Cast in the Same Mould:
How politics during the impressionable years shapes attitudes towards immigration in later life

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Abstract
This study investigates how the tenor of the political climate during a person's youth affects his or her attitudes towards immigration in adulthood. We analyze why cohorts formulate distinct patterns in attitudes towards immigration through a collective process of political socialization during the formative years. The theoretical arguments are tested using hierarchical age-period-cohort modelling across twelve cohorts in nine European countries using micro attitudinal data (2002 - 2016) integrated with historical macro political data. We find that contextual exposure to principles of equality and tradition in the formative political climate are central to the formulation of a person's attitudes towards immigration later in life. While the prevalence of the principle of equality affects immigration attitudes in adulthood positively, the principle of tradition does so negatively. The findings imply that even subtle and cyclical shifts in national politics affect the political orientations of those undergoing the process of political socialization.

Keywords
Political socialization, age-period-cohort analysis, attitudes to immigration, generational change, generational differences, cohort differences, political climate.
**Introduction**

The issue of immigration divides generations, prompting scholarly discussions about how these differentiations emerge. Earlier studies have shown that older people are more likely to express concerns about immigration or hold negative attitudes about immigrants than younger people (Mayda, 2006; Quillian, 1995). Yet while prevailing stereotypes portray older people as growing increasingly intolerant and prejudiced towards immigrants and minorities as they age, existing research has shown that ageing – the process of growing older – has no such effect (Krosnick and Alwin, 1989; Schuman, Steeh and Bobo, 1985).

Recent research has empirically demonstrated that age-specific patterns regarding immigration attitudes are due to a person’s year of birth, rather than his or her biological age (Calahorrano, 2013; Gorodzeisky and Semyonov, 2018; McLaren and Paterson, 2019; Schotte and Winkler, 2018). The reasons for this are not immediately apparent, as the trend from one cohort to the next is non-linear and fluctuates (Gorodzeisky and Semyonov, 2018). In other words, it is not simply a matter of older generations being more against immigration than younger generations. Instead, it appears that age cohorts, individuals born around the same time, experience a unique set of common circumstances constituting a shared political socialization that somehow has a long-lasting impact on their attitudes towards immigration.

The term ‘political socialization’ connotes a process of adaptation that

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involves the perpetuation of principles, ideals, and norms from one generation to the next. While a typical setting for this occurs in the family, the national political environment also matters. Young people are exposed to normative ideals and principles via the “political tenor” of the larger society (Levin, 1961). The role of the political climate in socialization is not a new idea – yet surprisingly little effort has been made to understand the content and contours of its influence. Establishing this is not immediately apparent since “the differences between the political environments are not always dramatically large: adjacent cohorts may not have experienced sets of political events substantially different in their central political meaning” (Cutler, 1976, p.189). In our view, cohort differentiation in political behavior does not necessarily require radical discontinuities in the political environment, such as landmark events or regime change, which have drawn attention. Rather, socialization can also proceed “by fits and starts” (Sears and Valentino, 1997, p.46).

In this article, we examine the role of the political climate during formative years as an overlooked reason as to why differences in attitudes towards immigration emerge across cohorts and persist later in adulthood. Existing research on the formation of attitudes towards immigration or ethnic minorities tends to focus on how social climates, such as the family (Dinas and Fouka, 2018; Miklikowska, 2016), peers (Aboud and Amato, 2008), or school (Lancee and Sarrasin, 2015; Thomsen and Olsen, 2017), act as socializing agents. Our aim here is not to deny the role of these already established micro and meso-level contexts as socializing agents. We appeal to the notion that individuals are subject to simultaneous contexts of influence during their socialization (for an overview see Hatemi and McDermott).
We theorize that discontinuities in the prevailing principles of equality and tradition during a person’s formative political climate impinge on their attitudes towards immigration as adults. From this, we derive hypotheses that we test using historical political data from the Manifesto Project Dataset that we integrate with contemporary micro-data on attitudes towards immigration from eight rounds of the European Social Survey (2002 - 2016) across twelve cohorts in nine European countries. To model the potential effect of the political climate during the respondents’ formative years, we conduct a hierarchical age-period-cohort analysis with synthetic age cohorts. Our research design allows us to assess attitudes to immigration of cohorts socialized between the years 1945 – 2008.

Our contribution to the scholarly literature is twofold. Firstly, with notable exceptions (Grasso et al., 2019; Smets and Neundorf, 2014), the political climate of the larger society — that is the country as a whole — during a person’s youth has been an understudied aspect of the political socialization process. By focusing on early socialization, we contribute by theorizing how the political climate of a person’s formative years becomes an important antecedent to their attitudes towards immigration later in life. Secondly, we also make a contribution to the scholarly understanding of attitudes towards immigration. We do so by empirically demonstrating what factors contribute to the formation of immigration attitudes during a person’s youth and how these produce systematic differentiation between cohorts, a topic that is still in its infancy.
The Political Socialization of Cohorts

Political orientations tend to be acquired during a person’s impressionable years, a critical period of young adulthood. Individuals experience a finite period of ‘plasticity’ while they transition from adolescence to young adulthood as they engage for the first time with social and political institutions (Hanks 1981; Marsh 1971; Neundorf, Smets and García-Albacete 2013; Niemi and Sobieszek 1977; Sapiro 2004). Due to this, political socialization, the process through which an individual ‘acquires his political orientations, his knowledge, feelings, and evaluations of the political world’ typically occurs during this time (Dawson, Prewitt and Dawson 1977, p.33) and reflects the adaptation of a person to their wider societal context.

The age stability argument postulates that the political predispositions a person acquires in their youth are then crystallized and remain remarkably persistent as the person grows older. As a result, these political orientations are expected to be deeply entrenched and remain more or less stable over the lifetime, and rarely subjected to change (Jennings and Markus 1984; Lewis-Beck 2009; Sears 1981; Visser and Krosnick 1998). Still, the persistence of a person’s pre-adult attitudes through their lifetime has been debated by scholars (Alwin, Cohen and Newcomb 1991; Sears and Funk 1999). Empirical evidence indicates that the orientations are more susceptible to change during lifecycle events (such as getting married, becoming a parent, retiring from the labor market). This occurs because attitudes towards symbolic political issues have a strong affective basis which are based on symbolic predispositions crystallized during a person’s early years, unlike non-symbolic issues which have a cognitive and informational basis (Henry and Sears 2009).

As a person’s attitudes towards immigration are highly symbolic, it is
then likely that they persist across the lifetime (McLaren 2007; Schildkraut 2010, 2014). In fact, previous empirical studies show that attitudes towards immigration are stable over adulthood (Hooghe and Wilkenfeld 2008) in a similar way to other group-related attitudes such as those towards ethnic minorities (Sears and Funk 1999). In line with this, a recent study demonstrates that retiring from the labor market, an important lifecycle event, does not affect a person’s attitudes towards immigration (Jeannet 2018).

Assuming that attitudes towards immigration are formed quite early in life and persist over a lifetime, we would then expect to observe a systematic pattern in political behavior across cohorts. In other words, as attitudes are understood to be “stamped” in young adulthood, each age cohort has a different stamp due to different tempo-spatial contextual environments in which they came of age (Schuman and Corning 2012; Schuman and Rodgers 2004; Schuman and Scott 1989). It is widely recognized that through this phenomenon, systematic differences emerge in values, beliefs, and attitudes between cohorts that persist as they grow older (Abramson and Inglehart 1992; Inglehart 2008).

The Role of the Formative Political Climate

It is generally acknowledged that landmark political events, such as the Watergate political scandal or the Vietnam War, experienced during youth leave their mark on a cohort’s political behavior (Dinas 2013; Erikson and Stoker 2011; Schuman and Corning 2012). For example, Abrajano and Lundgren demonstrate how landmark immigration legislation that was enacted during a cohort’s impressionable years then influenced its immigration attitudes later in life.
Yet, landmark events are not a sufficient general explanation for intra-cohort variation in attitudes, as even age-cohorts who came of age in the absence of landmark political events still exhibit distinctive attitudes to immigration (Gorodzeisky and Semyonov, 2018). We build on Grasso et al. (2019) and consider the diffuse political context in which a cohort came of age, in contrast to previous more narrow interpretations, which focus on exposure to specific political events or regime change affecting attitudes to immigration. Existing research regarding public attitudes towards immigration, albeit sparse, provides support for the plausibility of the political climate’s effect. For instance, a recent study links the mobilization of far-right political elites to the resurgence of anti-immigration attitudes in younger generations (McLaren and Paterson, 2019).

Drawing on both the empirical evidence of the contemporary political context on a person’s political behavior (Conway, 1989; Layman and Green, 2006; Newman, 2013) and the theoretical understanding of the political socialization of age-cohorts during the impressionable years, we argue that the political climate during a person’s formative years is also an influential socializing agent. Here, we define political climate as an ensemble of normative principles, beliefs, ideals, and values that prevail in the political zeitgeist and which are reflected in the views of the ruling political elites. In our case, we focus on the formative political climate, which is the political climate during a person’s impressionable years as opposed to the contemporary political climate.

We put forward two principles that – partly – define a national political climate, which we deem most likely to be related to the formation of attitudes towards immigration. These are the principles of equality and tra-
dition, both fundamental ideals\(^2\) in politics (Dahl 2006; Schaefer 2007). The phenomenon of immigration is related to the pursuit of both of these principles, but in opposing ways. The principle of maintaining tradition is challenged by the arrival of immigrants, who bring their own norms and traditions, changing their host society in the process. On the other hand, the principle of equality is bolstered by the arrival of immigrants, since this allows for the expression of understanding, acceptance, and tolerance of “others” (Davidov et al. 2008).

Therefore, through the process of political socialization, a political climate in which the principle of equality is common is expected to foster the formulation of positive attitudes towards immigration, while a political climate rife with the principle of tradition is expected to foster the formulation of negative ones. We expect the underlying mechanism to act through the person’s normative adaptation to those principles that are most diffused in politics at the time. We do not mean this in a simplistic sense, whereby a formative political environment turns young people into fully-fledged egalitarians or traditionalists. Rather, the logic of our argument is somewhat more nuanced. According to our line of reasoning a young person who is inclined to view immigration in a negative manner, but who grows up in a political environment with strong prevailing principles of equality, may express less negative views than if she had come of age in a political milieu dominated by traditional principles.

The relative importance of principles of equality and tradition tends to oscillate temporally along with the national political climate (Stimson 1999). This fluctuation provides variation in the extent to which cohorts are exposed

\(^2\)Henceforth, we use the words principle, value, and ideal interchangeably.
to these principles during the formative years. We expect that the variation in this exposure then explains systematic patterns in attitudes towards immigration across cohorts later in life.

Based on our theoretical framework, we derive two testable hypotheses:

**Hypothesis 1:** Individuals belonging to a cohort that experienced a formative political climate where the principle of equality was predominant are significantly more likely to express support for immigration than individuals who do not.

**Hypothesis 2:** Individuals belonging to a cohort that experienced a formative political climate where the principle of tradition was predominant are significantly less likely to express support for immigration than individuals who do not.

**Data and Method**

**Data**

Our interest is in explaining differences in individual attitudes to immigration across cohorts within countries. The complexity of our design requires an accurate specification of influential factors at each level of analysis. To test our hypotheses, micro-level data that include measures of attitudes to immigration at the individual-level as well as contextual-level data for cohorts and survey years in each country are required. In order to assess the contextual socialization effect during respondents’ formative years, we collect indicators that capture historical characteristics of interest (at the time when
respondents were 18 years old) in each country. It is important to point out that this operationalization assumes that each respondent was socialized in the country in which he or she now lives\footnote{We take this into consideration in our models by controlling for individuals who are not citizens of the country which they were surveyed in, to minimize the possibility that they were not socialized there.} Although not necessarily connected to our hypotheses testing, we also control for macro-level indicators at the time when surveys were conducted in each country to capture the current macro-level effects that affect all cohorts similarly.

At the individual level, the present analysis relies on biannual data from the European Social Survey (ESS) for the period 2002 – 2016 in nine European countries across 108 country-cohorts \cite{European Social Survey 2018}. The ESS survey instrument has been widely used by scholars to measure attitudes towards immigration \cite{Hainmueller and Hopkins 2014}. Using the ESS allows us to disentangle the effect of age, cohort and time period on attitudes to immigration across a number of European countries, because people of the same cohort in one country are observed at different stages of their life as well as at different time periods. Moreover, due to using cross-sectional data we are also able to observe different formative climates during the same time period. We integrate the micro-attitudinal data from the ESS with contextual data at the cohort and period level. These are gathered from various sources, which are further described below.

The number of countries in our sample is restricted according to several criteria. Firstly, we include only countries that participated in all eight rounds of the ESS, in order to sufficiently estimate period effects. Secondly, only countries for which data regarding our key independent (cohort and
period level) contextual variables were available are included. Finally, since our main hypotheses expect an effect of fluctuations in the principles forming the political climate of a country to play a key role in explaining cohort differences in immigration attitudes, we included only countries that have had a democratic political regime since 1945. This restriction ensures that there was a possible fluctuation of the prevalent political climate over the years typically associated with a multiparty system compared to dictatorial (one-party) systems. Thus, the final sample of countries includes Belgium, Switzerland, Germany[^4], Finland, United Kingdom, Ireland, Netherlands, Norway and Sweden.

The sample is restricted to respondents born between 1931 and 1990 and to those who were between 18 and 85 years old in the year of the survey. These restrictions are imposed for several reasons. Firstly, we aimed to have each cohort represented in as many periods as possible[^5]. Secondly, since we are examining more complex attitudes, we would expect that political socialization and the coming of age should occur when the respondents have reached adulthood and not earlier (Bartels and Jackman, 2014). Therefore, we expect respondents younger than 18 years old not to have had the chance to fully socialize into the political culture and be entirely exposed to the political climate of their country. Moreover, 18 years is also the age when most respondents entered the electorate in their respective countries, presumably being more aware of the political reality compared to their younger coun-

[^4]: Due to historical disparities which likely influence differences between cohorts in the two parts of Germany, we divided Germany into East Germany and West Germany. Only respondents from West Germany have been analyzed.

[^5]: Only the youngest cohort (born between the years 1986-1990) is not present in every period (it is not observed in survey year 2002).
terparts. Finally, we necessitated a large enough number of observations in every year of age. Given the small number of individuals over the age of 85 in our sample, we eliminated respondents who are 86 years old and older, due to the uncertainty of the estimates for these cohorts.

Measurement

Our dependent variable is a composite index that measures a person’s overall assessment of the impact of immigration on their society. Respondents were asked three questions: (1) Would you say it is generally bad or good for [country]’s economy that people come to live here from other countries? (2) Would you say that [country]’s cultural life is generally undermined or enriched by people coming to live here from other countries? and (3) Is [country] made a worse or a better place to live by people coming to live here from other countries? Answers are coded on an eleven-point scale where 0 is the most negative and 10 the most positive reply. We created an additive index ranging from 0 to 30. The index has been widely used by other scholars studying attitudes to immigration (Gorodzeisky and Semyonov, 2018; McLaren and Paterson, 2019; Sides and Citrin, 2007). Those respondents with missing values on any of the three items were excluded from the analysis.

6The Cronbach’s Alpha for the three items is 0.84, thus confirming that these items measure a similar underlying concept.

7Overall, 3.76 percent of respondents (4,539) were excluded from the analysis because of lack of information on any of the three items forming the dependent variable.

8As a robustness check, we also re-estimated the models including respondents that answered at least two of the three items comprising our dependent variable. The results obtained from this analysis were nearly identical to those presented here and are introduced in Table A5.1 in the supplementary information.
Apart from age, we included a set of demographic variables, such as gender, university attainment, type of community the respondent resides in (urban versus rural), subjective income difficulties\(^9\) and minority status as controls. Following standard practice in age-period-cohort models (Reither et al., 2015\(^9\)), we divide the survey population into five-year country-cohorts, where individuals in the sample are nested in twelve cohorts based on their year of birth. The cohorts’ birth years range from 1931-1935 to 1986-1990.\(^{10}\) We excluded respondents with missing data in the individual independent variables used in the regression analysis.\(^{11}\) Given the relatively small number of cases with missing data (less than 5%) in the dependent and independent variables combined, we applied listwise deletion. The final sample is thus 114,788 respondents. The list of countries, country codes, total sample size for each country as well as for each of the ESS rounds are available in Table A1.3 in the supplementary information.

**Cohort-level variables**

\(^9\)Previous studies (Burns and Gimpel, 2000; Espenshade and Hempstead, 1996) have found that a perceived economic competition in the form of a pessimistic personal economic outlook leads to greater negativity towards immigrants compared to an actual one (Espenshade and Calhoun, 1993).

\(^{10}\)As a robustness check, we also re-estimated the models using a different range of cohorts. We created 21 cohorts with three-year intervals ranging from years of birth between 1931-1933 to 1988-1990. The results obtained using these new cohort intervals were highly similar to those of the main (five-year intervals) analysis. Results are presented in Table 4.1 in the supplementary information.

\(^{11}\)Overall, 1.34 percent of respondents (1,623) were excluded because of lack of information in the independent variables.
To test our expectations regarding systematic cohort differences in attitudes to immigration, we introduce a series of country-cohort independent variables into our model. Firstly, information for all independent variables in each country was gathered at the time respondents were 18 years old. Secondly, we then take the average across all years when respondents from one cohort were 18 years old to obtain a single value for each indicator of interest. For instance, for the oldest cohort (born between 1931-1935) in Belgium, any given country-cohort independent variable is calculated as the mean value of the independent variable in the years 1949, 1950, 1951, 1952 and 1953 in Belgium.

We hypothesize that fluctuations in principles of equality (H1) and tradition (H2) in the formative political climate explain the systematic differences in attitudes towards immigration across age-cohorts later in life. We therefore look at the presence of the principles of equality and tradition during times when the respondents in our sample were socialized. We rely on data from The Manifesto Project and measure the two principles as the share of quasi-sentences calculated as a fraction of the overall number of allocated codes per manifesto \cite{Volkens2018}. The principle of equality is understood as a positive concept of social justice and the need for fair treatment of all people\cite{Volkens2018}.

On the other hand, the principle of tradition is coded as positive or favorable mentions of traditional and/or religious moral values\cite{Volkens2018}.

\footnote{This includes references to topics such as special protection for underprivileged social groups, removal of class barriers, need for fair distribution of resources and the end of racial or sexual discrimination\cite{Volkens2018}.}

\footnote{This includes references to topics such as prohibition, censorship and suppression of immorality and unseemly behaviour, maintenance and stability of the traditional family as a value, and support for the role of religious institutions in state and society\cite{Volkens2018}.}
As the data in the Manifesto Project is provided at the political-party level, we transform it into an annual measure by country. To do so, a weighted average was calculated for each country-year. We weighted by the share of votes that the party has received in the country's last elections for two main reasons. Firstly, this type of weighting accounts for the popularity of the party and how likely it is that said party's manifesto and general preferences will receive attention in the country (for example through the media). It is easy to imagine that in a country with few niche parties promoting the ideal of equality, but also with one major party promoting the value of tradition, that the relative electoral support for the parties would matter for the general political climate. It is reasonable to expect that the general political climate would probably be more traditionalist than egalitarian. Secondly, while taking into consideration the relative electoral importance of the party, we account for both basic ways of how politics operates; the fact that political parties influence the fundamental principles which emerge in the political tenor (supply-side), but also the fact that these principles may be more or less upheld by the citizens (demand-side).

We calculate the weighted mean of equality/tradition principles in the formative political climate when cohorts were between the ages of 18 and 23. For instance, for the cohort born between 1931 and 1935 we calculate the weighted mean of the emphasis on equality and/or tradition in political et al., 2018).

In the case of mixed electoral systems with a proportional and majoritarian component, we use the vote share in the proportional component. In case of an electoral coalition where programs for all members of the coalition and the coalition were coded, we set the vote share to zero for the coalition program so that the sum of the share is not higher than 100 percent.
manifestos in each country for the years 1949-1953. The time trends in
equality and tradition across cohorts in the countries included can be found
in the supporting information in Figure A2.1 and Figure A2.2 respectively.

Apart from coming of age during distinct political climates, there might
be other cohort-level factors accounting for the variation in cohorts’ immi-
grant attitudes. Overall, educational attainment has increased in the last
decades in all European countries (Lutz et al., 2019), while higher educa-
tion has also been found to have positive effects on attitudes to immigration
(Cavaille and Marshall, 2019; Drazanova, 2017; Lancee and Sarrasin, 2015).
Thus, one would expect higher levels of education amongst younger cohorts
to play a role in inter-cohort differences in attitudes to immigration.\textsuperscript{15} In
order to test whether cohort differences in attitudes to immigration are due
to demographic differences regarding their level of education, we calculated
the percentage of university educated individuals within each cohort.\textsuperscript{16}

We expect growing up with different degrees of ethnic diversity to play an
important role in intra-cohort differences in immigration attitudes. For in-
stance, younger cohorts of Europeans have had more opportunities for social
contact with foreigners and ethnic minorities than older cohorts. Native con-

\textsuperscript{15}We would like to note that the two youngest cohorts (those born between the years
1980-1985 and 1986-1990) have a lower percentage of university educated individuals com-
pared to older cohorts, because in many instances (for example in the 2002 ESS survey
year), they were too young to have completed a university degree.

\textsuperscript{16}We opted to calculate the percentage of university educated individuals within each
cohort instead of cohorts’ mean years of education. Years of education do not provide
enough information about the respondents’ educational level, since they may not be com-
parable across countries, especially if the countries’ respective educational systems are too
different.
tact with minority groups, such as immigrants, is widely acknowledged as a mechanism for improving inter-group relations (Allport, 1954; Pettigrew et al., 2011). However, the opposite effect could also occur, whereby out-groups provoke a real or perceived competition with in-groups over resources and this, in turn, brings about more hostile attitudes towards immigration among the native population (Olzak, 1992; Quillian, 1995; Semyonov, Rajman and Gorodzeisky, 2006). To measure the extent of cohorts’ exposure to ethnic (and immigration) diversity during their formative years, we use two variables of interest. Firstly, we include data on countries’ net migration, available from the United Nations Department of Economic and Social Affairs’ Population Division (2017) since 1950. Data is provided in five-years intervals. We therefore assigned each cohort a net migration value in their respective country for the period when individuals in each cohort were between 18 and 23 years old.\textsuperscript{17} However, as McLaren and Paterson (2019) rightly point out, net migration fails to capture the extent of cumulative overtime diversity. For this reason, we also include a historical ethnic fractionalization index for each country in our sample, available annually since 1945 using Dražanová’s (2019) Historical Ethnic Fractionalization (HEF) dataset (Drazanova, 2019).\textsuperscript{18} As with the previous variables, we calculated a single mean value of the ethnic fractionalization index for each country-cohort.

\textsuperscript{17}For example, for the oldest cohort born between 1931-1935 we assigned the estimated net migration for the years 1950 – 1955, while we attributed the net migration estimate for the years 1955-1960 to the cohort born between 1936-1940.

\textsuperscript{18}The original ethnic fractionalization index ranges from 0, when there is no ethnic fractionalization and all individuals are members of the same ethnic group, to 1, where each individual belongs to his or her own ethnic group. For ease of interpretation, we multiplied the original ethnic fractionalization index by 100.
Cohorts entering the labor market when unemployment rates were high were found to be more likely to hold negative attitudes toward immigrants (Gorodzeisky and Semyonov, 2018). Therefore, we also control for countries’ unemployment rate at the time each birth-cohort was 18 years old as a proxy for entering the country’s labor market. We draw on data from the OECD’s Annual Labour Force Statistics, which provides the rate of unemployment as the percentage of a country’s civilian labor force since 1956 (Organisation for Economic Co-operation and Development, 2019). Again, we calculated unemployment rate for each cohort as the mean value of the unemployment rate in the years when each individual within a cohort was 18 years old.

Period-level variables

Certain periods might exert a shift in attitudes for all individuals in society, regardless of age or birth cohort. Therefore, in order to properly identify cohort effects and disentangle them from eventual period effects, we also need to control for period effects in our models. As the effect of time varying processes might be different in individual countries, we control for period effects with a series of country-period independent variables.

As with the country-cohort level variables, we include two country-period variables measuring the relative dominance of equality and tradition in the contemporary political climate. The relative dominance of the principles of equality and tradition is calculated in a similar way to the case of country-cohorts, but corresponds to the year in which the survey took place in each country. To measure diversity, we apply the estimates of net migration for

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19 For the oldest cohort (1931–1935) we used only the value of the unemployment rate in 1956, because of a lack of comparable data in previous years.
each country in the corresponding year of the survey, retrieved from Eurostat. Unfortunately, data to calculate the ethnic fractionalization index were not available for the latest rounds of ESS. We therefore used the measure of foreign stock in each country as a proxy for ethnic fractionalization (Eurostat, 2019). Data regarding the harmonized unemployment rate were taken from OECD’s Labor Market Statistics and reflect the total percentage of unemployed labor force in each country. Variable coding and descriptive statistics of all variables are available in Table A1.1 and Table A1.2 in the supplementary information.

Methods

Research on cohort effects needs to address the potentially confounding influences of age and period effects when estimating models. In the literature this issue is recognized as the age-period-cohort “identification problem” and is well known in studies of this type (McKenzie, 2006; Yang et al., 2008). The identification problem emerges because age, period and cohort effects are linear functions of one another. As soon as we know two values, we simultaneously know the third, since age = period (year of survey) – birth year.

Our empirical strategy overcomes the identification problem by conducting a hierarchical age-period-cohort regression analysis (HAPC), which is well suited for repeated cross-sectional survey designs (Zheng, Yang and

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20 We calculated the foreign stock of each country by dividing the number of the overall population by the number of foreign nationals in the survey year. Further, we multiplied the obtained results by 100.

21 Data for Switzerland in the years 2002-2008 come from Harmonized Unemployment Rate: All Persons for Switzerland fourth quarter.
Land, 2011). HAPC analysis distinguishes between the three temporal phenomenon of age, period (year of survey) and birth cohort (year of birth) effects using micro-data (Yang and Land, 2013) (Yang and Land 2013). It constructs synthetic cohorts based on age groups to compensate for the absence of longitudinal data, while individuals are cross-classified22 nested in both country-period and country-cohort23. In constructing cohorts, the model is no longer perfectly collinear – when knowing the cohort and period, one cannot determine the exact age of the respondent, but only a range of possible ages. Moreover, constructing cohorts that include several birth years is consistent with our theoretical expectations that there are no sharp differences between individuals born in one year compared to another, “but that distinctions are caused by relatively small changes over time such that meaningful divisions are only observed between those whose formative years are temporally distant from one another” (Down and Wilson, 2013, p.438). In our case, this means that individual respondents can potentially belong to different combinations of country-cohorts and country-periods.

Taking into consideration all of the above, we apply a hierarchical three level age-period-cohort model, where individuals are nested simultaneously within two second-level variables (country-cohort and country-period) as well as nested within countries, since possible clustering at country level might still occur. We also include random effects for cohorts and periods within

22 In cross-classified data, lower level units do not belong to one and only one higher level unit. Rather, lower level units belong to pairs or combinations of higher level units formed by crossing two or more higher level classifications with one another.

23 Following Yang (2008), we assume that while age is related to biological processes of aging, cohort and period effects rather reflect the influences of external forces and as such should be considered as macro-level variables.
countries in our model.

The level-1 model is:

\[ Y_{ijkc} = \beta_{0jkc} + \beta_1 X_{ijkc} + \epsilon_{ijkc} \]  \hspace{1cm} (1)

where, within each country-cohort \( j \), country-period \( k \) and country \( c \), respondents’ attitudes to immigration \( Y \) are a function of their individual characteristics (vector \( X \)). \( \beta_{0jkc} \) is the mean of attitudes to immigration of individuals in country-cohort \( j \), country-period \( k \), and country \( c \), \( \beta_1 \) is the level-1 fixed effects and \( \epsilon_{ijkc} \) is the random individual variation.

The level-2 model is:

\[ \beta_{0jkc} = \gamma_{0jkc} + C_{0jc} Z_{jc} + K_{0kc} T_{kc} + \mu_{0jc} + \nu_{0kc} \]  \hspace{1cm} (2)

where \( Z \) is a vector of country-cohort characteristics and \( T \) is a vector of country-period characteristics, \( \mu_{0jc} \) is the residual random effect of country-cohort \( j \), \( \nu_{0kc} \) is the residual random effect of country-period \( k \).

The level-3 model is:

\[ \gamma_0 = x_{0c} + \omega_{0c} \]  \hspace{1cm} (3)

where \( \omega_{0c} \) is the residual random effect of country \( c \). In all three models (1), (2) and (3) \( \mu_{0j} \), \( \nu_{0k} \) and \( \omega_{0c} \) are assumed normally distributed with mean 0 and variance \( \tau_{\mu} \), \( \tau_{\nu} \) and \( \tau_{\omega} \) respectively.

Age and all country-cohort and country-period level variables are transformed by centering them around their grand mean.
Results

We begin by estimating a so-called null hierarchical three-level cross-classified model (Model 0 in Table 1). This model provides information on the variance components of immigration attitudes at each level of analysis (Level 1 - individual, Level 2 - country-cohort and country-period, Level 3 - country). It includes only an intercept, country-cohort random effects, country-period random effects, country random effects and an individual level residual error term.

Figure 1: Caterpillar Plot of Country Effects Together with 95% Confidence Intervals

Figure 1 shows the caterpillar plot of country random effects with their associated 95% confidence intervals from the null model. Countries are shown in rank order according to their predicted effects. The horizontal zero line represents the average country in the data. As can be seen from the figure, the United Kingdom and Belgium are significantly below country average
regarding their positive attitudes to immigration (averaged across cohorts and periods), while Switzerland, Finland and Sweden hold, at the country level, significantly above-average attitudes to immigration. Other countries (the Netherlands, Ireland, Norway and Germany) do not differ significantly from the average country.

Figure 2: Cohort Random Effect Estimates from the Unconditional Hierarchical Three-level Cross-Classified Model (Model 0 in Table 1).

Figure 2 and Figure 3 display the Best Linear Unbiased Predictions (BLUPs) of the country-cohort and country-period random effects from the unconditional model by country with mean equal to zero. As can be seen from Figure 2, the relationship between cohorts and immigration attitudes in many countries is not linear. Younger cohorts in certain countries (for example Switzerland, Norway, Finland) display at least the same (negative) level of immigration attitudes as their older counterparts. These visual illustrations confirm that cross-cohort variations are rather important for understanding
changes in attitudes toward immigration. Period random effects presented in Figure 3 reveal that in many countries (particularly Ireland, Germany and the United Kingdom) there are statistically significant temporal changes regarding attitudes to immigration. While in the United Kingdom and Ireland the level of attitudes to immigration became positive during the last period, in Germany pro-immigration attitudes slightly declined at the time of the latest survey (2016) compared to the previous one (2014).

Figure 3: Period Random Effect Estimates from the Unconditional Hierarchical Three-level Cross-classified Model (Model 0 in Table 1)

In Model 1 in Table 1 we add individual-level control variables to the null model and present the coefficients together with the associated standard errors for the fixed part of the models as well as random coefficients for country-cohorts, country-periods and countries. Consistent with most previous studies, in general, the young are significantly more supportive of immigration than the old. Looking at the effects of other covariates, having a university education, being a member of a minority group and residing
in an urban area are all significantly positively associated with immigration attitudes. On the other hand, being female and having income difficulties are significantly negatively associated with immigration attitudes. Adding individual level variables to Model 0 has led to lowering the percentage of unexplained variance not only for the individual level, but also at the cohort level (Table 1). This is due to some individual level variables likely explaining some of the differences in attitudes to immigration across cohorts. For instance, it is highly likely that education at the individual level also explains part of the cohort differences in attitudes to immigration.

Table 1: Results of a Hierarchical Multilevel Cross-Classified Model Explaining Cohort-Differences in Attitudes to Immigration

<table>
<thead>
<tr>
<th></th>
<th>Model 0</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intercept</strong></td>
<td>16.68***</td>
<td>-0.448</td>
<td>15.40***</td>
<td>-0.444</td>
<td>15.35***</td>
</tr>
<tr>
<td><strong>Individual-level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-0.015***</td>
<td>-0.002</td>
<td>-0.015***</td>
<td>-0.002</td>
<td>-0.015***</td>
</tr>
<tr>
<td>University degree</td>
<td>3.040***</td>
<td>-0.035</td>
<td>3.038***</td>
<td>-0.035</td>
<td>3.038***</td>
</tr>
<tr>
<td>Female</td>
<td>-0.170***</td>
<td>-0.032</td>
<td>-0.170***</td>
<td>-0.032</td>
<td>-0.170***</td>
</tr>
<tr>
<td>Urban residence</td>
<td>0.806***</td>
<td>-0.036</td>
<td>0.806***</td>
<td>-0.036</td>
<td>0.807***</td>
</tr>
<tr>
<td>Income difficulties</td>
<td>-1.454***</td>
<td>-0.047</td>
<td>-1.432***</td>
<td>-0.047</td>
<td>-1.431***</td>
</tr>
<tr>
<td>Minority member</td>
<td>1.681***</td>
<td>-0.042</td>
<td>1.680***</td>
<td>-0.042</td>
<td>1.680***</td>
</tr>
<tr>
<td><strong>Country-Cohort level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political climate of equality</td>
<td>0.040*</td>
<td>0.017</td>
<td>0.032*</td>
<td>0.017</td>
<td>0.032*</td>
</tr>
<tr>
<td>Political climate of tradition</td>
<td>-0.072*</td>
<td>-0.032</td>
<td>-0.065*</td>
<td>-0.032</td>
<td>-0.065*</td>
</tr>
<tr>
<td>% of university educated</td>
<td>0.011**</td>
<td>0.004</td>
<td></td>
<td></td>
<td>0.011**</td>
</tr>
<tr>
<td>Ethnic fractionalization</td>
<td>-0.073***</td>
<td>-0.013</td>
<td></td>
<td></td>
<td>-0.073***</td>
</tr>
<tr>
<td>Net migration</td>
<td>-0.040***</td>
<td>-0.011</td>
<td></td>
<td></td>
<td>-0.040***</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>-0.048***</td>
<td>-0.013</td>
<td></td>
<td></td>
<td>-0.048***</td>
</tr>
<tr>
<td><strong>Country-Period level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political climate of equality</td>
<td>0.172***</td>
<td>-0.038</td>
<td>0.172***</td>
<td>-0.038</td>
<td>0.190***</td>
</tr>
<tr>
<td>Political climate of tradition</td>
<td>-0.033</td>
<td>-0.061</td>
<td>-0.031</td>
<td>-0.061</td>
<td>-0.044</td>
</tr>
<tr>
<td>Foreign stock</td>
<td>0.092*</td>
<td>-0.04</td>
<td>0.096*</td>
<td>-0.04</td>
<td>0.138***</td>
</tr>
<tr>
<td>Net migration</td>
<td>0.014</td>
<td>-0.023</td>
<td>0.013</td>
<td>-0.023</td>
<td>0.018</td>
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<tr>
<td>Unemployment</td>
<td>-0.101*</td>
<td>-0.044</td>
<td>-0.104*</td>
<td>-0.044</td>
<td>-0.085</td>
</tr>
<tr>
<td><strong>Random</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Country</td>
<td>1.698</td>
<td>-0.85</td>
<td>1.708</td>
<td>-0.832</td>
<td>1.608</td>
</tr>
<tr>
<td>Cohort (in country)</td>
<td>0.502</td>
<td>-0.077</td>
<td>0.107</td>
<td>-0.02</td>
<td>0.1</td>
</tr>
<tr>
<td>Period (in country)</td>
<td>0.479</td>
<td>-0.088</td>
<td>0.367</td>
<td>-0.068</td>
<td>0.185</td>
</tr>
<tr>
<td>Individual</td>
<td>33.064</td>
<td>-0.138</td>
<td>29.946</td>
<td>-0.125</td>
<td>29.947</td>
</tr>
</tbody>
</table>

Note: Entries are unstandardized coefficients and standard errors. Level 1 N: 114,788 Level 2 Country-cohort N: 108; Level 2 Country-period N: 72; Level 3 Country-level N: 9
*p<0.05, ** p<0.01, *** p<0.001

Recall that we hypothesized that individuals who belong to an age-cohort
that experienced their formative years in a political climate dominated by
the value of equality are significantly more likely to express support for im-
migration (H1), while individuals who experienced their formative years in
a climate dominated by traditionalist values are significantly less likely to
express support for immigration (H2). Models 2 and 3 in Table 1 investigate
these propositions while also controlling for country-period and individual
level factors.

Model 2 in Table 1 shows the results for a model including a measure of
a climate of equality at the country-cohort level, while also controlling for
the political climates of equality and tradition, unemployment, net migration
and foreign stock at the country-period level. The significantly positive effect
of equality at the country-cohort level implies that cohorts that came of age
in times when the political climate in their country emphasized the value
of equality are more likely to hold positive attitudes towards immigration.
Model 3 in Table 1 includes a measure of the principle of tradition in the po-
litical climate at the country-cohort level, while also controlling for individual
as well as period-level factors. The significantly negative coefficient of tra-
dition at the country-cohort level confirms our expectations, assuming that
those cohorts coming of age in a political climate emphasizing traditional
values are significantly less likely to hold positive attitudes to immigration.

Finally, Model 4 includes all independent variables at the individual level
(age, gender, having a university education, being a member of a minority
group, residing in an urban area and having income difficulties), country-
cohort level (political climate of equality at the time cohorts were 18 years
old, political climate of tradition at the time cohorts were 18 years old, per-
centage of university educated within the cohort, net migration at the time
cohorts were 18 years old, ethnic fractionalization at the time cohorts were 18 years old, and unemployment at the time cohorts were 18 years old) and country-period level (political climate of equality, political climate of tradition, foreign stock, net migration, unemployment). At the country-cohort level, cohorts exposed to more ethnic diversity (measured as a country’s ethnic fractionalization and country’s net migration) during their formative years appear to become more hostile towards immigrants. Similarly, cohorts coming of age at the time of economic hardship (high unemployment) are significantly more negative towards immigration than cohorts coming of age in more affluent times. On the other hand, cohorts with a higher percentage of university educated individuals have significantly more positive attitudes to immigration.

The effect of our two main independent variables of interest, equality and tradition measured at the country-cohort level, remain significant even after controlling for all other factors at different levels. The results support our argument that growing up in different political climates may have a long-lasting effect on (future) political attitudes of entire generations. Those respondents who were socialized into a political climate that emphasized equality are significantly more likely to hold positive immigration attitudes compared to those who came of age in different political climates. Similarly, those cohorts that spent their formative years in a political climate emphasizing traditional values are significantly more likely to express negative immigration attitudes. Moreover, as the median age in the sample is 48 years old, this effect appears to be long-lasting. At the country-period level, the political climate of equality and tradition...
ity also significantly positively influences immigration attitudes, while, on the other hand, the political climate of tradition does not exert a statistically significant effect. As for other country-period control variables, greater diversity measured as foreign stock leads to more positive attitudes to immigration, while other variables do not reach the conventional level of statistical significance.

In substantive terms, Model 4 shows that an increase in one percentage point of equality in the formative political climate leads to a 0.03 increase in attitudes to immigration on a scale of 0 to 30. In contrast, one percentage point increase of traditionalism in the formative political climate leads to a 0.06 decrease in attitudes to immigration. Comparing the substantive effects of the two principles, it appears that traditionalism, given that its effect size is twice as large as that of equality, has a more substantial (negative) effect during the formative years on attitudes to immigration than the positive effect of equality.

Discussion and Conclusion

Drawing on political socialization theory, we posit that a person’s formative political climate – or, in other words, the political zeitgeist during their impressionable years - explains their attitudes towards immigration later on in life. Specifically, we hypothesize that exposure to varying levels of certain political principles in a political climate, namely equality and tradition, during a person’s youth have opposing effects on his or her attitudes to immigration in adulthood. We test our hypotheses using micro-attitudinal data that we integrated with historical political data to study over 100,000 individuals, belonging to twelve different cohorts from nine European countries.
The results of the hierarchical age-period-cohort analysis presented here indicate that cohorts formulate distinct patterns of attitudes towards immigration due to a collective process of political socialization they underwent during their youth. We find empirical support for the hypotheses that exposure to a political climate fostering principles of equality and tradition during the formative years affects a person’s attitudes towards immigration even later in life. When a person comes of age in a political climate where the principle of equality is widespread, it positively influences the attitudes towards immigration he or she has later in life. On the other hand, if tradition is a widespread principle in a person’s formative political climate, he or she is more likely to oppose immigration as adults. These findings are confirmed by a series of additional analyses and robustness checks, which are documented in the supporting information.

Our study holds important implications regarding the sources from which a person’s attitudes towards immigration originate. Traditional analysis generally investigates the effect of contemporary politics on attitudes. In contrast, our study deviates from this to reveal the importance of yesterday’s politics on today’s attitudes. The findings indicate that contextual exposure to principles of equality and tradition are central to the formulation of immigration attitudes, regardless of whether or not the person holds these ideals themselves. Since cohorts occupy the same temporal-spatial political context during their coming of age, their attitudes towards immigration as adults reflect this shared political socialization.

The ideals propagated by political elites and their relative popularity among the polity typically oscillate. Our findings imply that even these subtle and cyclical shifts have a formative power during the process of the political
socialization of youth. We contribute to the theoretical understanding of political socialization, as we believe that the general logic of our argument should apply to other symbolic attitudes besides immigration. Importantly, our results demonstrate that cohort differentiation in political behavior does not require radical shocks such as landmark events or regime change, albeit their effects are more conducive to an empirical identification. This implies that principles that are common in a particular political climate have an implicit normative function for who are socialized amongst them, affecting their political behavior later in life.

Naturally, our results are subject to some limitations. Our analysis cannot fully address what makes principles of equality and tradition ebb and flow in the first place. We cannot entirely rule out the possibility that these are tied to underlying cyclical changes in the popularity of liberal and conservative ideologies. Typically, socially conservative parties tend to emphasize tradition while socially liberal parties tend to emphasize equality. Therefore, the importance of these ideals in the political climate is possibly correlated to the political ideology of the party that holds power. To address this and validate our findings, we conduct a series of falsification tests using other principles typically correlated with liberal or conservative ideologies (e.g. maintaining law and order and environmentalism), none of which influence cohorts’ attitudes to immigration (available in the online supporting information in Table A6.1). Furthermore, the drawbacks to using cross-sectional surveys mean that we have not been able to follow how attitudes towards immigration maturate across the course of a single person’s life. Finally, we are not able to determine if the principles of equality and tradition affect individuals in general or only affect those who are undergoing a process of
political socialization.

These are all important issues that require further exploration. A fruitful avenue for further examining how the ideals of equality or tradition are causally related to attitudes towards immigration would be in an experimental setting, such as a priming experiment. Regarding the process of political socialization, much is still to be learned about how the role of the political climate collides with other socializing agents – such as the family or the school. Finally, future research might also delve into the heterogeneity of cohort effects by analyzing sub-groups within cohorts.

Political socialization is about the perpetuation of ideals, norms, and principles from one generation to the next. It is, therefore, worth noting that based on our findings, we can speculate about public attitudes towards immigration in future generations. Young people are undergoing socialization in the current political environment, rendering the ideals, norms, and principles that predominate in the tenor of politics today highly relevant for tomorrow. For attitudes towards immigration to become more positive, not only does traditionalism need to be contained, but also the principle of equality needs to be widespread. Looking at the current political climate situation in Europe, the future is rather foreboding, as the continued rise of the radical right-wing generates exposure to ideals and values which are antithetical to the formulation of pro-immigration views during a person’s formative years.
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