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## Interregional contact and the formation of a shared identity

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**Interregional Contact and the Formation of a  
Shared Identity**

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Christopher Roth

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# Interregional Contact and the Formation of a Shared Identity

By MANUEL BAGUES CHRISTOPHER ROTH\*

*We study the long-run effects of contact with individuals from other regions in early adulthood on preferences, beliefs and national identity. We combine a natural experiment, the random assignment of male conscripts to different locations throughout Spain, with tailored survey data. Being randomly assigned to complete military service outside of one's region of residence fosters contact with conscripts from other regions, and increases sympathy and trust towards people from the region of service, as measured decades later. We also observe a long-lasting increase in identification with Spain for individuals originating from regions with strong peripheral nationalism.*

**Keywords:** Interregional Contact, Intergroup Exposure, Beliefs, Preference Formation, Identity.

**JEL Classification:** R23, D91, Z1

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## I. Introduction

Cultivating and maintaining a sense of shared national identity is a critical challenge facing modern states. States whose citizens identify more strongly with local political units than the nation as a whole may face difficulties in solving collective-action problems (Fukuyama, 2018), and in preventing secessionist movements (Serrano, 2013). Historically, governments have tried to strengthen a shared national identity through various measures, including national education programs, media propaganda, and infrastructure investments (Bandiera et al., 2019; Blouin and Mukand, 2019; Cantoni et al., 2017; Fouka, 2020; Weber, 1976). Another commonly applied tool for strengthening a shared national identity and increasing social cohesion is conscription. A key feature of conscription, as adopted by many countries, is the purposeful mixing of conscripts from different regions of origin in the same units (Bertaud, 1979; Krebs, 2004).<sup>1</sup>

According to the contact hypothesis, mixing conscripts from different regions is likely to strengthen interregional sympathies, as the contact situation involves equal status between the groups, common goals and cooperation (Allport, Clark and Pettigrew, 1954; Lowe, 2021). A number of studies also suggest that contact helps to decrease prejudice and correct biased beliefs, at least in the short run (Boisjoly et al., 2006; Burns, Corno and La Ferrara, 2018; Carrell, Hoekstra and West, 2018; Dahl, Kotsadam and Rooth, 2021; Mousa, 2020; Paluck, Green and Green, 2019; Pettigrew and Tropp, 2006; Schindler and Westcott, 2021). The persistence of these effects over longer time horizons, however, is less well-studied. Moreover, how contact affects the formation of a shared identity is theoretically ambiguous. By increasing sympathy and reducing intergroup biases, interregional contact may help to increase the extent to which individuals from different regions share a common identity. On the other hand, differences between one's own identity and others' identity might also become more salient in response to contact with dissimilar others (Tajfel et al., 1979), thereby, decreasing a sense of shared identity.

In this paper, we examine how temporary contact in early adulthood between people from different regions affects intergroup attitudes and national identity exploiting a unique natural experiment, the random assignment of conscripts in Spain to their location of military service. Spain is an ideal setting to study these questions as it has experienced strong regional nationalistic movements, leading to cases of violence and conflict. In a context where most people lived in the same region all of their lives, the compulsory military service, until its abolition in 2001, constituted the main opportunity for most Spanish men to build relationships with people from other regions. Around one third of conscripts

<sup>1</sup>Conscription has been invoked as an important instrument for nation building at least since the French Revolution. Bertaud (1979) points out that French military units were consciously designed as national melting pots. Similarly, Krebs (2004) argues that Italy broke with the Prussian system of territorial recruitment in 1860 because "only by combining troops from different regions in single units could the military foster an Italian identity".

were assigned to serve in their own region of residence and two thirds served elsewhere. Conscripts serving outside of their own region were more exposed to individuals from other regions, both through interactions with other conscripts and with local civilians. A unique feature of the Spanish draft is that conscripts were assigned to their location of military service using a random lottery that was conducted each year at the province level, providing a transparent source of exogenous variation for our study.

To study how conscripts were affected by their geographic assignment in the military service, we conducted an online survey among 3,231 former male conscripts between December 2019 and February 2020. The survey elicits information on participation in the draft lottery and its outcome. It also collects rich background information and measures a number of outcome variables, including sympathy towards people from different regions of Spain, beliefs about their honesty as well as identification with Spain. In our main empirical specification, we compare conscripts who were randomly assigned to complete military service outside of their home region (henceforth *treatment group*) with others randomly assigned to complete it in their home region (*control group*). To account for the level of randomization, we compare individuals from the treatment and control group who lived in the same province at the time of their draft. Our analysis captures the long-run effects of exposure to individuals from other regions during early adulthood, a period of life when individuals are likely to be particularly impressionable (Giuliano and Spilimbergo, 2014; Krosnick and Alwin, 1989).

According to our self-reported survey data, compliance with the lottery was very high. Around 97% of individuals served in the region to which they had been randomly assigned and 3% of respondents report that they opted for the social service after being drafted.<sup>2</sup> Conscripts assigned to complete their military service outside of their home region have similar background characteristics to those assigned to their home region, suggesting that the lottery was indeed random and that the treatment did not affect selection into the survey.<sup>3</sup>

To validate whether serving in a different region increases interregional contact, we collected information on the geographical origin of other conscripts and on friends made during military service. As expected, serving outside of the home region increases exposure to conscripts from other regions ( $\beta=0.35\sigma$ ,  $s.e. = 0.07$ ) and the number of friends from other regions ( $\beta=0.30\sigma$ ,  $s.e. = 0.06$ ).<sup>4</sup>

Despite the long period of time elapsed, we find a significant increase in sympathy towards people from the region to which our respondents were randomly

<sup>2</sup>Information from administrative sources also suggests that compliance was high. For instance, in 1991 201,907 men were drafted, 2,572 opted for the social service and 937 were declared draft dodgers (La Vanguardia, 3 November 1991, page 37, citing sources in the Ministry of Defense).

<sup>3</sup>To limit the possibility of manipulation, our pre-specified design excludes individuals whose father worked in the military.

<sup>4</sup>For ease of exposition, all of our estimates of treatment effects on the main outcomes are expressed in terms of standard deviations ( $\sigma$ ).

assigned ( $\beta=0.067\sigma$ ,  $s.e. = 0.015$ ). Similarly, we uncover small and marginally significant increases in the perceived honesty of people from the region of military service ( $\beta=0.029\sigma$ ,  $s.e. = 0.015$ ). Given the collaborative nature of contact during military service, this finding is consistent with the predictions of the contact hypothesis (Allport, Clark and Pettigrew, 1954).

Does the treatment foster the formation of a shared identity? In our survey, we measure identification with Spain using three different questions: (i) attachment to Spain compared to the home region, (ii) pride in being Spanish, and (iii) positive emotions vis-a-vis the Spanish flag. We also consider an index summarising these three variables. For conscripts originating from regions with strong peripheral nationalist movements, the treatment strongly increases their attachment to Spain ( $\beta=0.23\sigma$ ,  $s.e. = 0.09$ ), their pride in being Spanish ( $\beta=0.21\sigma$ ,  $s.e. = 0.11$ ), their positive emotions towards the Spanish flag ( $\beta=0.15\sigma$ ,  $s.e. = 0.11$ ) and the index of identification with Spain ( $\beta=0.22\sigma$ ,  $s.e. = 0.10$ ). The magnitude of this effect corresponds to approximately one fourth of the average difference in the degree of identification with Spain observed between individuals from regions with strong peripheral nationalist movements and individuals from other regions.<sup>5</sup> In contrast, the impact is close to zero and not significant for conscripts originating from other regions. This heterogeneity in treatment effects is robust to a number of alternative definitions for the set of regions with strong peripheral nationalist movements.<sup>6</sup> We also find similar results when we use predetermined background characteristics (e.g. region of residence, region of birth of parents and socio-economic background) to predict which individuals would have had weak identification with Spain in the absence of the treatment.

The evidence suggests that, in addition to the direct effect of living outside of their own region, intergroup contact with other conscripts is likely an important channel explaining the increase in national identity among treated conscripts from regions with peripheral nationalism. We do not find support for several alternative mechanisms. Using region of service fixed effects, we rule out that the results are driven by the impact of serving in some particular region that affects conscripts' national identity. We also show that the cultural distance between the region of origin and destination does not significantly shape treatment effects. Finally, using both survey and administrative data, we provide evidence suggesting a limited relevance of long-run mobility, interregional marriages and economic opportunities as mechanisms driving our results.

To shed further light on mechanisms, we also exploit information from survey respondents who were randomly exempted from the draft. These estimates are less precise, but they suggest that, for conscripts from regions with periph-

<sup>5</sup>In the survey, the index of identification with Spain is 0.92 standard deviations lower among individuals from regions with strong peripheral nationalist movements.

<sup>6</sup>In our pre-analysis plan we did not pre-specify the specific analysis of any heterogeneous treatment effects. As we explain in more detail in section IV, in our main specification we focus on five regions which have a local co-official language and where the share of individuals who report that they are proud of being Spanish is lowest: Basque Country, Navarre, Catalonia, Galicia and the Balearic Islands.

eral nationalism, serving in the home region had no impact on their Spanish identity ( $\beta = -0.06\sigma$ ,  $s.e. = 0.17$ ), compared to not completing military service. Instead, serving in another region appears to increase identification with Spain ( $\beta = 0.20\sigma$ ,  $s.e. = 0.15$ ). These effects suggest that the experience of completing service away from the home region is likely a more important driver of the effects on identification with Spain compared to the experience of completing military service per se.

Our paper relates to several strands of literature. First, our paper speaks to the literature on how intergroup contact changes people's prejudice, preferences and beliefs (Paluck, Green and Green, 2019; Stegmann, 2019). Most closely related, Okunogbe (2018) studies the effects of interethnic contact exploiting geographic mobility in the mandatory national service in Nigeria. The paper finds that a large fraction of conscripts permanently leave their home region and develop a stronger national identity. Lowe (2021) studies how collaborative versus adversarial contact in the context of cricket affects inter-caste relations in India. Rao (2019) provides evidence from a natural experiment in India that having poor classmates makes rich students less likely to discriminate against poor students. Several papers have also examined how interracial contact affects prejudice (Boisjoly et al., 2006; Burns, Corno and La Ferrara, 2018; Bursztyn et al., 2021; Carrell, Hoekstra and West, 2018; Schindler and Westcott, 2021) and political preferences (Billings, Chyn and Haggag, 2020). Our main contribution to this literature is to provide long-run evidence on the impact of temporary exposure to outgroup members.

Second, we contribute to the literature on nation building (Alesina, Giuliano and Reich, 2021; Bandiera et al., 2019). Clots-Figueras and Masella (2013) show that people who have been exposed to teaching in Catalan for a longer time period have stronger Catalan feelings. Fouka (2020) studies how language restrictions in elementary school affect integration and identification with the host country later in life. Bazzi et al. (2019) use a population resettlement program in Indonesia to identify the effects of a permanent increase in intergroup contact on national integration. Depetris-Chauvin, Durante and Campante (2020) provide evidence on the importance of shared collective experiences in strengthening national identity in the short-run. We show that mixing individuals from different regions during conscription, a policy which has been historically used for nation-building, was effective in fostering sympathy and strengthening the shared identity. Our work is also closely related to concurrent work by Caceres-Delpiano et al. (2021) who study how serving in a different region affects political ideology using a information from a survey conducted by the Spanish Center for Sociological Research (CIS). Their estimates on the impact on national identity are qualitatively similar to ours, although they are less precise and substantially larger, after accounting for imperfect compliance in their identification strategy.<sup>7</sup>

<sup>7</sup>Our tailor-made survey has several advantages. First, we collected information on the actual completion and location of service, which is not available in the CIS survey. Second, the CIS survey has a substantially

Third, we contribute to an extensive literature that has studied the impact of serving in the military on political behavior, crime and labor market outcomes (Angrist, 1990; Bingley, Lundborg and Lyk-Jensen, 2020; Erikson and Stoker, 2011; Galiani, Rossi and Schargrotsky, 2011; Grönqvist and Lindqvist, 2016; Hjalmarsson and Lindquist, 2019; Navajas et al., 2020). Our paper focuses on the impact of a particular feature of conscription, namely contact with people from other regions, and its effect on the formation of a national identity.

## II. Institutional Setting

**MILITARY SERVICE IN SPAIN.** — Young males were summoned to serve in the military in the year in which they turned 20 unless they had been awarded an extension or they had been exempted from service.<sup>8</sup> Extensions were mostly study-related and were granted to individuals who were still enrolled in education. Individuals were exempted from serving if (i) they were deemed unfit to serve in the military due to medical reasons, (ii) they had volunteered for the professional army or the university militias or (iii), starting in 1985, if they had opted to serve in the social service (*‘prestación social sustitutoria’*) as an alternative to the military service.<sup>9</sup>

The duration of military service varied between 24 and 9 months during the period of our study.<sup>10</sup> During the first months of their service, conscripts were assigned to military training. Once training was completed, they were sent to their final destination, which was typically in the same geographical area (Velasco-Martínez, 2017). Conscripts typically lived in large barracks with capacity for tens or even hundreds of bunk beds. Conscripts were occasionally allowed to sleep outside their barracks, but usually only the local ones were able to take advantage of this opportunity (pp. 351-2 in Sanchez-Navarro (2005)).

**MILITARY LOTTERY.** — At the beginning of the year, the military authority at the provincial level compiled the list of eligible conscripts including all male individuals aged 20 or more who had not yet completed the military service, had not been exempted and had exhausted all extensions.<sup>11</sup> Once the list had been fixed,

lower sample size, which combined with relatively low levels of compliance in the assignment, leads to significantly lower levels of statistical power. Third, our tailor made survey includes information on an extensive number of additional variables that are not available in the CIS (e.g. interactions with conscripts from other regions, sympathy towards other regions, measures of trust, specific information on the service experience), which allow us to estimate the impact of the treatment on a broader set of outcomes and to explore the underlying mechanisms.

<sup>8</sup>The entry age was reduced to 19 in 1987.

<sup>9</sup>According to the 1989 Military Statistical Yearbook, out of 361 thousand males eligible to serve at the beginning of the year, 40% were drafted, 34% were given a study extension, 7% were exempted for medical reasons, 6% volunteered to serve in the professional army, 2% received an extension for medical reasons, 1% received an extension for economic reasons, and information was missing for the rest.

<sup>10</sup>In 1940 it was fixed between 18 and 24 months, depending on the unit. The length of service was reduced in 1968 to between 15 and 18 months, and during the 1980s and 1990s it was progressively reduced, first to 12 months, and later on to 9 months. Service was longer for people serving in the Navy.

<sup>11</sup>Extensions were only granted until the age of 27.



a public lottery decided the location where each conscript would serve. The lottery assigned conscripts to a given military unit and region, determining the precise location where they would serve for the first three months during their basic training. The assignment mixed people from different regions of Spain in each destination, but there was typically a substantial share of local conscripts in each region of service.

Draft lotteries were conducted each year independently in each province. They were conducted publicly and, as shown in Figure A1, they usually attracted a large crowd.<sup>12</sup> Within each province and year of lottery the chances of being assigned to a given destination were the same for all conscripts. Eligible conscripts were ordered alphabetically or by birth date, and each individual was assigned a number. A spherical cage filled with numbered wooden balls was used for the draw process. One ball was released from the cage, deciding the ordering in which eligible conscripts would be assigned, following a pre-established list of destinations and quotas. Thus, the lottery determined the mapping of names (or date of birth) to different regions and units of service.<sup>13,14</sup> In some years, especially in the mid 80s, the number of eligible conscripts exceeded the capacity of the military and some individuals were exempted from serving by luck of the draw.

The assignment stopped being random in 1992. Starting that year, conscripts were allowed to submit information about their preferences for destination and the assignment was implemented using a computer system.

### III. Data

We use data from two sources: a tailored survey that we collected between December 2019 and February 2020 and administrative census data.

#### A. Survey

We collaborated with Luc.id and Dynata, two online panel providers widely used in the social sciences (Bursztyn et al., 2020; Coppock and McClellan, 2019; de Quidt, Haushofer and Roth, 2018). These providers use opt-in panels, in which people can sign up to participate in opinion surveys in exchange for money (see Haaland, Roth and Wohlfart (2021) for a discussion of such opt-in

<sup>12</sup>A video of a draft lottery conducted in Madrid in 1966 is available here: [https://www.youtube.com/watch?v=ywF0\\_386m-w&t=3s](https://www.youtube.com/watch?v=ywF0_386m-w&t=3s), accessed on 4 November 2020.

<sup>13</sup>The functioning of the lottery changed slightly during the period of our analysis. From 1940 to 1986, lotteries were conducted in a specific unit called “Caja de reclutas”. Each province had one ‘caja’, with the exception of a few large provinces where there were several ‘cajas’. Between 1987 and 1991, eligible conscripts were ordered within each province by date of birth. A lottery conducted at the national level decided the date of birth that would be used in each province to decide the ordering of the list.

<sup>14</sup>A description of the process was typically published in the local State Bulletin. For instance a description for the draft in Cordoba in 1958 is available here: [https://www.dipucordoba.es/archivo/bop/files/1958/12/19581205\\_279.pdf](https://www.dipucordoba.es/archivo/bop/files/1958/12/19581205_279.pdf)

panels). In practice the provider invited Spanish males in their database born before 1972 and we only allowed respondents who participated in the draft lottery to participate in our survey. The survey was advertised as a simple opinion survey among panelists, without revealing anything about the specific content of the study. In a pilot, we collected a sample of 504 respondents meeting our sample restrictions, which we use in the main study. In our full study, we collected data for an additional 2727 respondents who meet our inclusion criteria. We pool observations from the pilot and the full study in our analysis to maximize statistical power and all of our results are robust to excluding the pilot sample. Data collected in the survey can be found in Bagues and Roth (2022).

**PRE-ANALYSIS PLAN.** — We pre-registered our analysis plans including survey instructions, intended sample size, and empirical specification.<sup>15</sup> We specified as primary outcomes a number of variables that measure (i) contact with conscripts from other regions, (ii) sympathy and trust towards the region of service, and (iii) shared national identity. We also list as secondary outcomes several variables measuring policy preferences. This analysis plan was posted prior to the launch of the main survey in late January 2020. We closely follow the pre-analysis plan, and mention any deviations from it (see Online Appendix B).

**SAMPLE RESTRICTIONS AND SAMPLE SIZE.** — Following our pre-specified plan, we restrict our sample in several ways. First, we explicitly ask all of our respondents whether they participated in the draft lottery and we exclude them otherwise. This restriction affects individuals exempted from military service, who volunteered for the professional military service or the university militia, or who opted for the social service before the draft. Second, given that in 1992 the assignment mechanism started to take into account conscripts' preferences, we restrict our analysis to respondents who entered the lottery in 1991 or before. Third, we also exclude respondents whose father worked in the military as we were concerned that this personal connection could potentially undermine the lottery. Finally, we exclude from the analysis respondents who provide inconsistent answers.<sup>16</sup> After all exclusions, we have a total pooled sample size of 3,231 observations.

Our sample also includes individuals who participated in the draft lottery but, after the draw, decided to instead complete the social service (around 3 percent of the sample). In our analysis, we assign them their initial treatment. In this sense, our estimation identifies an intention-to-treat effect. Given the high degree of compliance, 97%, we report only the reduced form estimates.

<sup>15</sup>This information is available on the American Economic Association registry, <https://www.socialscienceregistry.org/trials/5350>.

<sup>16</sup>We measure people's province at age 17, their year of birth, and the region of their military service twice throughout the survey. We excluded individuals who provided inconsistent responses from the analysis.

**SURVEY DESIGN.** — In what follows, we provide details on the survey we conducted among former conscripts who participated in the military lottery. The key feature of our survey is that we directly elicit information about the outcome of the lottery as well as the outcome variables of interest. The full set of instructions is available in Online Appendix E.

**BACKGROUND INFORMATION ON DEMOGRAPHICS.** — We collect a basic set of demographics on cohort of birth, education, province of birth, province of residence at age 17, occupation and income. We also gather information about a series of pre-determined covariates, namely parental level of education, occupation, industry of work, and province of birth, the size of the municipality where the respondent grew up and the number of siblings.

**BACKGROUND INFORMATION ON MILITARY SERVICE.** — Respondents provide detailed information on their military service experience, including whether they completed the obligatory service, when they entered the draft lottery and when they started the service, in which provinces they served, and for how many months the service lasted. To measure geographical mobility during conscription we focus on the first destination to which conscripts were assigned, as posterior moves might be potentially endogenous. We also elicit individuals' perceived exposure to people from other regions of Spain and from different socioeconomic backgrounds during the service, and we ask them about the province of origin of their best friends during the service.

**GEOGRAPHIC MOBILITY.** — To measure people's geographic mobility, we ask people about their current locality of residence, and elicit whether they ever lived outside of their region of birth. Subsequently, we ask our respondents for how many years they lived outside of their region of birth. Finally, we also measure the age at which our respondents first moved outside of their parents' home.

**IDENTITY AND MORAL UNIVERSALISM.** — We ask a series of qualitative questions to measure people's national identity. We ask our respondents whether they (i) identify with Spain or their local region, (ii) are proud to be Spanish, and (iii) how they feel when they see the Spanish flag. In order to be able to assess the representativeness of the sample, for these three questions we use the same phrasing that it is regularly used by the Spanish Center for Sociological Research (CIS) which has been widely used in social science research, see for example Bagues and Esteve-Volart (2016).

We measure our respondents' group loyalty using a validated hypothetical question. Following Enke, Rodriguez-Padilla and Zimmermann (2021), we ask our respondents to split 100 Euros between a randomly chosen person from

Spain and a randomly chosen person from their province of origin. We also measure feelings and beliefs vis-a-vis people from the different regions of Spain. First, we measure people's feelings of sympathy towards people of all 17 different regions of Spain using a qualitative response scale ranging from 0 to 10. Second, we measure beliefs about the honesty of people from different cities in Spain, leveraging the experiments conducted by Cohn et al. (2019) as a benchmark. We provide our respondents with the following instructions:

In a recent study, researchers tried to measure the honesty of the inhabitants of several cities in the following way. The researchers dropped wallets in the streets of these cities and they measured the probability that the wallets would be returned to their owners. Each wallet contained 20 euros and a business card with the owner's email. What fraction of these wallets do you think were returned in each of the following cities?

We measure people's beliefs about the fraction of returned wallets in 17 different major cities in Spain, 11 of which were actually used in the study by Cohn et al. (2019). We elicit beliefs using a 5 point response scale ranging from (1) almost none (<20%) to (5) (Almost all (>80%). We use a qualitative response scale with a quantitative meaning in order to reduce the cognitive burden for participants. Finally, we ask our respondents to assess cultural differences between people from their origin region and people from all other regions in Spain.

**POLICY PREFERENCES.** — We consider several measures of policy preferences as secondary outcomes. First, we elicit people's perception of whether regional redistribution is too high, too low or about right. Then, we measure people's support for introducing a 1-month compulsory military service in Spain. We also elicit people's support for a scholarship program which provides Spanish students with the possibility of moving to a different region of Spain. Turning to more general political ideology, we examine people's self-placement on a conservative-liberal scale, their self-reported past voting behavior, their views on whether an Independence referendum for Catalonia should be considered, and their assessment of whether regional autonomy has rather positive effects or rather negative effects.

**ORDERING OF QUESTIONS.** — We asked respondents about their military service at the very beginning of the survey and excluded anybody who had not participated in the draft lottery. This ordering of questions allowed us to maximize the number of valid participants, but it might have potentially primed respondents to think about their military service and where they served. While we cannot discard that the ordering might have contributed to the effects we observe in the paper, the literature on priming effects in psychology and economics suggests

that these effect sizes are likely to be modest (Andre et al., 2022; Hagger et al., 2010; Newell and Shanks, 2014).

**SUMMARY STATISTICS.** — Table A1 displays the summary statistics for the main variables in our sample. The average respondent is 59 years old and started his compulsory military service in 1982. Figure A2 illustrates the fraction of conscripts across year of birth (Panel A) and across years of entering the military lottery. The figure shows that most of the respondents in our sample were born between 1960 and 1971, and that correspondingly most respondents entered the military lottery between 1980 and 1991. In terms of socio-economic background, 72 percent of our respondents completed high school, 36 percent originate from a municipality with less than 50,000 inhabitants, and on average they had 2.5 siblings at age 17. In around two thirds of cases, our respondents' parents were also born in the same region, and less than one fourth of them had completed high school or equivalent studies.

Around 34 percent of respondents were assigned to serve in their home region. As shown in Figure A3, the fraction of conscripts staying in the home region varies between 10% and 70% across regions. The probability of serving in the home region was higher for conscripts from regions with higher strategic military importance, such as the Canary and Balearic Islands.

**REPRESENTATIVENESS OF THE SAMPLE.** — Individuals who participate in online panels as the one used here may be selected in a number of ways. To assess the representativeness of our sample, we compare it with a nationally representative survey conducted in 2015 by the Spanish Center for Sociological Research (CIS) which contains information on former conscripts. In particular, we focus on the subsample of male respondents in the CIS survey who completed the compulsory military service and belong to the same cohorts as individuals in our sample, i.e. people born before 1973. In column 7 of Table A1, we report the difference between the two samples, conditional on year of birth fixed effects. Individuals in both samples have similar education attainment and labor force participation, but participants in our survey report slightly higher levels of employment and substantially higher income levels. Both samples are remarkably similar in terms of their ideology and national identity. We do not observe any significant differences in their self-reported position in an ideology scale measured from 1 to 10, or in any of the identity measures considered in our survey: attachment to Spain, pride of being Spanish or emotions towards the Spanish flag (see also Figure A4). The similarity between the two samples suggests that our sample of conscripts is broadly representative of the underlying population of all conscripts in Spain in terms of their national identity.

**DISTRIBUTION OF SAMPLE ACROSS CLUSTERS OF RANDOMIZATION.** — To understand the sources of identifying variation induced by the lottery it is useful to examine

how observations are distributed across province  $\times$  year of lottery groups. There are 849 province  $\times$  year of lottery groups, with an average of 14 observations per cluster and a median equal to 6. There are approximately 10 percent of clusters with only 1 observation which, in practice, do not play any role in our main specifications due to the presence of fixed effects at the level of randomization.

#### *B. Administrative Data*

We also use the Spanish 2011 Census to shed additional light on the effects of completing the military service in a different region on the long-run probability of living outside the region of birth and marrying somebody from another region. The publicly available Census microdata includes 10% of the Spanish population. We focus on men born between September 1968 and December 1973 ( $N=141,091$ ). As we explain in more detail in Online Appendix D, we use information from the draft lottery in the years 1987-1991 to infer the location where these individuals have served. At the time of the census, around 15% of the sample lived outside their region of birth and 23% had a spouse born in another region.

### **IV. Mechanisms and Hypotheses**

In this section, we delineate mechanisms through which completion of the military service outside of the home region may affect inter-regional sympathies and the formation of a shared identity.

**EFFECTS ON INTER-REGIONAL SYMPATHIES.** — Assignment to complete military service outside of the home region likely increases people's exposure to people from other regions. This concerns both exposure to fellow conscripts from other regions as well as civilians from other regions. According to the contact hypothesis, contact with conscripts from different regions is likely to strengthen interregional sympathies, as the contact situation involves equal status between the groups, common goals and cooperation (Allport, Clark and Pettigrew, 1954; Lowe, 2021).<sup>17</sup>

Contact may also correct biased beliefs by increasing information available about people from other regions. On top of these mechanisms, which rely on interpersonal contact, there could also be direct effects of spending time in a different region on people's sympathy for that region. For example, it could be that exposure to a region's culture (e.g. the food and customs) directly increases people's sympathies for that region. Taken together, these mechanisms suggest that completing the military service outside of the home region likely increases inter-regional sympathies.

<sup>17</sup>Given that the nature of interactions with civilians may not always involve equal status between the groups, common goals and cooperation it is harder to make predictions about the effect of these interactions.

EFFECTS ON A SHARED IDENTITY. — By increasing sympathy and reducing intergroup biases, interregional contact may help to increase the extent to which individuals from different regions share a common identity. On the other hand, differences between one's own identity and others' identity might also become more salient in response to contact with dissimilar others (Tajfel et al., 1979), thereby, decreasing a sense of shared identity. Thus, the effect of contact on the formation of a shared identity is ambiguous.

HETEROGENEITY BY PERIPHERAL NATIONALISM. — Spain has historically experienced strong regional nationalistic movements and there is a large degree of heterogeneity in the extent to which people from different geographical areas identify with their region of origin and with their nation. Serving in a different region might affect conscripts who originate from areas with peripheral nationalism differently for several reasons. Since they are likely to have a lower degree of attachment to Spain prior to service, there is more room for the treatment to have a positive impact. Furthermore, conscripts from areas that traditionally feel less attached to Spain may also differ in their prior beliefs about other regions in the country, and might therefore be more affected by the acquisition of new information. Finally, these conscripts may be potentially less inclined to interact with people from other regions when they serve in their home region. Serving in a different region may, therefore, have a larger impact on their exposure to conscripts from other regions.

We explore the heterogeneity of the effect in several ways. First, we divide regions in two groups according to the strength of peripheral nationalism. We define the Basque Country, Navarre, Catalonia, Galicia, and the Balearic Islands as regions with peripheral nationalism. These regions have a local language which has full official status alongside Spanish, they have historically had the strongest regional nationalistic movements and, according to survey information, these are the regions where the share of individuals who report being very proud of being Spanish is lowest (see Table A2).<sup>18,19</sup> Given that in our pre-analysis plan we did not pre-specify the analysis of heterogeneous treatment effects, we also verify that our results are robust to using a variety of alternative definitions for regions with peripheral nationalism.

Second, we exploit variation in the degree of attachment to Spain within regions to study heterogeneity. For instance, individuals born in regions with strong peripheral nationalism whose parents originate from other Spanish regions tend to have a higher attachment to Spain. We estimate a predictive model of attachment to Spain at the individual level using only information from respondents in the control group. Parental background characteristics, the size of

<sup>18</sup>Source: Authors' calculation using information from CIS surveys 2234, 2277, 2317, 2379, 2447, 2592, 2680, 2825, 2912, 2998, 3110.

<sup>19</sup>There is also a co-official local language in the Valencian Community, but in this region the share of people who feel proud of being Spanish is higher than average (see Table A2).

the municipality of our respondent and their year of birth have predictive power for identification with Spain for respondents from areas with peripheral nationalism.<sup>20</sup>

Table A2 also shows that regions with peripheral nationalism are also different from other Spanish regions in a number of other ways. For example, GDP per capita is relatively high in regions with peripheral nationalism and above the average of Spain except for Galicia. Regions with peripheral nationalism vary substantially in their population size: for example, Catalonia is one of the Spanish regions with the highest population size, while Navarre and the Balearic islands are regions with a relatively small population size.<sup>21</sup>

## V. Empirical Analysis

We begin this section by describing our main empirical specification. Then, we provide evidence on the integrity of the randomization. Subsequently, we examine the effect of the treatment on contact, preferences and national identity. We then shed light on mechanisms and analyse the effects on policy preferences. Finally, we estimate the overall effect of conscription, using a sample of individuals who were randomly exempted from service as a control group.

### A. Empirical Specification

We estimate how serving in a different region affects respondent  $i$ , who was drafted in the lottery conducted in province  $p$  and year  $t$ . Since the randomization was conducted each year at the province level, our main specification includes fixed effects for the cells formed by interacting year of lottery and providence of residence at age 17 ( $\phi_{t,p}$ ).<sup>22,23</sup> Following our pre-specified design, we also include a vector of pre-determined control variables,  $X_i$  (number of siblings, population size of residence where the respondent grew up, education level of father, education level of mother, province of birth of mother, province of birth of father).<sup>24</sup> Our main specification of interest is thus given as follows:

$$(1) \quad y_{i,t,p} = \beta \text{Treatment}_i + \Pi X_i + \phi_{t,p} + \varepsilon_{i,t,p}$$

where  $y_{i,t,p}$  is the outcome variable (e.g. contact, beliefs, preferences and people's identity) and the variable  $\text{Treatment}_i$  takes value one if the respondent was as-

<sup>20</sup>In Online Appendix C, we provide details on the exact prediction model that we estimate.

<sup>21</sup>In unreported regressions, we show that there are no detectable heterogeneous treatment effects by one's origin region's population size or the difference in GDP per capita between the destination and origin region.

<sup>22</sup>In the pre-analysis plan we had erroneously specified controlling for cohort fixed effects, which do not necessarily coincide with the year of lottery ones. The results are barely different when using cohort rather than year of lottery fixed effects.

<sup>23</sup>In a pre-specified robustness check, we instead control separately for year of lottery entry fixed effects,  $\phi_c$ , and province of origin fixed effects,  $\eta_p$ . As shown in Tables A3, A4, A5 and A6, results are not sensitive to the use of this less conservative set of fixed effects.

<sup>24</sup>Our results are virtually unchanged if we do not include these controls.



signed to complete military service outside of his region of residence, and value zero if he was assigned to complete the service in the home region. Throughout our analysis, we cluster standard errors,  $\varepsilon_{i,t,p}$ , at the level of randomization. We estimate this equation using ordinary least squares.<sup>25</sup>

### B. Integrity of Randomization

We check whether respondents randomly assigned to do their military service outside of their region of residence and those assigned to serve in their region of residence are similar in terms of a pre-specified set of predetermined variables (number of siblings, population size of residence where the respondent grew up, education level of father, education level of mother, region of birth of mother, region of birth of father). We estimate equation (1) using this set of pre-determined variables as outcome variables, without any controls other than fixed effects for the cells formed by interacting year of lottery and providence of residence at age 17. Table 1 provides evidence in favor of the integrity of the randomization. None of the 18 pre-specified outcomes in the balance test is significant at the 5% level. A joint F-test when regressing the treatment indicator on all covariates conditional on the fixed effects also confirms balance ( $p = 0.58$ ).<sup>26</sup> Tables A7 and A8 provide evidence of balance for the subsample of respondents originating from regions with peripheral nationalism and those from other regions. Taken together, the balance test suggests that the lottery was indeed random, and that the treatment did not affect selection into the survey.

### C. Contact with Conscripts from other Regions

First, we examine the aggregate data graphically. As shown in Figure A5, conscripts serving outside of their home region are more likely to report that they served with conscripts from other regions. For conscripts serving in their home region, around 35 percent of fellow conscripts also originate from their own region, compared to only 5 percent for conscripts serving outside of their home region.

Given that the probability of serving away varies across provinces, we use equation 1 to estimate the causal impact of serving in a different region on the geographical origins of peers during conscription. As shown in Panel A of Table 2, column 1, the treatment increases the fraction of fellow conscripts who are not from the home region by 37 percentage points ( $s.e. = 0.01$ ) relative to an average baseline of 55 percent of conscripts who are not from the home region in our sample. Moreover, the treatment increases friendships with fellow conscripts from other provinces ( $\beta=0.30\sigma$ ,  $s.e. = 0.06$ ), the perceived regional diversity of

<sup>25</sup>Results are robust to using ordered models, such as ordered logit.

<sup>26</sup>Table A3 confirms the conclusion on the integrity of randomization controlling for year of lottery entry and province of residence at age 17 separately instead of controlling for the interaction of these fixed effects.

fellow conscripts ( $\beta=0.35\sigma$ ,  $s.e. = 0.07$ ) as well as their perceived socioeconomic diversity ( $\beta=0.17\sigma$ ,  $s.e. = 0.07$ , see Table A9).

Panel B sheds light on the heterogeneity of the effect by whether respondents lived in a region with peripheral nationalism, and Panel C leverages additional background information to predict people's identification with Spain. Serving outside of the home region increases the fraction of fellow conscripts who are not from the home region more strongly for respondents originating from regions with peripheral nationalism. While for treated conscripts from areas without strong peripheral nationalist movements the fraction of fellow conscripts from the home region increases by 32 percentage points ( $p < 0.01$ ), this fraction increases to 46 percentage points for conscripts originating from regions with strong peripheral nationalism ( $p < 0.01$ ).

Similarly, as shown in column 4, respondents tend to report that they had a more intense contact with people from other regions during their service if they served away from their home region and this effect is significantly stronger for respondents from regions with secessionist movements (Panel B) and for individuals with background characteristics predictive of weak identification with Spain (Panel C). Indeed, while perceived exposure to people from other regions increases by 0.69 of a standard deviation for conscripts originating from regions with peripheral nationalism ( $p < 0.01$ ), it only increases perceived exposure to people from other regions by 0.16 of a standard deviation for conscripts originating from other regions ( $p = 0.05$ ). Treated conscripts originating from regions with peripheral nationalism also report having 0.37 more friends from other provinces, but this effect is not statistically different compared to treated conscripts from other regions. Our first main result is given as follows:

**RESULT 1:** *Our evidence highlights that individuals serving in other regions were more exposed to conscripts with a different geographical background. These treatment effects are stronger for conscripts originating from regions with peripheral nationalism.*

In the next subsections, we examine how the treatment changes beliefs, preferences, as well as positive sentiments towards Spain.

#### D. Sympathy and Trust

**REGION OF SERVICE.** — We next investigate how individuals rate their sentiments towards the region where they served compared to other regions. In this specification, we exploit information on people's sympathy towards all 17 regions of Spain and also on perceived honesty. We estimate the following equation:

(2)

$$\text{sentiment}_{irs} = \alpha_i + \beta \text{serveinregion}_{is} + \text{regionresidence17}_r \times \text{regionrated}_s + \varepsilon_{irs}$$

where  $\text{sentiment}_{irs}$  indicates how individual  $i$ , who originates from region  $r$ , rates his sentiment towards the region  $s$ ; and  $\text{serveinregion}_{is}$  takes value one if individual  $i$  served in region  $s$ . We include individual level fixed effects,  $\alpha_i$ , and a set of dummies for interactions between region of origin and the region being rated ( $\text{regionresidence17}_r \times \text{regionrated}_s$ ), to control for the possibility that individuals from some regions have a preference for certain other regions.

Given the collaborative nature of contact during military service, the contact hypothesis predicts that exposure to people from the region of service should increase their sympathy towards those people (Allport, Clark and Pettigrew, 1954).<sup>27</sup> Table 3 displays small but significant increases in sympathy towards people from the region where our respondents were randomly assigned to serve ( $\beta=0.067\sigma$ ,  $s.e. = 0.015$ ). Similarly, we uncover small and marginally significant increases in the perceived honesty of people from the region of military service ( $\beta=0.029\sigma$ ,  $s.e. = 0.015$ ). These results are also reflected in an increase in the index summarising the results of these two variables ( $p < 0.01$ ).

Next, we examine whether this effect is stronger for individuals from areas with peripheral nationalistic movements (Panel B) and for individuals with lower predicted identification with Spain (Panel C). These two groups tend to have, in the absence of the treatment, a lower sympathy towards people from other regions of Spain and, as shown above, they experience a stronger increase in their exposure to individuals from other regions when they serve outside from their home region. Therefore, it is particularly interesting whether they develop more positive feelings towards people from other regions. There appear to be stronger effects on sympathy towards people from the region of service both for respondents from nationalistic regions and respondents with characteristics predictive of weak identification with Spain, suggesting that intergroup contact was particularly effective in fostering interregional sympathies for people with low attachment to Spain. Our second main result can be summarized as follows:

**RESULT 2:** *In support of the contact hypothesis, we document increases in sympathy towards people from the region of service, several decades after the completion of the service. This effect appears stronger for individuals from regions with strong peripheral nationalistic movements.*

**OTHER REGIONS IN SPAIN.** — So far we have analyzed how the treatment affected sympathy towards the region of service, compared to other regions. Next, we study whether the increases in sympathy also extend to other regions of Spain. Using specification (1) from Section V.C, we examine the impact on generosity, sympathy and trust towards other regions. As shown in Table A10, estimates tend to be positive but statistically insignificant. When respondents were asked how they would split 100 Euros between a randomly chosen person from Spain

<sup>27</sup>The impact of contact on perceived trustworthiness is less straightforward as exposure to people from a region that are in fact not trustworthy may make this apparent to conscripts.

and a randomly chosen person from their own province, individuals in the treatment group express a slightly higher but insignificant willingness to share more with people from other regions of Spain. Similarly, treated conscripts have somewhat higher sympathy towards people from other regions of Spain and they perceive them to be more honest, but none of these effects is significant. Panels B and C of Table A10 show somewhat stronger effects of the treatment for people originating from regions with peripheral nationalism, but those are only significant for average sympathy towards all other regions of Spain ( $\beta=0.23\sigma$ ,  $s.e. = 0.11$ ).

We also leverage data on perceived cultural differences between people from our respondent's region of origin and people from all other regions in Spain to shed light on theories of social identity. These theories posit that differences between one's own identity and others' identity become more salient in response to contact with dissimilar others (Sherif, 1961; Tajfel, 1982; Tajfel et al., 1979). While our estimates of treatment effects on beliefs about cultural similarity directionally support the predictions of these theories, they are muted and not statistically significant.

#### *E. National Identity*

We next examine whether the treatment affected identification with Spain using specification (1) from Section V.C. As shown in Panel A of Table 4, we observe small and muted average treatment effects on identification with Spain, which we measure using three different questions: (i) attachment to Spain compared to the home region, (ii) pride in being Spanish, and (iii) positive emotions vis-a-vis the Spanish flag.

However, these average effects mask substantial heterogeneity in treatment effects by the respondents' geographic origins. Figure 1 and Panel B of Table 4 illustrate treatment effect heterogeneity by whether the conscripts originate from a region with strong peripheral nationalistic movements. Treated conscripts from regions with peripheral nationalism are more attached to Spain ( $\beta=0.23\sigma$ ,  $s.e. = 0.09$ ), are more proud to be Spanish ( $\beta=0.21\sigma$ ,  $s.e. = 0.11$ ), have somewhat more positive emotions vis-a-vis the Spanish flag ( $\beta=0.15\sigma$ ,  $s.e. = 0.11$ ) and have a higher index of identification with Spain ( $\beta=0.22\sigma$ ,  $s.e. = 0.10$ ) more than 25 years after completing the service. Given that the standard deviation of our outcome measures is approximately 1, our treatment effect estimates imply that around 20 percent of treated conscripts from regions with peripheral nationalism increased their identification with Spain by one point on the five point likert scale.<sup>28</sup> In contrast, the impact is close to zero and not significant for conscripts originating from other regions. These results are robust to using a variety of alternative definitions for regions with peripheral nationalism (see Table A11).

<sup>28</sup>The magnitude of the effect is substantial compared to existing studies on the determinants of attachment to Spain. For example, Clots-Figueras and Masella (2013) show that an additional year of exposure to teaching in Catalan decreases attachment to Spain by approximately 0.07 of a standard deviation.

Figure 2 illustrates the distribution of identification with Spain for conscripts from the treatment and control group separately depending on whether respondents originated from a region with peripheral nationalism. The figure shows that the increase in identification with Spain is driven by movements in the upper part of the distribution among conscripts originating from regions with secessionist movements, suggesting that the treatment rather increased positive sentiments towards Spain rather than decreasing negative sentiments.<sup>29</sup>

Panel C of Table 4 confirms these patterns using our continuous measure of predicted identification with Spain at the individual level. Serving in a different region has a stronger positive impact on the index of identification with Spain for individuals who, based on their pre-determined characteristics, were less likely to have a strong Spanish identity ( $p = 0.019$ ). Figure 3 graphically illustrates the heterogeneity in treatment effects by people's predicted strength of identification with Spain using a somewhat more non-parametric approach. The figure displays residuals for respondents' national identity index as well as predicted identification with Spain separately for respondents randomly assigned to complete military service in the home region and outside of the home region. Residuals are obtained by separately regressing the variables on year of lottery and province of residence at age 17 fixed effects.<sup>30</sup> The figure highlights that the slope between residualized predicted identification with Spain and the residualized index of identification with Spain is less steep for respondents in the treatment group. Most importantly, the fitted quadratic regression line for conscripts in the treatment group is significantly above the fitted quadratic regression line for conscripts in the control group when predicted identification with Spain is low.

Overall, the evidence suggests that intergroup exposure in early adulthood can have long-lasting and persistent effects on the formation of a shared national identity. In principle, the observed pattern might reflect a decrease in identification with the region of origin and/or an increase in identification with Spain. We use the different content of the identity questions to differentiate between these alternative mechanisms. While the question on attachment explicitly measures a tradeoff between regional identity and national identity, the other two measures, which capture emotions towards the Spanish flag and pride in being Spanish, do not involve a trade-off. Given that we observe relatively similar effect sizes for our three different measures of identification with Spain, these results suggest that there is an increase in identification with Spain, and there is no evidence of a decrease in identification with the own region. Figure A6 corroborates this conjecture by showing that across our three measures of identification, the treatment effects are mostly driven by movement in the upper part of the distribution of

<sup>29</sup> An alternative interpretation of this treatment effect heterogeneity is that the treatment was more effective on those that were more pliable.

<sup>30</sup> Additionally partialling out our pre-specified set of control variables leaves the results virtually unchanged.

our measures, suggesting that the treatment increases positive emotions towards Spain rather than decreasing negative emotions. Our third main result can thus be summarized as follows:

**RESULT 3:** *The treatment strongly increases identification with Spain for respondents originating from regions with peripheral nationalism. The impact is close to zero and insignificant for conscripts originating from other regions.*

#### F. Mechanisms

On top of the direct effects of exposure to a different region as well as the effects of intergroup exposure, other mechanisms could be at play. In this section, we consider two main alternative mechanisms. First, we explore whether the impact is driven by some specific location of the service. Then, we examine the role of geographic mobility as well as economic mechanisms that could be driving treatment effects on identity.

##### HETEROGENEITY BY LOCATION OF SERVICE. —

**ASSIGNMENT TO PARTICULAR REGIONS.** — One possibility could be that our estimated effects do not pick up the effect of doing the service outside of the home region, but instead reflect that serving in a particular region with certain characteristics affects identity. In order to test for this alternative interpretation of our main effects, we re-estimate equation 1 including also region of service fixed effects. Tables A12, A13 and A14 reveal that our results are barely changed when we include this additional set of fixed effects.<sup>31</sup> If anything, some patterns of heterogeneity become even more pronounced in this alternative specification.

**ASSIGNMENT TO REGIONS WITH PERIPHERAL NATIONALISM.** — How does the exact destination of military service affect identification with Spain? One possible mechanism for the heterogeneity in treatment effects uncovered in Section 5.5, is that being assigned to complete the service in a region with peripheral nationalism per se reduces identification with Spain, resulting from the experience of living in such a location. Table A15 shows results comparing individuals randomly assigned to complete the service in a region with peripheral nationalism, individuals assigned to a region without peripheral nationalism as well as individuals assigned to their home region. We use the same set of controls, and fixed effects as in specification (1). For ease of interpretation, we show these results separately for conscripts originating from a region with peripheral nationalism (Panel A) and for conscripts from other regions (Panel B). In both cases,

<sup>31</sup>A joint F-test of significance for the region of service fixed effects for all regions of service with at least 10 conscripts in our sample yields a p-value of 0.35, and thus confirms our conclusion.

the impact of being assigned to a region with peripheral nationalism and of being assigned to a region without peripheral nationalism are statistically indistinguishable, suggesting that differences in characteristics between regions with and without peripheral nationalism did not play a significant role in shaping identification with Spain.

**CULTURAL SIMILARITY.** — The heterogeneity in effects among those assigned outside of their home region could be due to cultural differences between the conscripts' region of origin and the region of military service. We leverage data which allows us to quantify average perceived cultural differences between the respondents' home regions and their regions of destination.<sup>32</sup> For each pair of home region and region of service, we construct a measure of perceived cultural similarities.<sup>33</sup> We use this measure to assess whether perceived cultural differences shaped the contact experience during the service, beliefs, preferences as well as the formation of a national identity.

Figure A7 examines the potential mediating effect of cultural similarity between the region of service and the origin region. For ease of exposition and to explore potential non-linearities, we employ a non-parametric approach using local polynomial regressions with residuals of our outcomes and residuals of predicted cultural similarity of the origin region and region of service.<sup>34</sup> The upper panel of Figure A7) shows a significant and negative relationship between cultural similarity and exposure to people from other regions ( $p < 0.01$ ). Conscripts assigned to regions with higher cultural similarity report being more exposed to people from different regions. The middle panel and lower panel show analogous non-parametric results for residualized perceived similarity and the national identification index. Largely, these panels reveal no strong relationship between predicted cultural similarity and perceived similarity and identification with Spain. These findings suggest that the cultural similarity of fellow conscripts did not play an important role in shaping the treatment effects on national identity.

**LONG-RUN EFFECTS ON MOBILITY AND ECONOMIC CONDITIONS.** —

**GEOGRAPHICAL MOBILITY.** — One mechanism by which serving in another region could affect national identity is through its effect on geographical mobility. First, we examine the impact of the treatment on the likelihood of ever living

<sup>32</sup>To create this measure we use the perceived cultural similarity reported by respondents in the control group based on the following question: "In cultural terms, how much would you say the region in which you were born is similar to the following regions?"

<sup>33</sup>We collected this data for all regions except for Ceuta and Melilla as those only constitute less than 0.4% of the Spanish population and we wanted to save survey time to avoid fatigue. This explains the somewhat smaller sample sizes for this empirical exercise.

<sup>34</sup>Residuals are obtained by partialling out fixed effects for the level of randomization.

outside of the region of origin, including the compulsory military service spell. As shown in Panel A of Table 2, individuals who served in a different region are 53 percentage points ( $p < 0.01$ ) more likely to have lived outside of their region of origin at some point of their life. This result indicates that around half of the individuals who served outside of their home region would have never lived in a different region if it was not for the military service experience.

Short-run mobility could affect identity through its long-run effects on living away from the home region. While most people return to their home region after the completion of military service, Table A9 reveals that the likelihood of living in a different region than at age 17 is marginally significantly higher among respondents in the treatment group by 4 percentage points ( $p = 0.06$ ), indicating that there might be small long-run effects on mobility, though still most people eventually return to their home region. Table A16 provides evidence that our main results are robust to controlling for the region of residence at the time of the survey, suggesting that the small changes in mobility are unlikely to be an important driver of treatment effects on identification with Spain. In Online Appendix D we confirm the muted impact on long-run mobility using administrative data on males born between 1968 and 1973 and an alternative identification strategy. Using this data we also find that the treatment does not have a significant impact on the probability of having a partner who was born in a different region. This evidence supports the idea that our treatment only shifted people's exposure to people from a different region temporarily.

**ECONOMIC MECHANISMS.** — An additional set of potential explanations involves economic mechanisms. Leaving the home region could have opened up new labor market opportunities, and thereby increased income and employment. We find little evidence that the treatment increases current income or labor market participation (Table A9). Moreover, as shown in Table A16, our main results and the heterogeneous effects by predicted identification with Spain are robust to controlling for the respondents' current income, and employment status, which provides suggestive evidence against the relevance of economic mechanisms.

### G. Policy Views

Finally, we examine whether the treatment effects on identity also translate into effects on policy preferences. This set of outcomes had been specified as a secondary one in the pre-analysis. Panel A of Table A17 provides evidence of muted treatment effects on policy preferences, such as support for regional redistribution, being in favour of an Independence Referendum for Catalonia, and ideology as measured on a 10-point left-wing right-wing scale. Panels B and C of this table show that there is only little heterogeneity depending on the predicted extent of identification with Spain. Panel A of Table A18 similarly shows only very muted treatment effects on turnout, voting for regionalist parties that



promote local autonomy, and voting behavior more generally as measured by voting choices in the November 2019 election. Panels B and C of Table A18 show relatively muted heterogeneity, except for a large increase in turnout for respondents assigned to complete their service outside of their home region with background characteristics predictive of weak identification with Spain. Taken together, our evidence suggests only muted treatment effects on policy preferences and political behavior.

#### *H. Causal Effects of Completing Military Service*

To shed further light on mechanisms, we next examine the effects of completing military service per se and in particular in the home region as opposed to not completing military service at all. Understanding the effect of completing military service per se is also important from a policy perspective.

**EMPIRICAL STRATEGY.** — To assess the overall effects of completing military service, we incorporate to our database information from 387 respondents (approximately 10% of the overall sample) who were randomly exempted from the service in the military lottery. We leverage the same set of controls, and fixed effects as in specification (1).<sup>35</sup> Table A19 confirms covariate balance.

**RESULTS.** — We also examine the effects of completing military service on measures of national identity. Given the small fraction of conscripts assigned not to do the service, our estimates from this section are less precisely estimated. While the effect size is above 0.10 for the index, these effect sizes are not statistically significant at conventional levels (Panel A of Table A20). Panel B shows that conscripts assigned to complete military service away from home are more proud to be Spanish ( $\beta=0.16\sigma$ ,  $s.e. = 0.08$ ), have somewhat more positive emotions towards the Spanish flag ( $\beta=0.14\sigma$ ,  $s.e. = 0.08$ ), and a somewhat higher index of identification with Spain ( $\beta=0.13\sigma$ ,  $s.e. = 0.08$ ) compared to those assigned not to do the service. For conscripts assigned to serve in the military at home, we see more muted average effects, which are closer to zero.

These average effects shroud important heterogeneities according to whether the respondent originated from a region with peripheral nationalism. While the estimates are noisy, we observe that respondents originating from regions with peripheral nationalism have a stronger Spanish identity if they served in a different region, compared to individuals who did not complete military service. Serving outside their region appears to increase their identification with Spain by  $0.20\sigma$ , ( $s.e. = 0.15$ ). The effects of completing the service at home, on the other hand, are close to zero, and even negative for some outcomes, such as

<sup>35</sup>This analysis was pre-specified on the AEA registry: <https://www.socialscisceregistry.org/trials/5349>.

attachment to Spain ( $\beta = -0.14\sigma$ ,  $s.e. = 0.16$ ), pride in being Spanish ( $\beta = -0.08\sigma$ ,  $s.e. = 0.16$ ) or the identification index ( $\beta = -0.06\sigma$ ,  $s.e. = 0.16$ ). This combination of positive and negative effects depending on the location suggests that the net impact of military service on national identity may vary depending on the share of people who serve in the home region and in other regions.

For respondents originating from regions without peripheral nationalism, the effects of military service on identification with Spain are close to 0.1 of a standard deviation irrespective of whether the service was completed outside of the home region.

Overall, our estimates using as a control group individuals who did not complete the military service indicate that the main way in which the military service may have affected national identity was related to the geographical mobility of conscripts.

## VI. Conclusion

We combine a natural experiment, the random assignment of male conscripts to different locations throughout Spain, with tailored survey data. Being randomly assigned to complete military service outside of one's region of residence strongly increased contact with people from other regions. Consistent with the predictions of the contact hypothesis (Allport, Clark and Pettigrew, 1954), these conscripts are more sympathetic towards people from the region of service, even several decades after the completion of the service. Serving outside of one's home region also increases identification with Spain for people originating from regions with peripheral nationalism.

Overall, our findings indicate that, by fostering interregional contact, the military service played an important role in strengthening conscripts' shared identity until its abolition. More generally, our results suggest that people's identification with the nation state is malleable and experiences during early adulthood can have long-lasting and persistent effects on people's formation of a shared national identity. Governments aiming to foster interregional cohesion might want to consider policies that facilitate interactions between individuals from different regions, such as those fostering mobility in higher education. These policies might be particularly relevant given the decline in interregional mobility experienced by many Western countries over the last few decades (Champion, Cooke and Shuttleworth, 2017; Molloy, Smith and Wozniak, 2011), which is likely to have reduced the interactions between individuals from different regions.<sup>36</sup>

<sup>36</sup>For instance, the share of Spaniards living in a different region has decreased dramatically in recent decades. While in 1991 25.3% of prime-age Spaniards were living outside of their region of birth, by 2019 this proportion had fallen to 15.1%. Source: Authors' calculation using information from the Census (Spanish Statistical Office).

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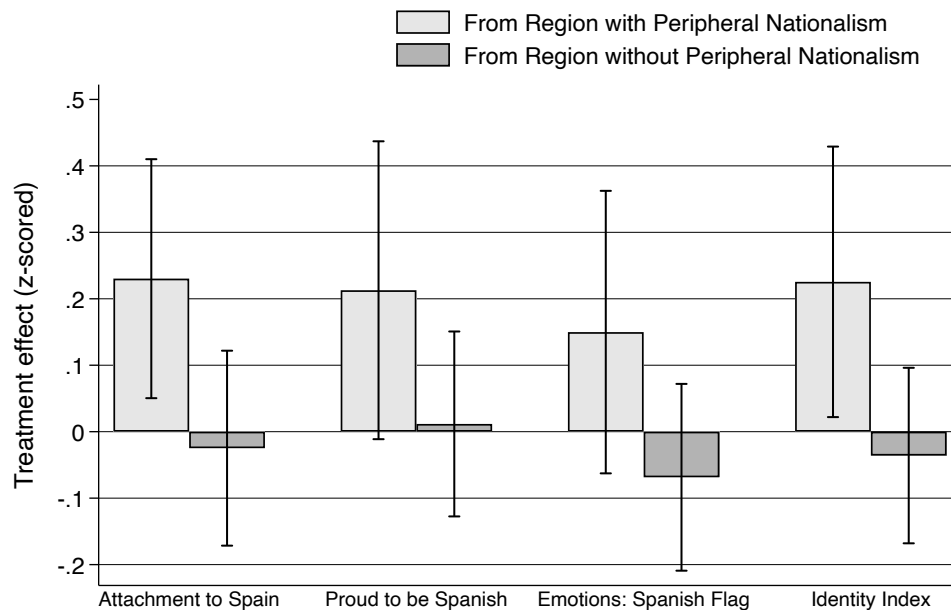
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## Main Figures and Tables

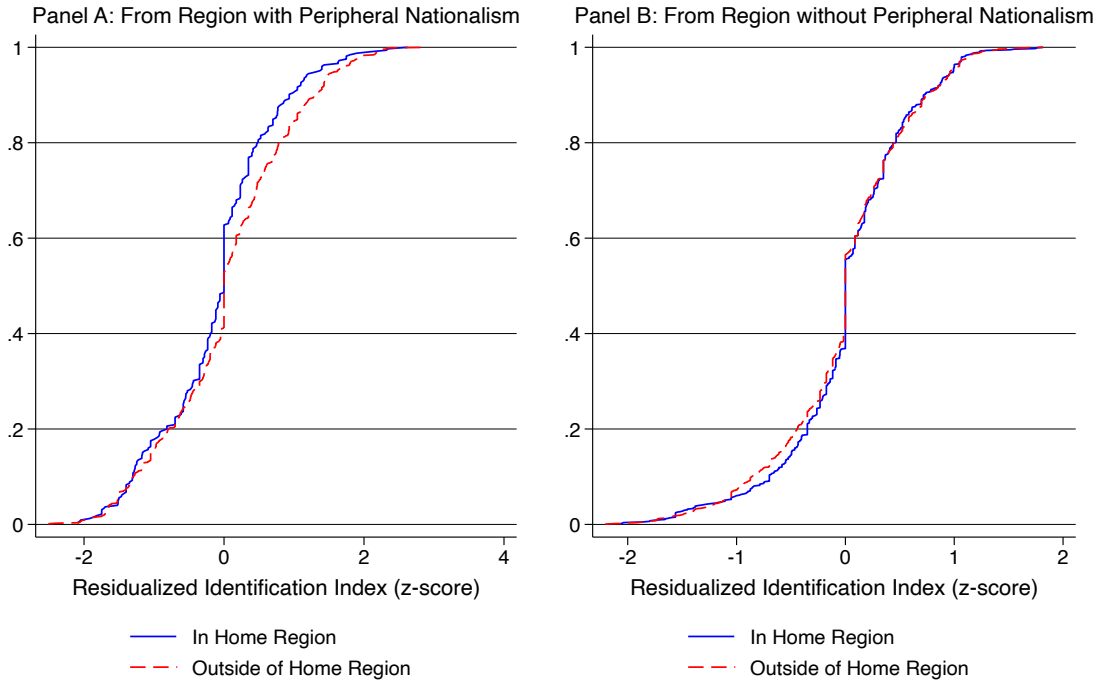
FIGURE 1. TREATMENT EFFECTS ON IDENTIFICATION WITH SPAIN BY REGION OF ORIGIN



*Notes:* This figure displays average treatment effects for respondents separately for respondents originating from a region with peripheral nationalism and from other regions. The figure also includes 95% confidence intervals. "Attachment to Spain" measures people's z-scored identification with Spain using a 5 point Likert scale ranging from (1) I feel only attached to my local region to (5) I feel only Spanish. "Proud to be Spanish" measures people's z-scored assessment of national pride ranging from (1) I am not at all proud to be Spanish to (5) I feel very proud to be Spanish. "Positive Emotions Spanish Flag" is a z-scored measure of emotions towards the Spanish flag on a scale ranging from (1) I experience very negative emotions to (5) I experience very positive emotions. "Identity Index" is a z-scored unweighted index of the three outcome variables. All specifications include fixed effects for the cells formed by interacting year of lottery and providence of residence at age 17. Moreover, our specification includes the following set of additional pre-specified controls: number of siblings, population size of residence where the respondent grew up, education level of father, education level of mother, province of birth of mother, province of birth of father.

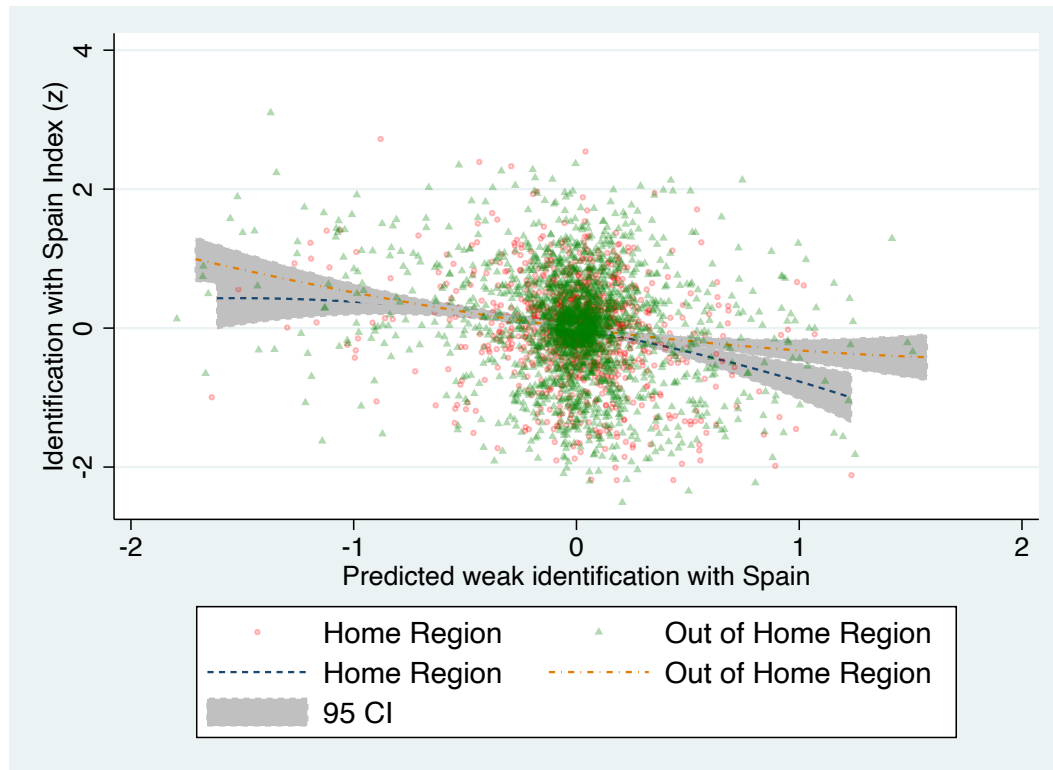


FIGURE 2. DISTRIBUTION OF TREATMENT EFFECTS ON IDENTIFICATION WITH SPAIN



*Notes:* This figure displays residuals for respondents' national identity index separately for respondents randomly assigned to complete military service in the home region and outside of the home region. Panel A shows results for respondents originating from a region with peripheral nationalism. Panel B shows results for respondents originating from a region without peripheral nationalism. Residuals are obtained by separately regressing the variables on the fixed effects for the cells formed by interacting year of lottery and providence of residence at age 17. The national identity index is defined by questions measuring whether respondents (i) identify with Spain or their local region, (ii) are proud to be Spanish, and (iii) how they feel when they see Spanish flag.

FIGURE 3. HETEROGENEOUS EFFECTS OF MILITARY SERVICE ASSIGNMENT BY PREDICTED IDENTIFICATION WITH SPAIN: NON-PARAMETRIC APPROACH



*Notes:* This figure displays residuals for respondents' national identity index as well as predicted weak identification with Spain separately for respondents randomly assigned to complete military service in the home region and outside of the home region. Residuals are obtained by separately regressing the variables on fixed effects for the cells formed by interacting year of lottery and providence of residence at age 17. The national identity index is defined by questions measuring whether respondents (i) identify with Spain or their local region, (ii) are proud to be Spanish, and (iii) how they feel when they see Spanish flag. We use the following variables on the right-hand-side to predict identification with Spain. First, we use a dummy whether the individual lived in a region with peripheral nationalism at age 17 (Basque Country, Balearic Islands, Catalunya, Navarre, and Galicia). On top of this, we use a series of background characteristics (whether the respondent was born in the same place as at age 17, whether the mother lived in the same place as where she was born, whether the father lived in the same place he was born, year of birth, whether the respondent graduated from high school, whether the respondent's father graduated from high school, whether the respondent's mother graduated from high school, whether the mother was in the labor force when the respondent was 17, whether the father was in the labor force when the respondent was 17) as well as interactions of these background characteristics with the dummy variable of whether the individual originates from a region with peripheral nationalism. For ease of interpretation, we reverse code this predicted identification with Spain. The red dots in the figure represent respondents randomly assigned to complete their military service in their home region, while the green dots represent respondents randomly assigned to complete their military service out of their home region. The dotted lines represent quadratic fits for these two groups of respondents.

TABLE 1—BALANCE CHECK

	Same region service	Diff. region service	P-value(High - Low)	Observations
Same Region at 17 as at birth	0.88	0.86	0.406	3231
High school graduate	0.70	0.73	0.480	3231
Number of siblings	2.50	2.49	0.166	3099
Small municipality (less than 50k)	0.32	0.38	0.698	2930
Same Region as Father's region of birth	0.67	0.61	0.552	3231
Father: Not in labor force	0.00	0.01	0.308	2727
High school graduate: father	0.25	0.24	0.910	3231
Father: agriculture	0.09	0.10	0.794	2727
Father: industrial	0.29	0.33	0.464	2727
Father: construction	0.14	0.15	0.761	2727
Father: service	0.31	0.28	0.605	2727
Same Region as Mothers's region of birth	0.69	0.62	0.764	3231
Mother: Not in labor force	0.52	0.55	0.816	2727
High school graduate: mother	0.12	0.13	0.583	3231
Mother: agriculture	0.03	0.03	0.762	2727
Mother: service	0.23	0.21	0.445	2727

*Notes:* This Table provides a balance check of pre-determined characteristics of our sample of males who entered the military service lottery in 1991 or before. The balance test includes fixed effects for the cells formed by interacting year of lottery and province of residence at age 17. Standard errors are clustered at the year of lottery-province level. The p-value of an F-test of joint significance is 0.97.

TABLE 2—EXPOSURE TO CONSCRIPTS FROM OTHER REGIONS

	Fraction Conscripts Other Regions	Friends other prov. (z)	Friends other prov. excl. prov. of mili (z)	Exposure to people from other regions (z)	Any year outside of Region	First Stage Index (z)
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Panel A: Main</b>						
Other region	0.367 (0.013)	0.299 (0.056)	0.265 (0.056)	0.347 (0.073)	0.525 (0.021)	0.802 (0.060)
<b>Panel B: Binary</b>						
Other region (a)	0.316 (0.008)	0.260 (0.066)	0.224 (0.066)	0.163 (0.084)	0.501 (0.027)	0.690 (0.068)
Other region $\times$ (b)	0.144 (0.023)	0.112 (0.110)	0.120 (0.110)	0.526 (0.132)	0.070 (0.044)	0.318 (0.112)
Peripheral Nationalism						
P-value (a+b)	0.000	0.000	0.000	0.000	0.000	0.000
<b>Panel C: Continuous</b>						
Other region (a)	0.366 (0.010)	0.298 (0.055)	0.264 (0.055)	0.344 (0.066)	0.524 (0.022)	0.799 (0.055)
Other region $\times$ (b)	0.063 (0.011)	0.066 (0.051)	0.068 (0.051)	0.225 (0.062)	0.099 (0.022)	0.211 (0.054)
Low identification with Spain						
Observations	3231	3138	3138	3138	3231	3138
Year Lottery FE $\times$ Province FE	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y

*Notes:* This Table provides reduced form evidence using our sample of males who entered the military service lottery in 1991 or before. Other Region is an indicator taking value 1 for respondents who were randomly assigned to complete military service outside of their region of residence and taking value zero for respondents randomly assigned to complete military service in their home region. “Peripheral Nationalism” is an indicator for respondents originating from regions with peripheral nationalist movements (Basque Country, Balearic Islands, Catalonia, Navarre, and Galicia). “Low identification with Spain” is the reverse-coded predicted identification with Spain index, as explained in detail in the footnote of Figure 3. “Fraction Conscripts Other Regions” is the average fraction of conscripts who are not from the home region in the region of service. “Friends other prov. (Z)” is z-scored a continuous variable on the number of provinces from which our respondents had friends during the military service. “Friends other prov. excl. prov. of mili (z)” is a z-scored continuous variable on the number of provinces from which our respondents had friends during the military service, excluding province of origin and of the military service. “Exposure to people from other regions (z)” is a z-scored measure of exposure to people from other regions during the military service, ranging from “not at all” to “very much.” “Any year outside of region” takes value one for respondents who spent at least one year outside of their province of birth. “First Stage Index (z)” is a z-scored unweighted index of all other outcomes from this table. All specifications include fixed effects for the cells formed by interacting year of lottery and providence of residence at age 17. Moreover, our specification includes the following set of additional pre-specified controls: number of siblings, population size of residence where the respondent grew up, education level of father, education level of mother, region of birth of mother, region of birth of father. Standard errors are clustered at the year of lottery-province level.

TABLE 3—EFFECTS ON SENTIMENT AND BELIEFS ABOUT REGION OF SERVICE

	Sentiment (z)	Trustworthiness (z)	Index (z)
	(1)	(2)	(3)
<b>Panel A: Main</b>			
Assigned to region	0.061 (0.014)	0.029 (0.012)	0.063 (0.014)
<b>Panel B: Binary</b>			
Assigned to region (a)	0.053 (0.017)	0.021 (0.016)	0.049 (0.017)
Assigned to region $\times$ (b) Peripheral Nationalism	0.023 (0.031)	0.022 (0.025)	0.037 (0.030)
P-value (a+b)	0.004	0.026	0.000
<b>Panel C: Continuous</b>			
Assigned to region (a)	0.060 (0.014)	0.029 (0.012)	0.061 (0.014)
Assigned to region $\times$ (b) Low identification with Spain	0.028 (0.015)	0.012 (0.012)	0.033 (0.014)
Observations	54927	46359	46359
Individual FE	Y	Y	Y
Region $\times$ Question Region FE	Y	Y	Y

*Notes:* This Table provides reduced form evidence using our sample of males who entered the military service lottery in 1991 or before. Assigned to Region is an indicator taking value 1 for respondents who were randomly assigned to complete military service in a given region of residence and zero otherwise. "Peripheral Nationalism" is an indicator for respondents originating from regions with peripheral nationalist movements (Basque Country, Balearic Islands, Catalonia, Navarre, and Galicia). "Low identification with Spain" is the reverse-coded predicted identification with Spain index, as explained in detail in the footnote of Figure 3. "Sentiment" is a z-scored measure of feelings of sympathy or antipathy towards the inhabitants of all 17 regions of Spain measured on a scale ranging from (0) "you like it not at all" to (10) "like it very much". "Trustworthiness" is a z-scored measure of beliefs about the fraction of dropped wallets returned for 17 cities from all 17 regions of Spain measured on a scale ranging from (1) almost none (<20%) to (5) Almost all (>80%). "Index" is an unweighted index of the other two outcomes. Our specification includes individual level fixed effects,  $\alpha_i$ , and interactions between region of residence at age 17 fixed effects,  $\text{region}_{17,i}$ , and question region-fixed effects,  $\delta_r$ . Standard errors are clustered at the province at age 17 level.

TABLE 4—EFFECTS ON IDENTIFICATION WITH SPAIN

	Attachment to Spain	Proud to be Spanish	Positive emotions Spanish flag	Identity Index
	(1)	(2)	(3)	(4)
<b>Panel A: Main</b>				
Other region	0.064 (0.060)	0.082 (0.061)	0.007 (0.060)	0.055 (0.058)
<b>Panel B: Binary</b>				
Other region (a)	-0.025 (0.075)	0.012 (0.071)	-0.069 (0.072)	-0.036 (0.067)
Other region $\times$ (b) Peripheral Nationalism	0.255 (0.117)	0.201 (0.135)	0.218 (0.131)	0.261 (0.124)
P-value (a+b)	0.012	0.063	0.167	0.030
<b>Panel C: Continuous</b>				
Other region (a)	0.058 (0.058)	0.076 (0.059)	0.003 (0.059)	0.049 (0.055)
Other region $\times$ (b) Low identification with Spain	0.089 (0.054)	0.103 (0.057)	0.129 (0.052)	0.125 (0.053)
Observations	3231	3231	3231	3231
Year Lottery FE $\times$ Province FE	Y	Y	Y	Y
Controls	Y	Y	Y	Y

*Notes:* This Table provides reduced form evidence using our sample of males who entered the military service lottery in 1991 or before. Other Region is an indicator taking value 1 for respondents who were randomly assigned to complete military service outside of their region of residence and taking value zero for respondents randomly assigned to complete military service in their home region. “Peripheral Nationalism” is an indicator for respondents originating from regions with peripheral nationalist movements (Basque Country, Balearic Islands, Catalonia , Navarre , and Galicia). “Low identification with Spain” is the reverse-coded predicted identification with Spain index, as explained in detail in the footnote of Figure 3. “Attachment to Spain” measures people’s z-scored identification with Spain using a 5 point Likert scale ranging from (1) I feel only attached to my local region to (5) I feel only Spanish. “Proud to be Spanish” measures people’s z-scored assessment of national pride ranging from (1) I am not at all proud to be Spanish to (5) I feel very proud to be Spanish. “Positive Emotions Spanish Flag” is a z-scored measure of emotions towards the Spanish flag on a scale ranging from (1) I experience very negative emotions to (5) I experience very positive emotions. “Identity Index” is a z-scored unweighted index of the three outcome variables. All specifications include fixed effects for the cells formed by interacting year of lottery and providence of residence at age 17. Moreover, our specification includes the following set of additional pre-specified controls: number of siblings, population size of residence where the respondent grew up, education level of father, education level of mother, province of birth of mother, province of birth of father. Standard errors are clustered at the year of lottery-province level.