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On the origins of national identity. German nation-building after Napoleon ☆

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ABSTRACT

What are the origins of national identity? We investigate the success of propaganda as one the first nation-building policies conducted in the German lands around 1815. To elicit identity changes at the level of individuals we use data on first names across German cities and villages. To validate the approach of using first names, we show that soldiers with national names had a higher likelihood to be honored for bravery during the German-French War. Exploiting unanticipated border changes together with variation within the same families over time, i.e., family fixed effects, we find that parents in treated cities responded by choosing national (rather than ruler) first names for their children. We do not find a corresponding increase in villages suggesting that national identity was more prevalent among the urban population, in particular the elite, during this period.

1. Introduction

Historians have long argued that the formation of national identities in the 19th century was about the creation of an altogether *new* type of social identity, the collective imagination of a national community (Anderson, 1983). Empirically, we know surprisingly little about why and how this new type of social identity emerged. Recent approaches in economics suggest the role of strategic elites in the process of nation-building (Alesina et al., 2020, 2021). However, we lack evidence whether the early nation-building by strategic elites actually worked.

In this paper, we investigate one of the first attempts at nation-building in the German lands, led by the Prussian government. Our starting point is the observation that political elites developed a strategic interest to foster national identities, once alternatives lost their legitimacy in the wake of 1789 (Schulze, 1985). While many other factors may have contributed to the formation of national identities, such as the spread of vernacular literacy or rising mobility, we focus on the effect of a nation-building policy implemented by strategically acting elites. We exploit unanticipated border changes after the Peace of Vienna and rely on within-family changes, i.e., family fixed effects, for causal identification. Using first names as indicators for social identities, we find that nation-building

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propaganda mattered strongly for the first notable rise of national identities around 1815 in cities of the German lands. We also provide some evidence that this effect was stronger for urban elites than for the "lower classes". In line with this, we do not find a corresponding increase in national identity in villages that became part of Prussia. Hence, the core contribution of this paper is to provide causal evidence at the individual level that nation-building policies of strategically operating elites mattered for the early spread of a German national identity around 1815.

Analyzing the effect of nation-building, we face three main empirical challenges: measurement of identity changes, plausible control groups, and lack of individual-level control variables. We elicit changes in social identity through the type of first names that parents give their children following historical sociology and recent work in economics.[1] We classify names based on the philological five-volume compendium on German first names by Seibicke (1996, 1998, 2000, 2002, 2007) into Germanic-national, religious, European, ancient and ruler first names. Moreover, we validate this approach in our context by showing that soldiers with national first names in general and those carrying the most prominent national first names in the early 19th century had a higher likelihood to be awarded for bravery during the German-French War in 1870/71, conditional on hierarchy levels and distinguishing between army corps.[2]

To construct a treatment and a control group, we leverage the unanticipated territorial change in the German Lands after the Peace of Vienna in 1815. As a result, Westphalia and the Rhineland became part of Prussia. Families in Aachen and Münster in the new Prussian regions, where important nation-building activities took place, form our treatment group. Families in six other cities are our control group (five cities outside of Prussia and Berlin). To establish the legitimacy of their rule, the Prussian state appealed to German identity, using early forms of state propaganda, such as speeches, proclamations, festivals, and publications. Using data on ca. 40,000 families, this setting allows us to compare the name choices of families in treated cities with those in cities that did not become part of Prussia. In addition, we also look at villages comparing those that become part of Prussia with villages that remain outside of Prussia. Hence, the German lands provide exogenous variation in territories, in which nation-building policies mattered, within an area of similar cultural and historical heritage.

Still, using first names for the empirical analysis, it is hard to rule out various confounding factors that might also account for the name choices of parents, such as differences in education, social status, mobility, or individual traditions of parents. To deal with this, we exploit variation in the type of name choice made by the same parents over time by relying on *family fixed effects*. Hence, we only need to assume that unobserved parent-level factors remain constant as long as the mother was in child-bearing age.[3]

Using these territorial changes as well as variation within the same families over time, we find that parents in cities treated by nation-building policies responded by choosing more national first names for their children. The same parents that neither had a national family tradition themselves nor had previously given their children Germanic names were much more likely to give such a name after becoming a Prussian subject. Parents exposed to Prussian nation-building policies were between 9 percentage points (city fixed effects) and 25 percentage points (family fixed effects) more likely to choose a national first name after treatment compared to parents in control cities. This is a substantial effect given that national names were still rare around 1815. On average about 13 percent of parents chose a national first name for their children before treatment.

At least in part, this effect can be attributed to nation-building policies pursued by the Prussian government at this time. But we should be careful to acknowledge that other factors were probably also at work. In particular, we have reason to believe that these Prussian policies met a pre-existing and rising popular demand for national identity in the wake of the Napoleonic wars across all parts of the German lands (and in fact beyond). Our findings can also be interpreted as evidence of the Prussian government successfully "riding the wave" of national feelings to increase the loyalty of their new subjects. In addition, we also see that this increase in national first names was an urban phenomenon as we do not observe a corresponding increase in villages that become part of Prussia. Within the cities – based on detailed occupation data for the city of Nuremberg – we find that the increasing demand for national first names was more pronounced among urban elites: parents with higher-status jobs were more likely to choose national first names during this period than parents with lower status occupations.

While it is difficult to precisely disentangle whether a change in the choices of first names is a sign of national identity, opportunism, or fear of repression (Kuran, 1995), we provide tentative evidence that choosing a national first name indeed reflects national identity. To rule out opportunism, we use different connotations of national first names. In the case of opportunism, we would expect parents to choose specific Prussian ruler names, e.g., Friedrich and Wilhelm. However, our treatment effects become even stronger when excluding this type of names. Fear of repression is unlikely in our context as state capacity was rather weak. Moreover, parents were not legally restricted in their name choices at the time (Hermann, 1862), nor do we have any evidence of repression related to name choices. Thus, our result suggests that the families identified more strongly with the idea of a nation and their decision to use more national first names was not opportunistic or driven by fear to please the new rulers.

[1] Notably Gleitze (1962), Lieberson and Bell (1992), Gerhards (1997), and Wolffsohn and Brechenmacher (1999) in historical sociology, and, among others, Abramitzky et al. (2020), Fouka (2020), and Knudsen (2022) in economics.

[2] Jurajda and Kovac (2021) provide supporting evidence: First, first names of war heroes signal national behavior in Croatia. Second, this national behavior is transmitted between generations.

[3] While this approach reduces concerns that our results are driven by selective immigration, it might still be the case that non-nationalist parents selectively left the treated cities. We do not think that this is a major concern here. First, repression of the nationalistic movement was only sporadic before it gained pace with the Carlsbad Decrees of September 1819, four years after 1815. We show evidence from an event-study that does not suggest any substantial change after 1819. Second, once repression started, it was intense in Prussia, and in parts of our control group (Baden), but less so in others (Bavaria) (Nipperdey, 2013, p. 284; Echternkamp, 1998, p. 232). Hence, if anything differential outmigration after 1819 would have worked against our hypothesis.

We provide several robustness checks, including an exercise, in which we restrict the control group to those cities which had been exposed to similar territorial changes, but did not become part of Prussia after 1815. We also show that our results are robust to the use of a Logit estimator, and become weaker but remain qualitatively intact once we assume that all names in Aachen were "francisied" before 1815. Moreover, we drop each control city once and show that our results are not driven by the inclusion of a particular city. Finally, we rerun our estimation including parents who had national first names themselves, which leaves our results nearly unchanged.

Our study is related to the growing empirical literature on nation-building.[4] Studies have highlighted the positive impact of, e.g., schooling (Cinnirella and Schueler, 2018; Blanc and Kubo, 2024), leadership (Assouad, 2020), intergroup contact (Bazzi et al., 2019; Cáceres-Delpiano et al., 2021; Bagues and Roth, 2022; Kukić, 2023), shared experiences (Depetris-Chauvin et al., 2020), propaganda (Blouin and Mukand, 2019), welfare-provision (Caprettini and Voth, 2022), and external enemies (Dell and Querubin, 2018) for nation-building along various dimensions. Nation-building policies can also backfire, e.g., assimilation policies (Fouka, 2020) or repression (Dehdari and Gehring, 2022; Gehring, 2021), and strengthen regional and supra-regional identities.

More broadly, our paper is related to studies on the determinants of identity formation and change. The existing literature has investigated different influencing factors, e.g., economic incentives (Battu and Zenou, 2010; Algan et al., 2022), regional development (Ahlerup et al., 2017), bilingual education policies (Clots-Figueras and Masella, 2013), school curricula (Cantoni et al., 2017), external enemies (Gehring, 2022), other outgroups (Fouka and Tabellini, 2022), conflict (Metzger et al., 2016; Fontana et al., 2023), and past experiences (Martinez et al., 2023).

We add to these two strands of empirical literature evidence on the origin of a national identity for the early 19th century, when arguably for the first time in history national identity became a mass phenomenon. Specifically, we provide evidence on identity changes at the individual level for this early period driven by state propaganda that alluded to the idea of a German nation. Importantly, in 1815 many other tools of nation-building such as welfare policies or public schooling were still in their infancy.

Moreover, our paper is related to theoretical approaches in economics that aim to explain the formation of social identities. A common starting point is that individuals value their perceived distance from specific group prototypes, as suggested in the seminal study by Akerlof and Kranton (2000). Building on this, several authors have suggested mechanisms to account for changes in social identities.[5] Sambanis et al. (2015), Alesina et al. (2020, 2021), and Almagro and Andrés-Cerezo (2020) proposed to distinguish between an "elite" – a small group of agents with exogenous preferences – and a larger group of agents with endogenous preferences. The elite can use war, institutions, and policies such as pamphlets, state celebrations, or schools to homogenize the preferences of the population. Building on this, we focus on the Prussian state as a strategic agent with clear motives and add empirical evidence that this strategy actually worked. Our evidence suggests a further distinction between policies of homogenization and policies to create altogether new national identities in the sense of Anderson (1983) as a potential avenue for further theoretical work. Finally, we have at least suggestive evidence that the interaction between the supply of identity from state elites and a rising demand for national identities mattered.

The rest of our paper is organized as follows: We introduce the historical background in Section 2. Section 3 describes our data. We outline our empirical strategy in Section 4. Section 5 contains our results for variation between and within families, including various robustness checks. In Section 6, we conclude.

2. Historical background: National identity in early 19th century Germany

The political situation around 1815. The Congress of Vienna of 1814/15 had established a new political order in Europe, seemingly a victory of the Ancien Régime over revolutionary France. However, Europe and the German states in particular had fundamentally changed. The dramatic events in America in 1776 and France in 1789 had intensified an older loyalty crisis that started to undermine the existing political order (Schulze, 1985, p. 240). With the French Revolution, a new modern idea of a nation was spreading that placed loyalty to the nation above all alternatives (such as loyalty to a dynasty or religion) (Langewiesche, 2000, p. 17). Moreover, in the German lands, the Napoleonic wars did not only foster modernization but also gave rise to a new national sentiment geared against the French, due to a growing burden in terms of taxes and conscription for the war. In economic terms, there was a growing demand for a national identity.

Unsurprisingly, European monarchs feared the revolutionary potential of national ideas. Yet, in the struggle to regain control during the Napoleonic wars, the king of Prussia started to exploit the strategic potential of the national idea in the spirit of Alesina et al. (2020, 2021). It was in March 1813 that King Friedrich William III in his proclamation "To my People" appealed for the first time to national sentiment in order to mobilize for a levee en masse against the French — after his advisors Baron vom Stein, and generals Gneisenau and Scharnhorst had urged him to do so.[6] At this occasion, the King also commissioned the "Eisernes Kreuz" (Iron Cross) as the first military decoration of the Prussian state open to all ranks. Ever since, nationalists like Ernst Moritz Arndt were eager to present the Prussian king as the new "Hermann", referring to a legendary chieftain of the Germanic Cherusci tribe

[4] Rohner and Zhuravskaya (2023) provide a recent overview of this literature.

[5] Shayo (2009) develops a model, in which group status depends among other things on relative income and perceived distances from group prototypes. Also related is the large literature on the transmission of culture (Bisin and Verdier, 2001). Approaches in history consider technological and economic change as a driver of identity change (Gellner, 1983).

[6] Scharnhorst, one of the king's key military advisors at the time, observed already in 1797 that the French army had an advantage due to the messianic fighting spirit of the French soldiers (Dörner, 1995, p. 112). After 1807 he was promoted to major-general and led a fundamental reform of the Prussian army, strengthening the ties between army and population.

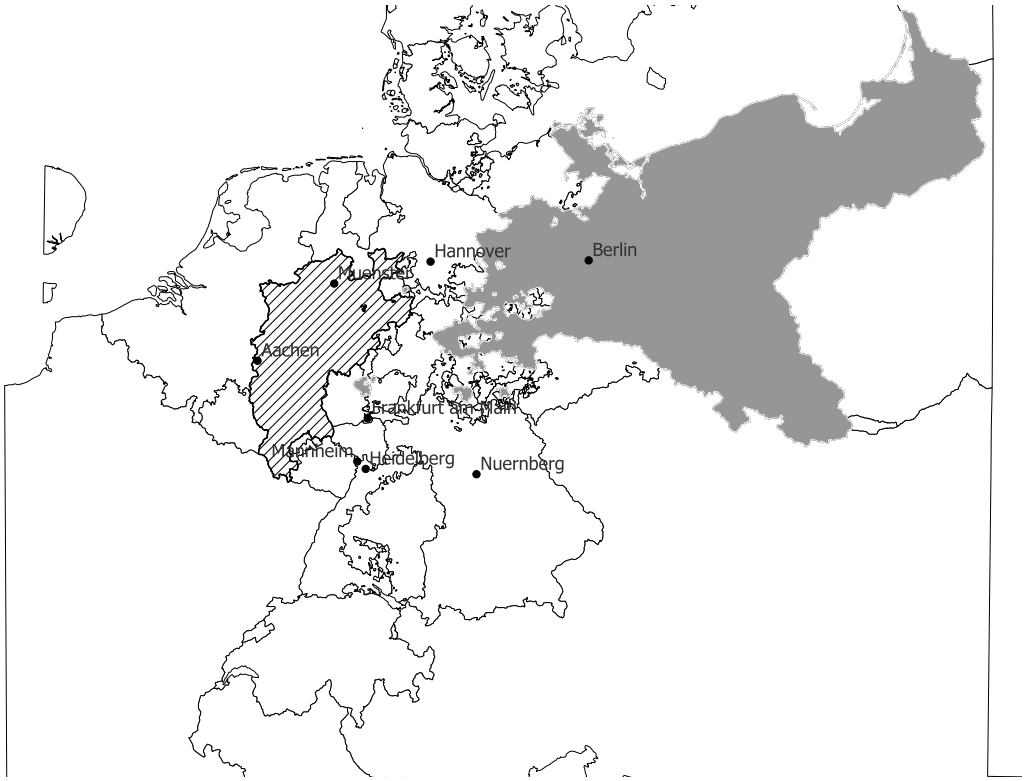

Fig. 1. Treated cities in Prussia and control cities in other German lands after the Congress of Vienna. *Notes*: The map shows the location of the cities in our sample. Prussia before 1815 is marked in gray. The western part of Prussia that became part of Prussia in 1815 is marked with dashed lines.

who had fought the Romans (Hagemann, 2002, p. 481f). This idea to depict the king of Prussia as the new leader of a German nation gained momentum after the victory of Leipzig in October 1813. Allied troops quickly advanced westwards, reaching Westphalia in November 1813, the left bank of the Rhine in January 1814, and Paris in March 1814.

Prussia established a temporary military and civil administration in the western territories in 1814 (Neigebaur, 1821), but the final political and territorial order was negotiated at the Congress of Vienna between September 1814 and June 1815. Prussia had originally aimed for an annexation of the adjacent (and Protestant) Kingdom of Saxony, south of Brandenburg. Still, in late 1814, Prussia was offering his territorial acquisitions in the west in exchange for the kingdom of Saxony. However, this failed due to a British intervention. Instead, on 8th February 1815 it was agreed that Prussia would gain most parts of the Rhineland and Westphalia in the West of the German lands as shown in Fig. 1.[7] These territories were formally conceded to Prussia with the final act of the Congress of Vienna signed on 9th June 1815. Notably, they were disconnected from the Prussian mainland and in addition mostly Catholic. In the words of Christopher Clark: "Berlin failed to get what it wanted and got what it did not want [...] The creation of a large Western wedge along the river Rhine was a British, not a Prussian, idea" (Clark, 2007, p. 389).

Nation-building policies. Hence, after the new territories had been formally incorporated into the Prussian state in early 1815, the authorities faced the challenge of proving the legitimacy of their rule and winning the support of their new population. According to contemporary descriptions (Neigebaur, 1821), many people in the western territories hoped for safety and peace, to some extent protection against another French occupation, and guarantees for their freedoms (including religion). Instead, the demand for a nation state was still diffuse, with arguments oscillating between republic and (constitutional) monarchy, under the guidance of Habsburg, Prussia, or some minor princes. Moreover, this demand was not yet a mass phenomenon but was nearly exclusively formulated by local, urban elites (Jansen, 2011, p. 244). We argue that the Prussian authorities attempted to gain the loyalty of the local population by presenting the king of Prussia as a guardian of peace, powerful to keep out the French, sufficiently liberal in religious matters, and notably as a historically legitimate leader of the nascent German nation.

The Prussian administration in the new western territories was headed by two close associates of Baron vom Stein, namely J. A. Sack as president of the Rhineland, and L. von Vincke as president of Westphalia. Over the next months, they developed a variety of nation-building activities, supported by several nationalist writers. One of the most outspoken German nationalists at the time, Ernst Moritz Arndt had joined Prussian services in 1812 and focused much of his activities in 1815 on the Rhineland

[7] Huning and Wolf (2023) study the impact of this enlargement on the development of the *Zollverein*.

and Westphalia (Hansen, 1917, p. 620). Other activists such as Karl Hoffmann and Wilhelm Aschenberg also contributed to these activities. Aschenberg started in 1814 to publish a journal "Hermann. Eine Zeitschrift von und fuer Westfalen" that propagated ideas of pro-Prussian German nationalism. New patriotic associations were formed, notably patriotic "Frauen–Vereine", typically headed by the wives of prominent representatives of the Prussian state (Reder, 1998; Neigebaur, 1821). For the Rhineland, the governor Sack established the "Journal des Nieder- und Mittel-Rheins", a newspaper that was meant not only for public announcements but also to spread nation-building propaganda, as we will see below.

With the surprise return of Napoleon from his exile in Elba in March 1815, all these activities gained a new urgency. King Frederick Wilhelm was eager to officially proclaim the seizure of the new territories and made it quite clear that he wanted to be seen as the leader of the new German nation. Consider the text of the seizure proclamation ("Besitzergreifungspatent") of 5th April 1815: here, King Friedrich Wilhelm refered ten times to "Germany", five times to "Fatherland", but only three times to "Prussia". He promised religious and economic freedom, improved education, support in times of need and protection against France. A key sentence reads: "Hence, with confidence I am entering your circle, people of these lands, and give you and your German fatherland back to an old German dynasty and call you Prussians! Meet me with honest, faithful, and adamant loyalty" (Neigebaur, 1821, p. 98, own translation). Alongside the publication of this proclamation, it was announced that all men were obliged to wear the national cockade in public.

An established instrument to secure the loyalty of new territories was royal proclamations and official homage ceremonies ("Huldigungsfeiern"). Proclamations and homages were traditional tools of government since the Middle Ages. But, crucially for our study, they had an entirely new feature in 1815: the attempt to create a new narrative with the king of Prussia leading the German nation (Schwengelbeck, 2007; Kotulla, 2010; Tschacher, 2010). The ceremony for the Rhineland took place in Aachen on 15th May 1815, the ceremony for Westphalia in Münster on 18th October 1815. The decision for Aachen was also a reference to the former residence of Charlemagne.[8] The date, in turn, coincided with Pentecost, which had been abolished under French rule but was now being reintroduced as a religious holiday, to stress the Christian attitude of the new rulers to the Catholic population of the new territories. The choice of date for the second ceremony in Münster was a very explicit reference to national identity: It coincided with the second anniversary of the Battle of Leipzig, which already then played a pivotal role in the collective memory, mainly due to the publications by Arndt, the spearhead of early German nationalism.

The orchestration for both ceremonies was similar: They were extended over several days and included the celebration of a mass in the cathedral, processions, fireworks, official banquets, feeding of the poor, and theater performances. Importantly, in both cases, the authorities had invited representatives from all parts of society, including the nobility, clergy, burghers, and peasants. In Aachen, the wearing of the national cockade was made obligatory (Tschacher, 2010, p. 259), while we have no such information for Münster. Theater plays were performed that alluded to an imagined common past and stressed the notion of German values. In Aachen two plays were performed. On May 14 1815, the piece "Deutsche Treue" by A. Klingemann was presented, as a reminiscence to the history of two medieval German Emperors Ludwig and Friedrich and their constancy and honesty. The next day saw a performance of "Käthchen von Heilbronn" by Heinrich von Kleist. In this play, social boundaries between nobility and the common people are overcome by true love, to be ultimately approved by the Emperor himself. While these two plays celebrated ideas of "German values", a theater play performed in Münster entitled "Der Altar im Walde" placed the focus squarely on the king of Prussia as the savior of the German nation. Here, the king of Prussia is equalized with Hermann, the Germanic chieftain mentioned above who allegedly fought the Roman invasion in 9 CE. The topic had been popularized as an allegory to the French occupation since in 1805 Arndt had asked for a "new Hermann" to fight Napoleon and Heinrich von Kleist's drama "Die Hermannsschlacht" was published in 1808. Now in Münster 1815, King Friedrich Wilhelm III was depicted as the new Hermann, savior of the German nation (Schwengelbeck, 2007, p. 142ff).[9]

Afterwards, the celebrations were popularized in books, e.g., Bodden (1816), pamphlets, and several newspaper articles. According to Tschacher (2010, p. 267) the largest impact of this had probably a series of seven (!) articles published by Ernst Moritz Arndt in Sack's "Journal des Nieder- und Mittel-Rheins" between 16th May and 30th May 1815 and an article in the "Tagesblatt der Geschichte" from 31st May 1815. In these articles, Arndt described the ceremony in Aachen as a festival of nationalist emotions, celebrating the king of Prussia as the savior of the Rhineland from French occupation. To summarize, Table 1 provides a timeline of the main events.

The Prussian authorities clearly attempted to create a new narrative to depict the king of Prussia as the leader of the *German* nation, particularly in the new provinces. Most of these nation-building activities took place in 1815, but some had likely more persistent effects, such as the patriotic "Frauen–Vereine". Moreover, the new Prussian government satisfied many of the hopes that people had placed in them. The Prussian rule granted security and religious freedom and fostered local development, e.g., with the foundation of a new university in Bonn in 1818.[10] As promised in April 1815, Prussia also provided material support in times of need. This became tangible when in 1816, the "year without a summer", the government in Berlin supported the western provinces with massively subsidized grain shipments (Neigebaur, 1821, pp. 291ff). Yet, the nation-building of the Prussian government was purely strategic, with the aim to use the broader idea of a German nation to turn the new population into loyal subjects of the king. Once the new territorial order was established, the Prussian authorities quickly tried to silence the national movement again.

[8] According to the official announcement, the city was chosen because "only the city of Aachen unites age, grandeur, and suitable locality with the dignity of a coronation city for the most elevated German rulers, where after Charlemagne no less than 35 German Emperors were crowned" (cited after Tschacher, 2010, p. 259).

[9] The author of the play was Wilhelm Aschenberg, who had earlier founded the journal "Hermann".

[10] Ernst Moritz Arndt was appointed as professor of history at the new university.

Table 1
Important events shaping Prussian nation-building policies, 1813–1816.

March 1813	Proclamation "To my people" of the Prussian king
October 1813	Allied victory at Battle of Leipzig
November 1813	Prussian troops capture Münster
January 1814	Prussian troops capture Aachen
September 1814	Start of the Congress of Vienna
February 1815	Rhineland and Westfalia become part of Prussia
March 1815	Napoleon returns
April 1815	Seizure proclamations
May 1815	Homage in Aachen
June 1815	Final declaration of Congress of Vienna: Territorial status of Hanover, Nuremberg, Heidelberg and Mannheim confirmed as of 1803; Frankfurt regains status of free city
June 1815	Battle of Waterloo and ultimate defeat of Napoleon
October 1815	Homage in Münster
1816	"Year without a summer"

Notes: Own list. The table lists important events relevant for Prussian nation-building policies between 1813 and 1816. For sources and further details see text.

Indicative of this was the intensification of censorship and ultimate ban of national-liberal newspapers, such as "Hermann" (Brandt, 2000, pp. 152–3) and "Rheinischer Merkur" (Echternkamp, 1998, p. 232). So, to what extent did these policies affect individual identities? In the next section, we describe our data set to analyze this question.

3. Data

In this section, we describe our data and sample (Section 3.1), explain our approach to classify first names (Section 3.2), and validate our approach (Section 3.3).

3.1. Data and sample

We collect data from birth registers for eight German cities based on city and church archives and several genealogy websites, which we digitized.[11] Thereby, we construct a sample with data on more than 40,000 children and their parents. For these births, we have the following information: first and last names of children and their parents, as well as the place and year of birth of the children. Unfortunately, information on the occupation of the parents is only available for the city of Nuremberg and not for the other cities, which excludes the possibility of doing heterogeneity analysis by social class. Moreover, additional yearly control variables do not exist because of the lack of census data for this period.

While we cannot verify whether our data includes all births per year because of the lack of yearly census data, we can check how the number of births per year looks in comparison to later years. The population of Münster was roughly 17,000 in 1816, about 24,000 in 1871; for 1871 we know that there were 500 births (Galloway, 2007); in our data, we have more than 400. Thus, the ratio between births per year remained relatively similar, suggesting a good coverage.

To expand the geographical coverage, we collect data on numerous villages in the German lands. These data allow us to investigate whether nation-building also had effects in rural areas. Here, we rely on Verein für Computergenealogie (2023). This source provides the name and location of the village and first names, but, unfortunately, we do not have data for the parents. The data do not cover the universe of villages in the German lands because of the lack of a centralized registry. Instead, the data selection in Verein für Computergenealogie (2023) is based on a digital collection of local heritage books. Appendix Figure C.1 shows the geographic distribution of the villages. The coverage is not the same for the different parts of the German lands. Still, given our interest in the overall difference between villages in treated areas and control areas, we use these data to test for the spill-over effects of nation-building in the rural parts of the German lands.

To capture variation in exposure to nation-building as described above, we include cities from three different groups in our sample. First, the capital cities of the two new Prussian provinces (Aachen and Münster) experienced homage ceremonies in 1815, i.e., treated cities.[12] Second, our control cities stayed outside Prussia after the Peace of Vienna (Frankfurt, Hanover, Heidelberg, Mannheim, and Nuremberg). Third, we include Berlin as the capital city of Prussia, which we descriptively compare to the new Prussian cities. We focus on larger cities of comparable size because our approach requires a sufficient number of families with variation in name choices over time. Fig. 1 shows the location of the cities and the western part of the German lands that became

[11] Our sources are Bauernfeind (2009) for the city of Nuremberg, Bistumsarchiv Münster (2020) for the city of Münster, and The Church of Jesus Christ of Latter-Day Saints (2003) for all other cities.

[12] The political changes, specifically the French occupation in the case of Aachen, potentially led to changes in the way first names were recorded, which might introduce a bias to our estimation. We use two different versions of the data for Aachen to address this: an adjusted version, where we assume that the French administration "francicised" German first names whenever possible. Hence, we adjust all French versions of Germanic names as national names, which is likely to bias our treatment effects downwards. We prefer the un-adjusted version as we do not observe a break in our data once the French administration left Aachen in January 1814. Appendix B provides more details.

part of Prussia in 1815. Next to the advantage of capturing relevant variation for our analysis, we also choose this set of cities because of data availability. Our main source (The Church of Jesus Christ of Latter-Day Saints, 2003) only contains annual data for these cities for the period we investigate. Unfortunately, we lack data on cities of comparable size in Saxony, the region Prussia aimed to receive during the Peace of Vienna.

Consider the two treated cities, Aachen and Münster. We focus on these two because in 1815 they took center stage in Prussian "nation-building" activities. The two cities had been selected as location of the main homage ceremonies in the newly formed provinces. Both were predominantly Catholic cities, in contrast to the Protestant mainland of Prussia.

The city of Aachen had played an outstanding role in the history of the old Holy Roman Empire, as the place where the Emperor was crowned German king until 1531. The city was an Imperial free city until the French occupation in 1794 and became Prussian in 1815. Aachen was under direct French control between 1794 and January 1814, in contrast to Münster.

The city of Münster was the capital of the prince-bishopric Münster, the largest clerical territory in the HRE, until 1802 when it briefly became part of Prussia (at this point allied with France) for four years. In 1806, Napoleon and his troops occupied Münster. Prussian and Russian troops drove the French troops out of Münster in late 1813, and the city became officially part of Prussia after the Congress of Vienna in 1815.

Our control group provides us with variation that helps us to rule out one other alternative explanation. Two of our control group cities (Heidelberg and Mannheim) experienced similar territorial changes during our period. This allows us to test whether the experience of territorial change as such might drive our results.

Ideally, we would compare the city's developments in numerous dimensions like employment structure and income for the early 19th century. However, we lack appropriate census data for this period. Instead, we compare the population growth between 1750 and 1800 as a proxy for economic development using data from Buringh (2021). The results suggest no differential growth between our treatment and control cities during these years.[13] What is more, this was the period before the first wave of the industrial revolution (Pfister, 2022) suggesting relatively stagnant economic development and, thus, fewer reasons to be worried about differential trends.

3.2. Measuring national identity in early 19th century Germany

We elicit national identity and its changes over time by the type of first names that parents gave their children. To capture changes in national identity in our data, we need to classify the first names. Here, we rely on a five-volume encyclopedia on German first names from Seibicke (1996, 1998, 2000, 2002, 2007). With this, we capture around 95% of all entries in our sample. We differentiate between national, religious, European, and ancient first names. The scheme is based on the philological origin of first names as described by Seibicke, i.e., the *etymology* of these names. Furthermore, we account for family tradition by comparing the first names of the parents with those of the children.

Following Seibicke, we count those first names as Germanic whose etymological origin lies in old high German (*althochdeutsch*), mid high German (*mittelhochdeutsch*) or germanic (*germanisch*) language. Hence, we take no stand on the contemporary connotation of a given name, which may have changed over time. This has the benefit of being a rather objective characterization of a name but comes at the risk of misinterpreting the contemporary meaning of some of these names. However, the nascent national movement placed great emphasis on etymology, notably the brothers Grimm, but also national writers like Arndt or Kleist (e.g., their focus on "Hermann"). Moreover, we cross-check our list of national first names with a book from Khull (1909) that aimed to increase the consciousness for Germanic first names to make sure that the names on our list had a nationalist connotation during the 19th century. And crucially, our classification is not based on first names with a Prussian tradition, which would potentially bias our results.

In Table 2, we list the 15 most popular first names in our sample by treatment status including the classification of the name. Religious first names dominate this ranking. For boys and girls alike, first names of religious origin (e.g., Johann(es), Franz, Maria, and Anna) are most popular. Among the most popular "national" first names in our period are Carl, Friedrich, Heinrich, Wilhelm, Ludwig, Ernst, and Hermann for boys and Caroline, Wilhelmine, Friederike, Ida, Albertine, and Bertha for girls. Note that the treated cities have three national first names in the top 15 after 1815, the control cities two. Still, religious first names dominate the picture also after 1815 suggesting that the observed increases are more driven by less popular first names.

What was the social background of parents who decided to give their children national first names? While data on this topic is not available for all cities in our sample, we can draw conclusions from the city of Nuremberg, where we also know the occupation of the father. By using the Historical International Standard Classification of Occupations (HISCO) to categorize occupations, we observe that parents in higher-status occupations tend to choose national first names more frequently (Table 3). Specifically, professions such as accountants, teachers, and jurists (HISCO group 1) are most likely to choose national names. In contrast, simple laborers (HISCO groups 7–9), by far the largest group, are least likely to choose national first names.

[13] The population growth between 1750 and 1800 in the control cities was 21.2%, in the treated cities 27.7%, the corresponding t-value is 0.46 and thus far from statistical significance.

Table 2
The 15 most popular first names by treatment and control group.

Panel 1: Treatment cities					
Before (1810–1814)			After (1815–1821)		
Name	Share	Category	Name	Share	Category
Marie	10.22	Religious	Maria	14.16	Religious
Jean	7.98	European	Anna	7.20	Religious
Anne	5.95	Religious	Johan	4.91	Religious
Maria	5.34	Religious	Franz	2.95	Religious
Anna	3.58	Religious	Johann	2.94	Religious
Joannes	3.55	Religious	Peter	2.70	Religious
Pierre	3.01	European	Catharina	2.67	Religious
Francois	2.26	European	Joseph	2.47	Religious
Jeanne	1.93	European	Elisabeth	1.98	Religious
Joseph	1.88	Religious	Heinrich	1.89	National
Guillaume	1.78	European	Johanna	1.88	Religious
Catherine	1.69	Religious	Wilhelm	1.88	National
Catharina	1.40	Religious	Joann	1.76	Religious
Franciscus	1.36	Religious	Berhard	1.62	National
Gertrude	1.34	National	Theresia	1.36	Religious
Johann	16.35	Religious	Johann	15.96	Religious
Anna	7.53	Religious	Anna	6.40	Religious
Maria	6.96	Religious	Maria	6.28	Religious
Georg	4.72	European	Georg	4.93	European
Catharina	2.59	Religious	Heinrich	2.56	National
Eva	2.26	Religious	Margarehta	2.13	Religious
Heinrich	2.21	National	Eva	2.01	Religious
Elisabetha	2.20	Religious	Catharina	2.00	Religious
Margaretha	1.92	Religious	Katharina	1.96	Religious
Johannes	1.89	Religious	Carl	1.88	National
Johanna	1.80	Religious	Elisabetha	1.86	Religious
Carl	1.77	National	Sophie	1.84	Latin
Susanna	1.67	Latin	Johanna	1.77	Religious
Katharina	1.51	Religious	Johannes	1.66	Religious
Friedrich	1.48	National	Susanna	1.60	Latin

Notes: Own classification based on Seibicke (1996, 1998, 2000, 2002, 2007). Treatment group (shown in Panel 1) includes: Aachen and Münster. Control group (shown in Panel 2) includes: Frankfurt (Main), Hanover, Nuremberg, Aachen, Mannheim, and Heidelberg.

Table 3
National first names by HISCO group for the city of Nuremberg.

Group	Description	Number	National names (in %)
0, 1	Professional, technical and related workers	472	13.77
2	Administrative and managerial workers	139	12.23
3	Clerical and related workers	350	12.29
4	Sales workers	1012	12.25
5	Service workers	1390	9.71
6	Agricultural, animal husbandry and forestry workers, fishermen and hunters	249	12.05
7, 8, 9	Production and related workers, transport equipment operators and laborers	5332	7.45
	Missing information	1595	11.41

Notes: "Group" and "Description" are based on occupation classification scheme by van Leeuwen et al. (2002). "Number" refers to the number of people working in an occupation group. "National names (in %)" provides the share of people with national first names among an occupation group.

3.3. Validation

We argue that parents' name choices reflect their own identity, which is at least partly transmitted to their children. To validate this approach in our context of 19th century Germany (and rule out that national first names are mainly about opportunism), we collect data from loss lists and lists with honored soldiers for the German-French War in 1870/71.[14] The loss lists include information about the first and last name, the location, the regiment, as well as the year the soldier was listed on the loss list, and contain around 125,000 entries for the German-French War in 1870/71. The loss lists indicate not only participation in the war but active participation, as they refer to soldiers who were either killed, wounded, captured, or went missing. However, none of these events necessarily reflects voluntary behavior of soldiers.

[14] Unfortunately, comparable data for the Napoleonic Wars do not exist. Even though we conduct the validation exercise with data around 50 years after the period we investigate, we are confident that this exercise helps to validate the approach for the German context.

Table 4
National first names, war participation, and war decoration.

	Loss lists		Honored soldiers		t-stat.
	N	Nat. (in%)	N	Nat. (in%)	
Panel 1: All					
	124.819	42.17	900	54.44	7.39***
Special first names					
...Friedrich & Wilhelm	124.819	14.48	900	14.33	−0.13
...Top 10 nat. names 1815	124.819	20.79	900	24.56	2.62***
By rank					
... Officer	4.692	25.34	757	53.63	15.56***
... Sergeant	12.717	45.63	128	58.59	3.00***
... Other soldiers	107.410	42.49	15	60.00	1.33
Panel 2: *Korps* with "non-nat." leader					
	101.328	41.71	744	55.38	7.49***
Special first names					
...Friedrich & Wilhelm	101.328	14.71	744	14.11	−0.47
...Top 10 nat. names 1815	101.328	20.34	744	26.08	3.56***

Notes: Loss lists refer to soldiers wounded, lost, or killed in the German-French War of 1870/71. Honored soldiers refer to soldiers with war decoration in the German-French War of 1870/71. Panel 1 includes all soldiers of the 12 Prussian army corps. Panel 2 includes only corps with leaders without national first name. 10 most common national first names of 1815 (excluding Friedrich and Wilhelm) are Carl, Heinrich, Ernst, Ludwig, Adolph, Herrmann, Conrad, Gottfried, Rudolph, and Hubert. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. *Source*: For the loss lists see Verein für Computergenealogie (2014) and for the honored soldiers see Königliche General-Ordens-Kommission (1878).

In order to capture voluntary engagement during wars, we use lists of honored soldiers. We digitize the names of all 900 soldiers honored with the *Eisernes Kreuz (Iron Cross)*, first commissioned in 1813, during the German-French War from 1870/71 (Königliche General-Ordens-Kommission, 1878) and categorize them based on three hierarchy levels. The basic idea here is that the distinction of soldiers for bravery should be a much better indicator of voluntary behavior than active war participation. We might expect that soldiers with a strong national(ist) identity would be more willing to fight and hence more likely to receive the Iron Cross than others. If Germanic first names captured the national identity of parents (and crucially not opportunistic behavior) and if this is at least partly transmitted to their children, we would expect to find a positive correlation between national names and honors.

While we lack other control variables for the soldiers, we can test for differences within one hierarchy level. Given that the military was a reflection of social classes, we expect relatively similar social characteristics within one hierarchy level. Moreover, we restrict our sample to the 12 Prussian army corps to rule out the possibility that the army leadership favored Prussian soldiers.

Comparing the loss lists and the honored soldiers in panel 1 of Table 4 shows overall substantial and statistically significant differences. More specifically, we find differences between the share of national first names for the soldiers on the loss lists and those who were awarded during the German-French War in 1870/71, also if we condition the analysis on three hierarchy levels. The differences are sizeable, e.g., the difference in terms of the share of national first names between officers on loss and award lists is nearly 30 percentage points. Analyzing more specific national first names, we also find differences. Interestingly, the relative difference is less pronounced for Friedrich and Wilhelm — the most prominent ruler first names of that time and a potential indicator of opportunistic choice of parents. If honors were given based on names instead of behavior, we would expect Friedrich and Wilhelm to rank most prominently — as names of Germanic origin and associated with Prussian rulers. However, this was not the case. In contrast, we find striking differences for the ten most popular national first names (excluding Friedrich and Wilhelm) in 1815.

One other concern could be that leaders of army units, who themselves had a national first name and preferred such first names, drive our findings. In panel 2 of Table 4, we therefore exclude all corps with "national" leadership. The differences remain similar.[15] Overall, the evidence on loss lists and war decorations from the war of 1870/71 supports the idea that first names contain information on the identity of those who carry them. Notably, the evidence on the top 10 national names of 1815 makes it more plausible that our etymological classification of names around 1815 might indeed capture what we are after: a choice by parents as a signal of their national identity that would be passed on to their children.

4. Empirical strategy

In order to determine the causal effect of nation-building policies in 1815 on the formation of national identities, we use evidence on first names and exploit variation between and within cities and families. Therefore, we compare decisions by parents in our *treated* families in Aachen (in the Rhine province) and Münster (in Westphalia) and our *control* families in Frankfurt, Hanover, Heidelberg, Mannheim, and Nuremberg, i.e., cities that were not part of Prussia. Unless stated otherwise, we always use the unadjusted data for Aachen.

[15] As a robustness check, we look also at divisions with a "non-national leader" (see Appendix Table C.2, panel 1). Moreover, it could be possible that certain parts of the army that have stronger ties to the army leadership were favored. Therefore, we also show the results separately for the eastern ("old") and western ("new") parts of Prussia (Appendix Table C.2, panels 2 and 3).

However, just comparing the frequency of name choices in treated versus non-treated cities could be misleading. There is a host of confounding factors that might also account for the name choices of parents, such as differences in education, status, religion, or family traditions. In a setting where we compare parents in treated cities to parents in a control group of untreated cities, we need to take this heterogeneity within cities into account. We address these problems in two steps. First, we systematically exclude all parents that had national names themselves, because their decision in favor of a national first name could also reflect existing family traditions or such parents might have been more susceptible to national propaganda. Second, and more importantly, we use family-fixed effects: In our preferred specifications, we use for the remaining parents only variation in the type of name choice made by *the same parents* over time. However, this is only possible for families who get at least one child before and after the treatment.

Using within–family variation has several main advantages. It allows us to control for all time-invariant family characteristics. In addition, we only compare families in similar age groups as we are only interested in those families that get children in the years before and after the specific year. Moreover, we can rule out that migration into Prussian cities drives our results because we only consider families who already live in the respective city before the treatment year and stay there after the treatment. Still, selected out-migration might be a concern. While we lack city-level migration data, large migration waves happened only decades later. In addition, the lack of repression of the state makes it unlikely that anti-nationalist families decided to migrate (see also footnote 3 above).

We use the following differences-in-differences estimation employing an OLS model as our main specification:

$$NationalName_{fct} = \alpha_f + \beta(TreatedCity_c \cdot Post1815) + \gamma Post1815 + \epsilon_{fct}, \tag{1}$$

where α_f are family fixed effects and $Post1815$ is equal to one for the post-treatment period and zero otherwise. $NationalName_{fct}$ is a dummy variable that equals one if at least one child in family f has a national first name in city c in one period. Note that we collapse our sample in a pre- and post-treatment period in our main specification. Thereby, we control not only for serial auto-correlation following Bertrand and Mullainathan (2004) but also take into account that a specification based on yearly within-family variation dramatically restricts our sample size. The coefficient of interest is β that indicates the treatment effects on parents' name choices by comparing the average change in national first names, between before and after, for our treatment group, compared to the average change, between before and after, for our control group.

As our second specification, we use a flexible difference-in-differences model, also to control for potential pre-trends:

$$NationalName_{fct} = \alpha_c + \theta_t + \sum_{t=1810}^{1821} \beta_t(TreatedCity_c \cdot Year_t) + \epsilon_{fct} \tag{2}$$

The coefficient of interest is β_t, indicating the effect of living in a treated city in a given year. With this specification, we control for time-invariant city characteristics (α_c) as well as year fixed effects (θ_t).

Given that the treatment varies at the city level, we cluster standard errors at this level. Few clusters, however, create problems for inference, as it severely biases standard errors downwards.[16] To correct for this bias, we need to estimate standard errors with the bootstrap procedure put forward by Cameron et al. (2008). Hence, we report always bootstrapped p-values.

The identifying assumption in this setting is that the decisions by parents regarding first names in cities that become part of Prussia and in cities that do not become part of Prussia would follow the same trend in the absence of the treatment. We will show that this is indeed the case for our treatment analysis. Given the course of events after the defeat of Napoleon in 1813/14, and Prussia's position and ongoing negotiations at the Congress of Vienna (Clark, 2007), the territorial change that occurred in 1815 was difficult to anticipate even in late 1814 (Huning and Wolf, 2023). Ideally, of course, we would add yearly control variables to strengthen the validity of our empirical approach. To the best of our knowledge, however, systematic city-level data on population development do not exist.

For our empirical analysis with family fixed effects, we need to construct a common family ID to trace children with the same parents over time. To improve matching, we follow a recent approach by Abramitzky et al. (2021) and use the Jaro–Winkler distance. Appendix A provides details on our procedure.

A potential concern for our analysis could be that conditioning on families who have a child before and after treatment (identified by our common family ID) may introduce some selection bias. For example, it would be worrying if in treatment cities the share of national first names was lower for observations with a common family ID than for those without a common family ID before treatment and higher after treatment. To account for this issue, Table 5 presents the share of national first names before and after treatment and whether or not we found a match for parents before and after treatment. While there is some variation between cities, the overall pattern in Table 5 is reassuring and no clear selection is visible. For the case of Münster, the share of national first names is somewhat lower for "matched" families before treatment and higher after. However, the opposite applies to Aachen (smaller in magnitude). There are also cases in the control group where selection might work against our treatment (e.g., Frankfurt and Nuremberg), as well as cases that could work slightly in favor of our treatment analysis (e.g., Hanover). Overall, the observed pattern alleviates concerns about selection due to our matching of parents and due to selective out-migration.

[16] This is the so called "Moulton problem", see Moulton (1990).

Table 5
National first names by "match".

Families	...with child before and after			...with child before or after		
	(Match)			(No match)		
	N	Before	After	N	Before	After
Aachen	5385	6.01	15.25	4784	6.50	15.96
Muenster	2450	12.09	18.80	2981	13.37	16.96
Frankfurt	6076	13.50	14.37	6232	13.11	13.32
Hanover	2633	19.19	22.42	4212	21.57	24.07
Heidelberg	10 331	6.27	7.22	6559	7.45	8.99
Mannheim	2915	6.60	6.83	2226	6.10	6.90
Nuremberg	3511	9.19	9.00	4248	7.56	9.64
Berlin	13 741	31.46	32.37	15 572	30.52	30.61

Notes: Share of national first names in % before and after treatment by city for observations with one child either before *and* after treatment, i.e., a "match", and observations with at least one child before *or* after treatment, i.e., "no match".

5. The effect of nation-building

In this section, we present our main findings (Section 5.1): We present the descriptive patterns, conduct an event study with city fixed effects, and show our preferred specification leveraging family fixed effects. Based on different kinds of national first names, we also provide suggestive evidence on the interpretation of our findings. As a last part of our empirical analysis, we run several robustness checks (Section 5.2).

5.1. Main findings

Descriptive patterns. In Fig. 2, we apply the classification to our data and show the share of our first name categories by treatment and control group to give an overview of the trends in our sample for the early 19th century. In both groups, religious first names dominate the picture. We see that the share of national first names remains relatively stable over the whole period in our control group (Fig. 2(b)), while we observe an increase for our treatment group after 1815 from around 10% to around 18% (Fig. 2(a)). The rise in national first names in our treatment cities comes at the expense of European first names and not at the expense of the highly popular religious first names.[17]

Turning to the village data in Figs. 2(c) and 2(d), we observe no increase in the share of national first names in villages located in areas that become part of Prussia. Similarly, the share of national first names in villages that were not part of Prussia throughout this period remains at a similar level. Taken together, this descriptive evidence suggests that nation-building only mattered in cities in the early 19th century, in line with the historical literature (Jansen, 2011).

Event-study findings with city FE. Fig. 3 presents the flexible effect of our treatment indicator with year dummies on national first names.[18] Overall, the results mitigate concerns about the common trend assumption and suggest strong effects of the Prussian nation-building policies. The coefficients based on Eq. (2) for the pre-treatment period, with 1814 as the reference year, show some variation in the (mostly insignificant) point estimates, however, no upward trend is visible suggesting that the common trend assumption holds for our estimation.[19] The coefficients after 1815 are substantially higher and mostly significant, using city fixed effects. Interestingly, the coefficient in 1820, immediately after the Carlsbad Decree of September 1819 is weaker, which might reflect a temporary backlash of the nationalist movement.

Difference(-in-difference)-in-differences with family FE. The results in Table 6 are based on a standard difference-in-differences approach in columns 1 and 3 and triple difference-in-differences in columns 2 and 4 when adding family FE. Again, the findings point to overall strong positive treatment effects.

We see a significant overall effect using city fixed effects (Table 6, column 1). The effect size increases in column 2 once we rely on our preferred specification with family fixed effects. Families in a treated city are on average more than 20 percentage points

[17] Zooming into the monthly variation within 1815 in Appendix Figure C.2, the year the nation-building in the new Prussian cities started, we observe an increase in national first names in February, the month both cities became part of Prussia. In Münster, we again observe increases during the summer, right after the battle of Waterloo, while otherwise, the share of national first names fluctuates without a clear upward trend. In both cases, we do not observe a strong increase associated with the homage ceremonies. This pattern suggests that – as outlined in the description of the nation-building attempts of the Prussian government – it was the multitude of nation-building efforts after 1815 that mattered.

[18] Note that bootstrapped standard errors can result in asymmetric confidence intervals if the data are not normally distributed (Efron and Tibshirani, 1986; Hesterberg, 2015). Given that the main variables for this analysis are dummies, this explains the asymmetric confidence intervals visible in Fig. 3.

[19] Using family fixed effects and estimates per year, we also observe insignificant point estimates without an upward trend in the pre-treatment period, and increasing point estimates after 1814. However, with family effects the yearly estimates are not significant, likely due to the very small sample size per year. Note that such a specification requires families to have children every single year, which, of course, is not often the case. The small sample size per year is the main reason why we prefer to collapse the sample in pre- and post-treatment.

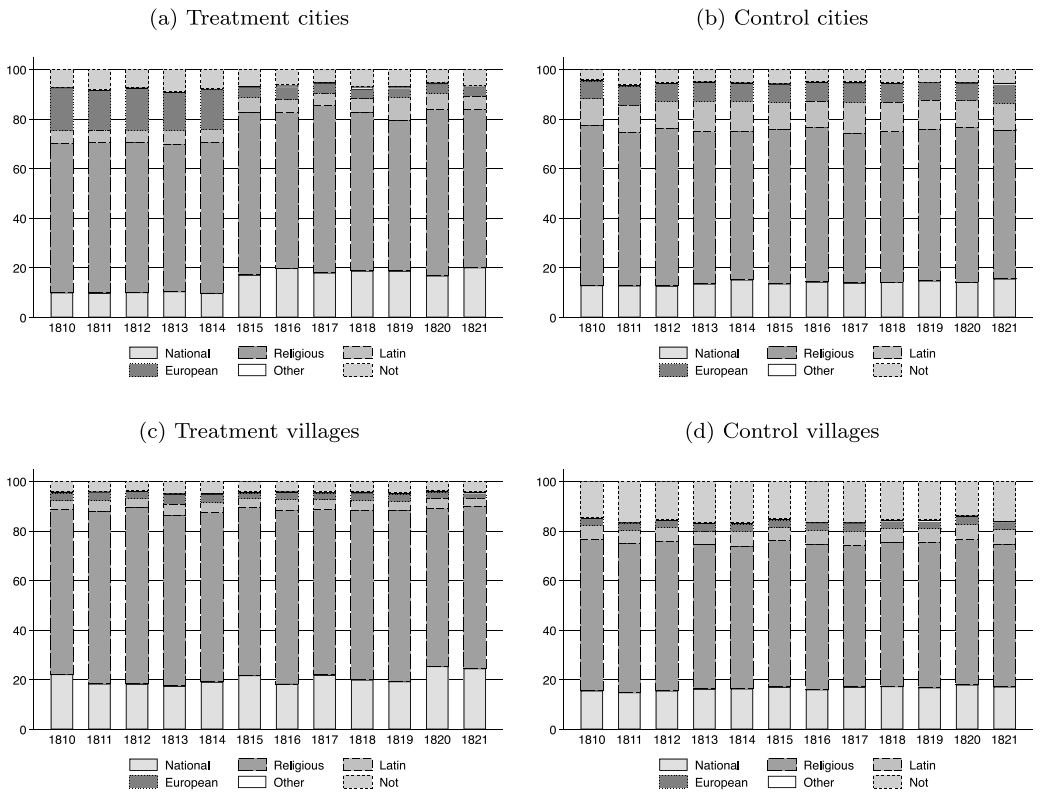

Fig. 2. Development by categories of first names, 1810–1821. *Notes*: Figs. 2(a) and 2(b) show the development of first name categories for cities in a balanced panel. Treatment group includes: Aachen and Münster. Control group includes: Frankfurt (Main), Hanover, Nuremberg, Mannheim, and Heidelberg. Appendix Table C.1 provides descriptive statistics for the share of national first names by city. Figs. 2(c) and 2(d) show the development of first name categories for villages in parts of the German lands that became part of Prussia in 1815 (Fig. 2(c)) and for villages not part of Prussia throughout this period.

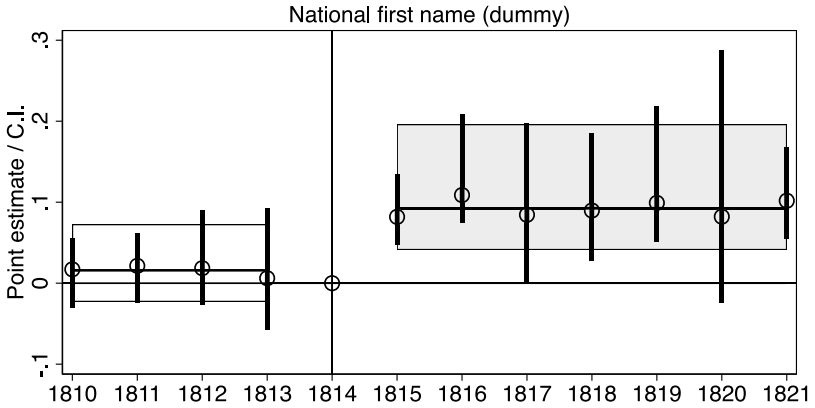

Fig. 3. Event study, 1810–1821, city FE. *Note*: The results present the differential probability that families from eventually-Prussian cities choose a national first name for their child, relative to families from cities that do not become part of Prussia. Regressions are based on Eq. (2) and estimated using OLS, and include city and year effects. Yearly regression coefficients of interest are interactions between an "eventually Prussian city" dummy variable and year fixed effects and are estimated relative to the omitted interaction with 1814. In the aggregate specification, coefficients of interest are interactions between an "eventually Prussian city" dummy variable and a 1810–1813 dummy ($\beta = 0.015; p = 0.142$) and between an "eventually Prussian city" dummy variable and a 1815–1821 dummy ($\beta = 0.093; p = 0.019$). Coefficient estimates on the decade interactions are plotted as dots with their 95% confidence intervals indicated with vertical lines. Coefficient estimates on the aggregate interactions are shown with horizontal lines, and their 95% confidence intervals are indicated as boxes. The results of the yearly regressions are shown in Appendix Table C.3. Clustered bootstrapped standard errors at the city level.

Table 6
Effect of nation-building.

Dep. var.	National first name (dummy)			
	Excluding ruler first names		Including ruler first names	
	(1)	(2)	(3)	(4)
Treated × Post1815	0.093**	0.265**	0.093**	0.226***
	(0.023)	(0.010)	(0.025)	(0.009)
City FE	✓		✓	
Family FE		✓		✓
Observations	46 007	4530	46 577	4822
Families		2265		2411

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. We only include parents without national first given name. Clustered bootstrapped standard errors at the city level. P-values in parenthesis. Treated cities: Aachen and Muenster. Control cities: Frankfurt (Main), Hanover, Heidelberg, Nuremberg, and Mannheim. Results are based on equation 1. Data is collapsed in pre-and post period.

more likely to give children a national first name after the treatment relative to the control group. Given an average likelihood of about 13% of parents choosing national first names in the pre-treatment period, this coefficient is also highly economically relevant.

The point estimates with city FE (column 1) are smaller than the results with family FE (column 2), suggesting that unobserved variation at the family level biases the results downwards. A possible explanation could be that social status affects the willingness of parents to choose new, innovative names. Another reason could be in-migration to cities. We know from the historical literature that the national movement was concentrated in cities. Thus, excluding in-migration from rural areas with family FE should also increase our coefficients. Note that it is unlikely that the bias occurs due to the matching as we do not observe selection due to our matching in Table 5.

To facilitate comparison to other studies, we calculate persuasion rates following DellaVigna and Gentzkow (2010). Formally, the persuasion rate is defined as follows:

$$f = 100 \times \frac{y_T - y_C}{e_T - e_C} \times \frac{1}{1 - y_0}, \tag{3}$$

where e_i is the share of group i receiving the treatment, y_i is the share of group i changing their behavior in line with the treatment, and y_0 is the share that would change if there were no treatment. In our case, $y_T - y_c$ corresponds to the effect shown in Table 6. The persuasion rate varies between 10.7 (with city FE) and 30.5 (with family FE), suggesting quite substantial effects in comparison to the existing literature (see the discussion in Assouad 2020).

Interpretation. While it is difficult to precisely disentangle whether a change in the choices of first names is a sign of national identity, opportunism, or fear of repression (Kuran, 1995), we provide tentative evidence that choosing a national first name was indeed about national identity. We come to this conclusion by excluding all children named Wilhelm, Wilhelmine, Friedrich, and Friederike after 1815 in our preferred specification in Table 6, panel 1. These first names would be indicative of opportunistic choices of parents. In columns 3 and 4 of Table 6, we include Friedrich and Wilhelm (and their female counterparts). With this, our findings based on city effects remain unchanged, while our preferred results based on family effects even become weaker. This strongly suggests that name choices in Aachen and Münster after 1814 were not driven by opportunistic behavior. Moreover, it is unlikely that parents chose specific names out of fear of repression. There was no legal restriction on the choice of first names at this time (Hermann, 1862, pp. 158–159), nor are we aware of any cases of repression related to such choices. Hence, we conclude that the observed changes in chosen first names likely signal a change in the identity of the parents.

5.2. Robustness checks

After presenting our main results, we discuss several other dimensions of our setting.

Cities with exposure to French occupation. In Appendix Table C.4, we restrict the control group to include only Mannheim and Heidelberg, two cities located in the west of Germany, which had been similarly exposed to French occupation policies as Aachen and Münster, i.e., experienced similar territorial change. Our findings confirm our previous results. Thus, we can rule out that territorial change itself drives our results.

Aachen. In Appendix Table C.5 we assume that all first names in Aachen were "francicised" before 1815. In particular, we assume that all French names (e.g., Henri) with an equivalent of an etymologically Germanic name (e.g., Heinrich) should be considered as German national names, already before 1815. As expected, with such an adjustment, the effect becomes much weaker. Even with such an assumption biased against the treatment, using family effects, we still find that overall parents in treated cities after 1814 were much more likely to give their children national Germanic names.

Different control groups. In Appendix Table C.6, we drop each control city once to make sure that our results are not driven by the inclusion of a particular city. Our results remain qualitatively the same throughout.

Logit estimation. In Panel 3 of Appendix Table C.7 we use a Logit estimation to account for the fact that our dependent variable is binary. The results remain qualitatively similar to our main findings.

National parents. Finally, we include also parents with national first names in Appendix Table C.8. The coefficients of interest are a bit smaller, but overall similar to the main findings in Table 6.

Berlin as control city. The nation-building policies in 1815 in the new provinces were location-specific as discussed in Section 2 above and should have affected the center (where the Prussian government did not pursue specific nation-building policies) less than the treated cities. Therefore, in Appendix Figure C.3, we descriptively show the development in Berlin over time and see no increase in the share of national first names around 1815.

6. Conclusion

In this paper, we investigate the effect of early nation-building policies on social identities. To elicit individual-level changes in identity we use data on the name choices of families in German cities and villages in the early 19th century. We find an overall positive and significant treatment effect in cities. In our preferred specification, we exploit variation *within* families over time by including family fixed effects. We interpret this as evidence that nation-building policies can indeed change individual identities. Furthermore, we distinguish between national ruler names and all other national names and find that parents in treated cities respond by choosing national, not ruler first names for their children. This result suggests that the families identify more strongly with the idea of a nation and that their decision to use more national first names is not opportunistic or driven by fear of the new rulers.

Coming back to the origins of national identity, we see this study as evidence that strategic nation-building policies can have a measurable causal effect at the level of individuals. Our findings based on the nation-building propaganda of the Prussian elites around 1815 suggest that such policies can shape identities and likely contributed to the emergence of a national identity in the German lands and the rise of nationalism. We also provide suggestive evidence that this nation-building met a rising political demand for a German nation, in particular among the urban elites.

Further research could do more comparative work on the formation and changes of national identities across societies to better understand the effectiveness of different nation-building policies. In addition, it would be important to better understand the role of demand for national identity.

Appendix A. Supplementary data

Supplementary material related to this article can be found online at https://doi.org/10.1016/j.jce.2024.02.004.

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