More Catalan than Spanish	-0.115*** (0.023)	-0.229*** (0.041)
Difference in the number of contacts in favour and against independence	0.046*** (0.005)	0.011 (0.006)
Ideology	-0.009 (0.005)	-0.009 (0.005)
Interest in politics	-0.009 (0.010)	-0.009 (0.010)
Place of birth (Catalonia reference category)		
Born in the rest of Spain	-0.050 (0.026)	-0.050 (0.026)
Born outside Spain	-0.045 (0.038)	-0.047 (0.037)
Employment status (Employed reference category)		
Unemployed	-0.025 (0.034)	-0.020 (0.032)
Inactive	-0.013 (0.028)	-0.015 (0.026)
Age (18-34 reference category)		
From 35 to 49 years	0.025 (0.027)	0.020 (0.027)
From 50 to 64 years	-0.081** (0.025)	-0.077** (0.024)
65+ years	-0.022 (0.035)	-0.022 (0.032)

Women	-0.011 (0.022)	-0.012 (0.023)
Individual's net household income	-0.002 (0.003)	-0.001 (0.003)
Only Spanish & More Spanish than Catalan* Difference in the number of contacts in favour and against independence		-0.003 (0.011)
As Spanish as Catalan* Difference in the number of contacts in favour and against independence		0.053*** (0.011)
More Catalan than Spanish* Difference in the number of contacts in favour and against independence		0.049*** (0.012)
Constant	1.022*** (0.053)	1.105*** (0.058)
District FE	✓	✓
Log likelihood	-234.704	-215.038
N	1092	1092

Robust standard errors in parentheses (clustered at the county level).

* p<0.05, ** p<0.01, *** p<0.001

As a robustness, we included abstention in the outcome and checked whether the results hold. As table A10 illustrates, results remain robust.

Table A10: Linear probability model on support for secession in Barcelona (- 1 against secession, 0 abstention, 1 favour secession)

	M1	M2
National-regional identity (Only Catalan reference category)		
Only Spanish & More Spanish than Catalan	-1.198*** (0.069)	-1.520*** (0.076)
As Spanish as Catalan	-1.009*** (0.059)	-1.130*** (0.052)
More Catalan than Spanish	-0.264*** (0.046)	-0.459*** (0.076)
Difference in the number of contacts in favour and against independence	0.097*** (0.008)	0.033** (0.012)
Ideology	-0.021* (0.010)	-0.021* (0.011)
Interest in politics	-0.018 (0.019)	-0.017 (0.019)
Place of birth (Catalonia reference category)		
Born in the rest of Spain	-0.102* (0.048)	-0.101* (0.048)
Born outside Spain	-0.054 (0.069)	-0.060 (0.067)
Employment status (Employed reference category)		
Unemployed	-0.037 (0.071)	-0.028 (0.068)
Inactive	-0.024 (0.051)	-0.027 (0.049)
Age (18-34 reference category)		
From 35 to 49 years	0.042 (0.051)	0.036 (0.051)
From 50 to 64 years	-0.127* (0.049)	-0.118* (0.049)
65+ years	-0.049 (0.068)	-0.052 (0.063)
Women	-0.013 (0.041)	-0.017 (0.041)
Individual's net household income	0.000	0.001

	(0.005)	(0.005)
Only Spanish & More Spanish than Catalan* Difference in the number of contacts in favour and against independence		(0.020)
		0.096***
As Spanish as Catalan* Difference in the number of contacts in favour and against independence		(0.019)
		0.082***
More Catalan than Spanish* Difference in the number of contacts in favour and against independence		(0.022)
Constant	0.958*** (0.103)	0.000 1.101*** (0.112)
District FE	✓	✓
Log likelihood	-1098.361	-1081.532
N	1222	1222

Robust standard errors in parentheses (clustered at the county level).

* p<0.05, ** p<0.01, *** p<0.001

As a robustness check, Table A11 runs a multinomial model on support for secession in Barcelona. Even when we incorporate abstention into the outcome, results remain robust. For the sake of simplicity, we only show here the coefficients corresponding to the category “I would vote in favour [of independence]”.

Table A11. Multinomial model on support for secession in Barcelona

	M1	M2
National-regional identity (Only Catalan reference category)		
Only Spanish & More Spanish than Catalan	-3.118*** (0.670)	-2.815*** (0.646)
As Spanish as Catalan	-3.136*** (0.451)	-2.683*** (0.385)
More Catalan than Spanish	-1.543*** (0.380)	-1.100** (0.372)
Difference in the number of contacts in favour and against independence	0.147*** (0.041)	0.493** (0.156)
Ideology	0.025 (0.047)	0.027 (0.048)
Interest in politics	0.196 (0.130)	0.184 (0.130)
Place of birth (Catalonia reference category)		
Born in the rest of Spain	-0.807* (0.355)	-0.824* (0.361)
Born outside Spain	-0.509 (0.334)	-0.530 (0.339)
Employment status (Employed reference category)		
Unemployed	-0.589 (0.432)	-0.576 (0.426)
Inactive	0.058 (0.268)	0.078 (0.270)
Age (18-34 reference category)		
From 35 to 49 years	0.198 (0.418)	0.200 (0.418)
From 50 to 64 years	-0.376 (0.320)	-0.411 (0.328)
65+ years	-0.212 (0.333)	-0.253 (0.339)
Women	0.342 (0.249)	0.388 (0.256)
Individual's net household income	-0.008	-0.010

	(0.036)	(0.035)
Only Spanish & More Spanish than Catalan* Difference in the number of contacts in favour and against independence		-0.610**
		(0.231)
As Spanish as Catalan* Difference in the number of contacts in favour and against independence		-0.422**
		(0.161)
More Catalan than Spanish* Difference in the number of contacts in favour and against independence		-0.273
		(0.177)
Constant	2.797***	2.408**
	(0.831)	(0.786)
District FE	✓	✓
Log likelihood	-660.826	-654.431
N	1222	1222

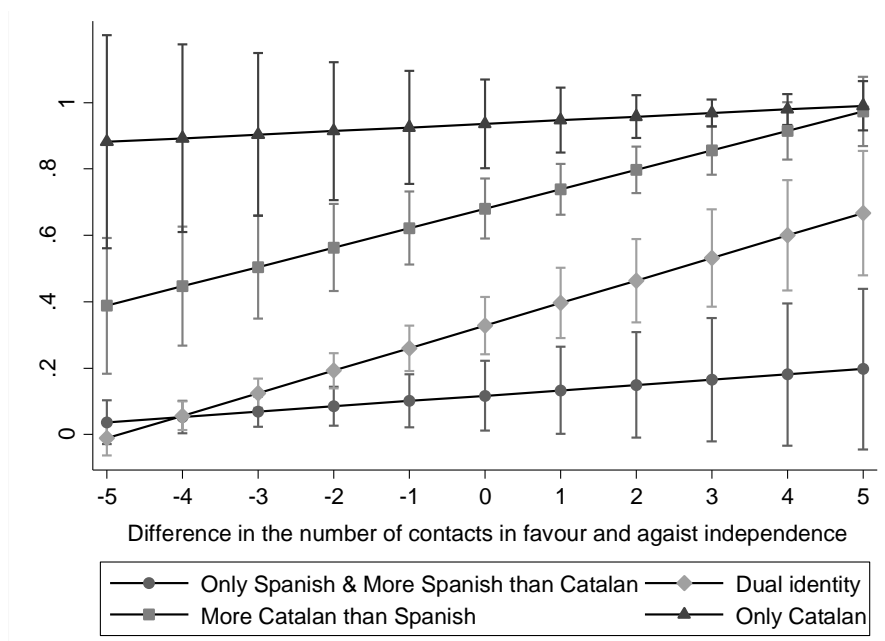
Robust standard errors in parentheses (clustered at the county level).

* p<0.05, ** p<0.01, *** p<0.001

Note: For the sake of simplicity, we do not display the coefficients for the category “Abstention”.

Figure A4 plots the probability of voting in favour of secession across different identity groups and as a function of the support for independence among respondent's relational network, restricting the analysis to individuals with low or no interest in politics. As it can be seen, in this or other robustness checks, the effect is particularly strong among dual-identity individuals, but also among the more Catalan than Spanish individuals.

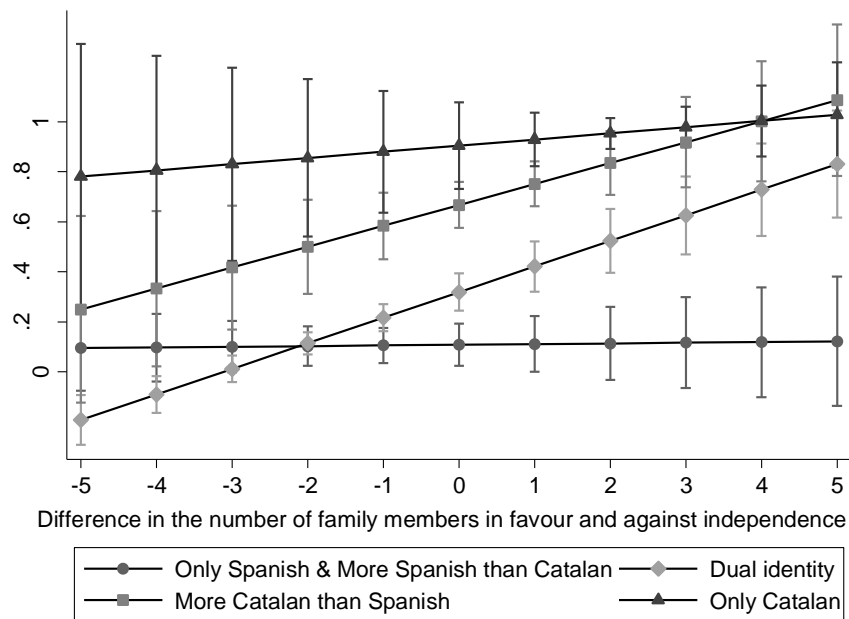
Figure A4. Probability of voting in favour of secession as a function of close contacts' territorial preferences and among individuals with low or no interest in politics



Note: Values represent the predicted support for secession across different identity groups and different values of the support for independence among respondent's relational network. Whiskers depict 95% confidence intervals. Our outcome is support for independence, with 1 being in favour and 0 against.

To ameliorate the endogenous relationship between friends and respondents' territorial preferences, we analyse whether the effect remains the same when we only take into account the family, a network arguably less affected by endogeneity. As Figure A5 shows, results remain robust: dual identity individuals are those more likely to shape their preferences for secession as a function of their close network.

Figure A5. Probability of voting in favour of secession as a function of family's territorial preferences

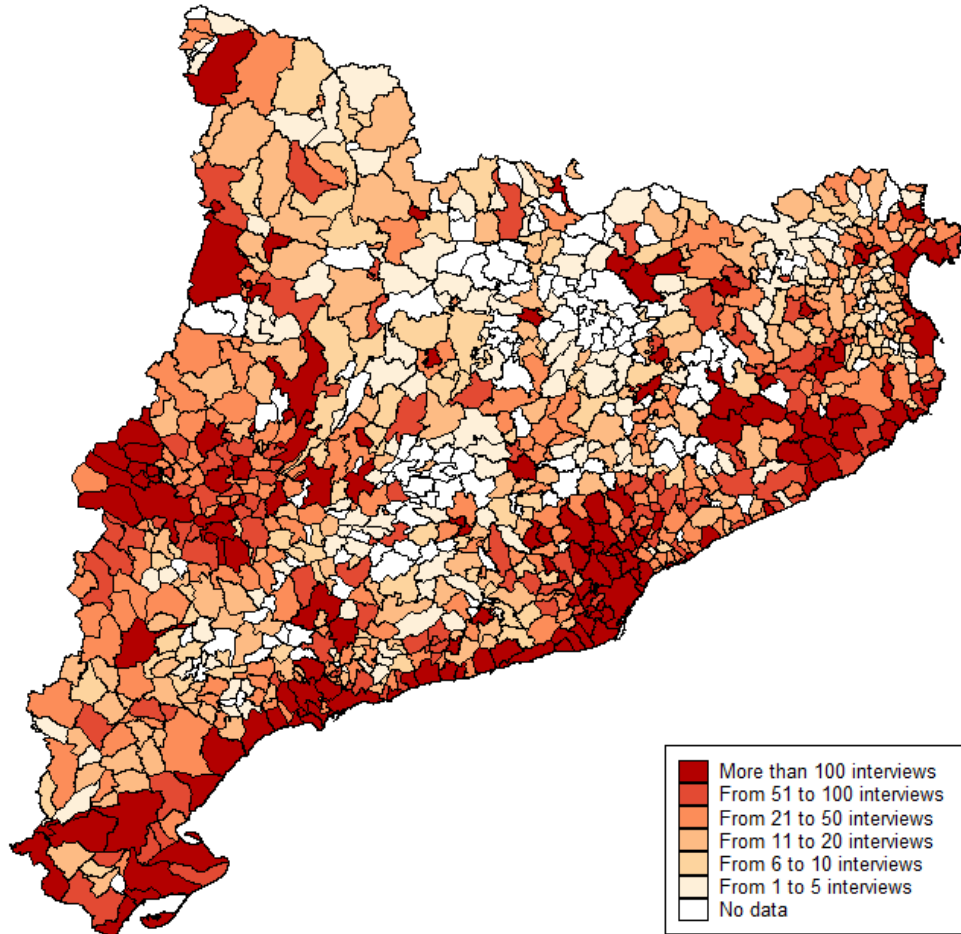


Note: Values represent the predicted support for secession across different identity groups and different values of the support for independence among respondent's relational network. The analysis is restricted to family members. Whiskers depict 95% confidence intervals. Our outcome is support for independence, with 1 being in favour and 0 against.

E. Additional Maps and Figures

Figure A6 shows the number of interviews done in each Catalan municipality. Information is extracted from the different CEO barometers.

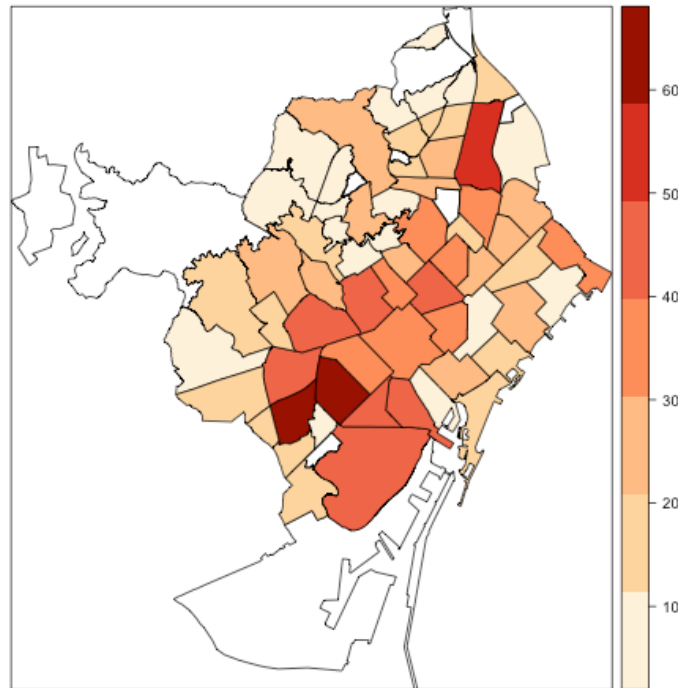
Figure A6. Number of interviews by municipality



Source: BOP of the CEO

Figure A7 plots the number of interviews in each of the Barcelona neighbourhoods.

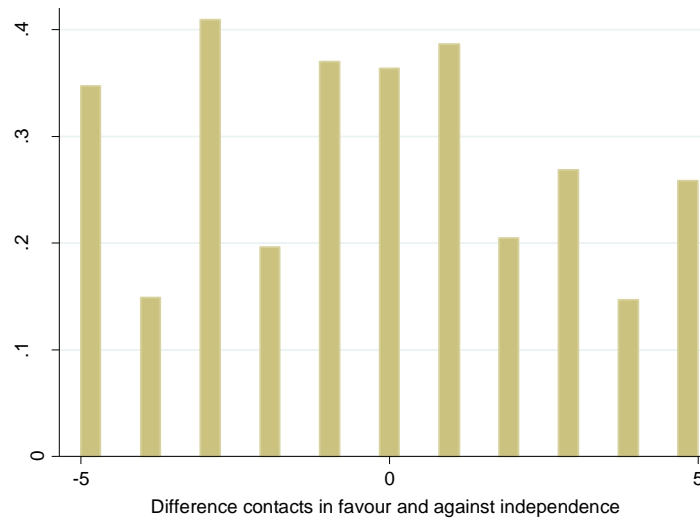
Figure A7. *Number of interviews by neighbourhood*



Source: Survey 'Emerging forms of political protest in Barcelona: pathways to political inclusion' (*Recercaixa* 2014) Note: Blank neighbourhoods represent neighbourhoods with no cases.

Figure A8 plots the difference in the number of contacts in favour and against independence. Positive values indicate that the respondent has more pro-independence close contacts, negative values otherwise.

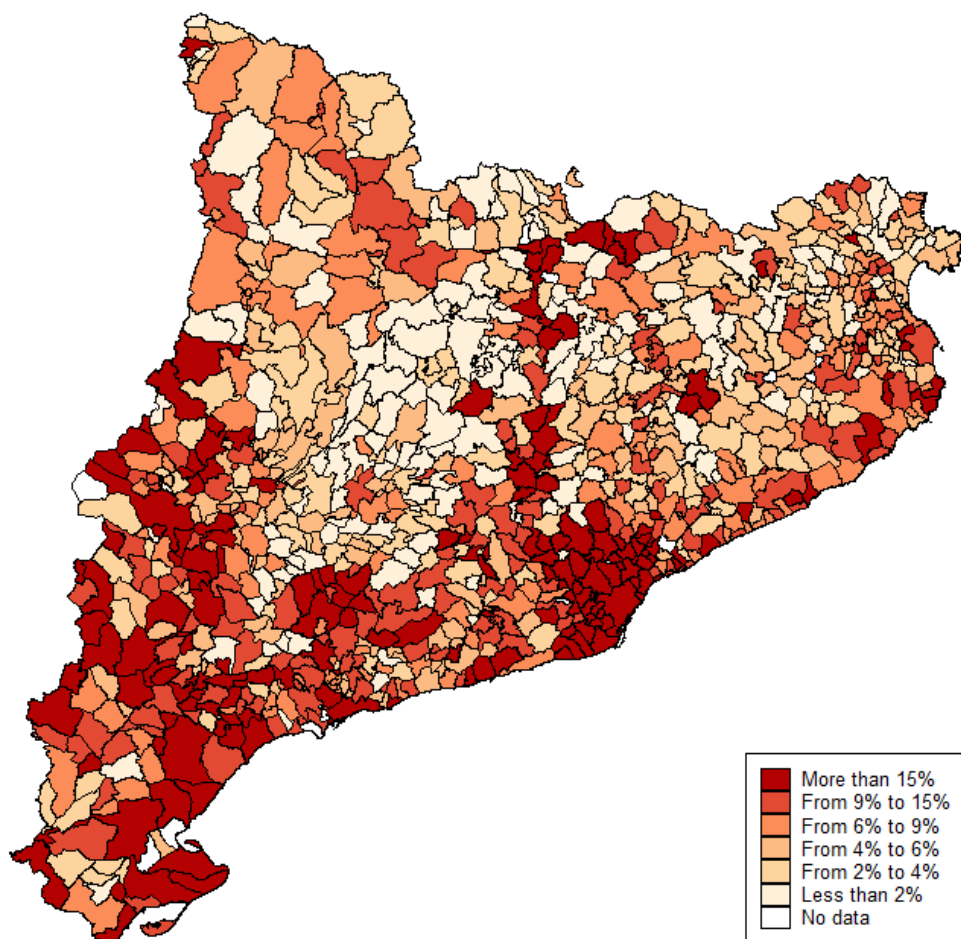
Figure A8. Histogram difference in the number of contacts in favour and against independence



Source: Survey 'Emerging forms of political protest in Barcelona: pathways to political inclusion' (*Recercaixa* 2014) Note: See manuscript for operationalisation.

Figure A9 plots the spatial distribution of vote for the PSUC in the 1980 Catalan regional elections. As we explain in the article, this variable emerges as a suitable instrument for the type of context that emerged in each Catalan municipality.

Figure A9. Percentage of vote for the PSUC in the 1980 Catalan regional elections



Source: Departament de Governació, Administracions Públiques i Habitatge of the Generalitat de Catalunya

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