

# **The legacy of authoritarian regimes on democratic citizenship**

## **A global analysis of authoritarian indoctrination and repression<sup>1</sup>**

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### *Abstract*

This research addresses important and unresolved questions of democratization, by using a new methodological approach of cohort analysis to examine the lasting legacy of authoritarian dictatorships. We are conducting a comprehensive analysis of post-authoritarian countries from different parts of the world during the entire 20th century that experienced different types and durations of suppression. We show that the extent to which an authoritarian regime indoctrinates its people and represses dissent has a lasting impact on their citizens that goes beyond their existence. To test a newly developed theory of authoritarian socialization, existing survey data from numerous post-authoritarian countries is harmonized and combined with the data of Varieties of Democracy. The data is analyzed using hierarchical age, period, cohort analysis to estimate the generational differences in democratic support. The results show that there are distinct cohort differences in satisfaction with democracy that are due to the past experience of growing-up under non-democratic system. This research has important implication for understanding democratization from a micro perspective, as the legacy of authoritarian regime can undermine the development of a democratic political culture.

*Brief overview:* A global analysis of post-authoritarian regimes and the lasting impact on their citizens' democratic support.

*Keywords:* Authoritarian regimes, indoctrination, democratic support, nostalgia, cohort analysis.

## Introduction

In 2015, South Korea's Gallup Institute conducted a representative opinion poll and asked their citizens who has been the best leader of the country since 1945. 44% of all and 71% of the respondents in their 60s voted for the former military dictator Park Chung-hee, being followed with wide margin by the democratically elected presidents Roh Moo-hyun and Kim Dae-jung. After three decades of democratic rule, particularly those people who experienced dictatorship voted for the dictator as having been the best leader they ever had (Yonhap News 2015).

Such favorable attitudes towards authoritarianism are no South Korean exceptions.<sup>2</sup> On the contrary, nostalgia about the authoritarian past has become a major obstacle for the consolidation of democracy to be "the only game in town" (Przeworski 1991, 26). *Nolens volens*, we should concede that these nostalgic feelings do not come out of thin air. Instead, they demonstrate that authoritarian regimes leave an imprint on their societies that hinders democratization processes.

Barrington Moore (1966: 23) famously stated: "no citizens, no true democracy". This is the hallmark of a micro-foundational perspective of democracy. But: how do citizens become democratic to be this bedrock of democracy? We know from research mainly conducted in advanced democracies that democratic citizenship and political engagement develop early in life during the so-called formative years and then remain relatively unchanged in later life. This implies that if we do not become democrats when we are young, we might never be fully

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<sup>2</sup> We treat "authoritarianism", "autocracy", and "dictatorship" as interchangeable.

democratic citizens. This is an important problem if we consider that many people did not grow-up in democracies, but autocracies instead.

In this light, the article poses two questions: how do autocratic regimes create such a following among its normal citizens? And, subsequently, how does this authoritarian imprint affect the citizens' beliefs about democracy after the autocracy broke down? In order to answer these questions, we are using a novel methodological approach of cohort analysis, which allows us to study the distinct political preferences of diverse generations that lived either under dictatorships or democracies. For this we are applying a large-N approach by including 73 democracies from around the globe.<sup>3</sup> Historically, the analysis includes generations that came of age during the entire 20<sup>th</sup> century. The empirical analysis combines the macro data of Varieties of Democracy (Coppedge et al. 2016a) with individual-level data using a newly created harmonized public opinion dataset that combines 96 cross-national datasets from eleven different studies (e.g. World Value Survey, Latino Barometer, European Social Survey).<sup>4</sup>

We show that citizens' formative experiences in non-democratic systems impact their political preferences even after the regime democratized. These legacy impacts have important implications for the development of a democratic political culture in transitioning societies. People that grew-up in autocracies are more critical with democracy, compared to those people that grew up in democratic contexts. We show empirically that the more an authoritarian regime indoctrinates and represses its citizens during their formative years, the less satisfied are these people with

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<sup>3</sup> The list of countries and the number of respondents per country can be found in the Appendix A1.

<sup>4</sup> Appendix A2 lists the data sources of the individual-level survey data.

democratic principles. Authoritarian regimes cast a long shadow on their citizens even after their downfall.

This paper contributes to the growing literature on authoritarian regimes putting citizens at the center of attention. Our research helps to better understand the relationship between dictatorships and their populations. We further make a contribution to the study of democratization by focusing on the legacy of authoritarian thinking that persists in post-authoritarian societies and that clashes with democratic values and principles. Further, we advance the study of public opinion by testing the well-established theory of political socialization outside advanced democracies.

### **How autocracies create a mass following among their citizens?**

In the last years, a new wave of scholarship has increased our understanding of inner dynamics of autocratic regimes. The “institutional turn” (Pepinsky 2014) has provided us with insights about the role that formal and informal institutions like parties, parliaments, and power-sharing arrangements play in sustaining authoritarian rule (Gandhi 2008; Magaloni 2006; Smith 2005; Svolik 2012). These institutions should facilitate co-optation efforts and secure intra-elite cohesion.

However, in order to target broader segments of society, dictatorships have two instruments in their toolbox. In order to create a following among their citizens, autocracies rely on repression and legitimation. Dictators almost by definition repress dissent and use coercive means to secure compliance with the established

rules (Davenport 2007; Earl 2011; Escribà Folch 2013). Dictators either violate the personal integrity of the people by using killings, torture, or forced disappearances or they suppress civil liberties like the freedom of religion and the freedom of domestic and foreign movement (Henderson 1991, 121–22; Mitchell and McCormick 1988, 482–86, Møller and Skaaning 2013; Poe and Tate 1994). In general, these repressive measures aim at instilling fear among the citizens. Using physical force and psychological threat, they control the behavior of people. Unwanted demands to the political system are curtailed, and compliance with the regime's rules is enforced.

But repression is not the only way in which regimes control their citizens. Even the most brutish regimes do not have the capacities to keep their whole population “in check”. The alternative route that autocrats can take in order to secure their grip to power is to achieve a legitimacy belief among its citizen (Linz 1975). For achieving such a belief, dictatorships indoctrinate their citizens.

We define indoctrination as the deliberate inculcation of a doctrine, ideology, and political values (Brandenberger, 2014). This goes beyond merely fostering a mentality of obedience. Indoctrination is a process by which a subject irreversibly learns an attachment (Eibl-Eibesfeldt and Salter, 1998, 422). Autocracies indoctrinate their citizens in order to justify why they are actually entitled to rule. Be it political ideologies, nationalistic slogans, ethnic exclusions, or religious ideas, they all have in common that they should provide the “normal” people with a narrative of why the incumbent should be seen as legitimate (Gerschewski 2013). Regimes may

also indoctrinate to convince individuals that there is a need for some suffering to achieve the mission of the regime (Adler, 2012).

We propose three mechanisms through which indoctrination takes place: education, media, and organizations. Firstly, indoctrination via education is a particularly effective and insidious tool. Schools and kindergartens are places in which the belief of citizens can be shaped already at an early age. Teaching pro-regime formulas and ideas and prescribing correct curricula at schools and universities are common features of autocratic regimes. Ritual praise and expressions of love is directed by teachers, fellow students, and textbooks towards the leaders (Eibl-Eibesfeldt and Salter, 1998, 432; Lott 1999, 1990). Among the many empirical examples, Cantoni et al. (forthcoming) has recently shown how introducing new pro-regime contents in the curriculum in China led to higher trust in government officials and a re-alignment of views on political participation and the Chinese understanding of democracy. Indoctrinating in the schools can have a particularly strong effect on attitudes towards the regime. Therefore, autocratic regimes have a high interest in providing widespread state-controlled education.

Secondly, autocracies intend to control the media. From totalitarian excesses that incorporate media control among its major features (Friedrich and Brzezinski 1956) to modern forms of authoritarian rule, autocracies have always sought to control the information that citizens receive (Lott, 1999).<sup>5</sup> We know from a recent

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<sup>5</sup> Democratization research almost unanimously agrees that the less alternative sources are available the more stable the autocratic regime is. The idea is straightforward: The less information that needs to be contained, the better for the autocracy. Foreign media is usually equaled with undermining and potentially dangerous content. However, under certain circumstance blocking of foreign media is sometimes counterproductive. Kern and Hainmueller (2009) have shown that exposure to Western television had indeed a stabilizing effect in Eastern Germany. Western television was “opium for the

study of Adena et al. (2015) that media exposure, here to radio, increased the support for the Nazis in Germany. Della Vigna et al. (2014) find that exposure to Serbian media increases nationalistic sentiments among Croatians and voting for extreme nationalistic Croatian parties. In their classic study on Brazil's dictatorship, Geddes and Zaller (1989) have shown that while the intellectual elites might be able to resist government-led propaganda, it is the middle class that is the most susceptible to propaganda channels.

The third mechanism of indoctrination that we propose refers to the organizational strength of the regime. Mussolini's famous dictum that the party should penetrate society like the capillaries the body resonates here. The idea is straightforward: the higher the density of regime-loyal associations and organizations throughout the country, the higher is the likelihood that the indoctrination content is transmitted to citizens. These organizations cover all aspects of private and public life and range from interest groups to all kinds of business and professional organizations as well as labor unions. Besides schools and media, this is a third effective route of fostering a legitimacy belief among the citizens in an autocratic regime.

To sum up, autocracies can create a mass following via two ways: fear and support. While the usage of repression is by and large a well-researched topic in comparative authoritarianism, the research in terms of the latter is in its infancy. However, we argue that autocrats need to legitimate their rule as well. The role of the "ordinary" people should not be underestimated.

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masses" and was primarily used as a source of entertainment rather than information. It did not spark protest, but instead demobilized the people. As such, it was tolerated by the GDR officials.



## **Authoritarian imprinting**

Repression and legitimation are the primary means to create a following among the masses. They provide key anchors for autocratic stability. Yet, they have even a lasting influence beyond the existence of the autocratic regime (Bernhard and Karakoç 2007; Pop-Eleches and Tucker 2011). After the downfall of the autocratic regime, it is the same people that are governed. The political structure might change rapidly, but the attitudes and values of the people do not.

We introduce the concept of authoritarian imprinting to capture this phenomenon. In analogy to the mechanical understanding of leaving a mark, we define authoritarian imprinting as process of mental coining. How people grow up has a lasting influence. If people live under dictatorship, repression and indoctrination is part of their every-day life experience. Yet, we know from social psychology that basic values and identities of a person are relatively stable and that these fundamental values are acquired to a large extent already in early adulthood (Krosnick and Alwin 1989; Sears 1999; Miller and Sears 1986). This research very much emphasizes the time of adolescence, when political attitudes and preferences are formed (Bartels and Jackman 2014). Young citizens, it is believed, are not yet set in their political ways and are subsequently more easily influenced by external factors such as the indoctrination attempts of the political regime in which they live (Jennings 1989; Alwin and Krosnick 1991; Sears and Valentino 1997).

Mattes, Denemark and Niemi (2016: 4–15) recently summarized the debate about “impressionable years”. They put forth that it is empirically well-established that the effect of early learning is a durable and long-lasting one. Already, the classic

work of Karl Mannheim in the 1920s suggested adolescence and early adulthood as a generation's most impressionable years. While there is some debate about the exact upper and lower bound – Mannheim himself arguing in favor of 17 to 25 while recent research tends to favor an age span between 15 and 20 (Bartels and Jackman 2014) – it is safe to say that the formative years for political values are in early adulthood in which the “attitudinal cement’ begins to harden” (Mattes et al. 2016: 13).

With this in mind, the timing of authoritarian imprint is crucial. If we assume that basic values are persistent and if these basic values are learned in early adulthood, this has important consequences for the crystallization process of political values and attitudes in post-authoritarian societies. Authoritarian imprinting is then particularly strong when people experience dictatorship during their impressionable years. It would then have a lasting legacy even after a possible regime transition to democracy. The common experience of repression and indoctrination cast its shadow in democratic times. On the one hand, we expect that citizens who have been exposed to widespread indoctrination in their early adulthood remain undemocratic in their beliefs. Having been socialized in an authoritarian fashion, leaves a durable mark on them. On the other hand, we expect that people who have experienced a repressive regime in their early adulthood always felt alienated by this type of rule. As such, they should long for democracy after the breakdown of the ancient regime and should value democratic principles, particularly the respect for human rights, higher.

## Hypotheses

We have defined authoritarian imprinting as the process of mental coining that takes place in early adulthood. During this phase, political values are shaped and remain persistent. Authoritarian imprinting therefore results from political socialization under a given political regime, whether autocratic or democratic. We have also set forth that autocratic regimes create a mass following by repressing civil liberties and physical integrity rights as well as by employing different mechanisms of indoctrination. For the latter, widespread education efforts, media propaganda, and organizational density have been the major mechanisms that we proposed.

Assuming authoritarian imprinting, we could expect the direction of this coining to be twofold. Firstly, repression has been discussed as instilling fear among citizens in order to control their behavior. After the downfall of the ancient autocracies, we expect to find that those autocratic regimes that have made high usage of repression should have less nostalgic feelings with its citizens. This should be particularly true for violations of personal integrity rights. If an autocratic regime has been very repressive, people that lived under such a regime should value democracy and its respect for human rights higher. People should embrace democracy after having experienced despotic years. As such, we expect a liberation effect from the old repressor.

*H1 (repression hypothesis):* The more repression is used in an autocratic predecessor regime, the less nostalgia with the former regime and hence the higher public support for democracy.

Secondly, autocrats rely on another instrument for creating a mass following: legitimization efforts. We hypothesize that the success of these measures increases nostalgia with the ancient regime in post-authoritarian societies and hence undermine support for democracy. If a cohort has been successfully indoctrinated via schooling, media, and regime-loyal organizations, and if this has been done in the impressionable years, we expect to find more nostalgia in the post-authoritarian society. With this in mind, the indoctrination hypothesis can be stated.

*H2 (indoctrination hypothesis):* The stronger the indoctrination by the autocratic regime (via media, education, and civic organization channels), the less supportive of democracy people are after the democratic transition.

Hypotheses 1 and 2 point to different outcomes of authoritarian imprinting. The goal of our empirical analysis is to test which of the two instruments -repression or indoctrination - is stronger in leaving an enduring mark on citizens' support for democracy. In the next section we outline our research design in more detail.

## **Research Design**

We test our hypotheses using existing survey data as well as macro data that measure characteristics of the political regime in power during respondents' formative years. Here we first outline the methodology used, before describing the data and turning to the statistical estimation procedure.

## Methodology - Introducing Cohort Analysis

In order to test our new theory of authoritarian socialization, we conduct a comprehensive analysis of post-authoritarian countries during the entire 20th century (i.e. Latin America, Africa, Europe, and Central & East Asia) that experienced different types of repression and indoctrination. For this purpose, we need two types of data: individual survey data on the one hand and macro regime data on the other hand. To be explicit, we do not rely on survey data that was collected during authoritarian rule, but *after* the regime ended. This is largely due to the fact that representative public opinion research is not possible during authoritarian regimes. We argue here that it is not necessary. Instead we use the methodological approach of cohort analysis (Neundorf 2010; Mueller and Neundorf 2012; Smets and Neundorf 2014) that allows the identification of distinct characteristics of those generations that were *socialized* under different political regimes.

Studying the imprinted socialization effect beyond the existence of these regimes makes it possible to investigate whether they differ in their impact on their citizens. We expect to find clear generational differences in terms of political preferences of people who grew-up under different political regimes within the same country. For example, the Nazi generation in Germany is expected to develop distinct characteristics, which should be different from the 1960s West German generation and the 1960s East German generation, as all three groups experienced different types of political regimes. This empirical phenomenon of varying socialization experiences within the same country gives us the opportunity to study the lasting imprint of political regimes, even after their existence. We are further

able to compare groups of generations that grew up under dictatorships and those that came of age under democracy.

For this we need to distinguish three co-linear time trends: age, period, and cohort (APC) effects. A person could have positive or negative views of democracy because she is young - the so-called life-cycle or ageing effect, or because she lives in a country that faces a big political corruption scandal - the so-called period effect that affects everyone no matter their age or birth year - or because she was socialized at a certain point in history - the cohort effect. Here we are mainly interested in the cohort effect, which we argue contains the socialization effect of political regimes.

Table 1 gives an example of this approach, taking Germany as an illustration, distinguishing people who lived under the socialist regime in the East between 1949 and 1990. We measure cohorts using five-year groupings of people that were socialized at the same time. For example, the first cohort in our German data was socialized between 1915 and 1919, the final years of World War I. We operationalize socialization cohorts as the year of birth plus 15 years. Hence the first cohort comprises respondents that were born between 1900 and 1904 and turned 15 in the period 1915 to 1919. We assume that this is the crucial age of socialization. For this group, we can now calculate the average level of democracy at the time of socialization. The value based on the V-Dem data, introduced in more detail below, is 0.279, which is a pretty un-democratic time period.

**Table 1:** Cohorts and their Socialization Context: Example Germany

Socialization Cohorts	(WEST) GERMANS			EAST GERMANS		
	N of obs	Macro: Democracy	Micro: Sat. Democ.	N of obs	Macro: Democracy	Micro: Sat. Democ.
1) 1915-1919	449	0.279	60.134			
2) 1920-1924	1,124	0.521	59.991			
3) 1925-1929	1,974	0.588	58.740			
4) 1930-1934	2,488	0.410	58.398			
5) 1935-1939	4,573	0.089	55.379			
6) 1940-1944	5,953	0.079	54.923			
7) 1945-1949	4,078		57.509	2,362	0.176	43.528
8) 1950-1954	5,706	0.728	58.246	3,189	0.174	43.902
9) 1955-1959	5,936	0.744	57.707	3,329	0.172	43.483
10) 1960-1964	5,417	0.742	57.956	2,619	0.173	43.454
11) 1965-1969	5,961	0.742	56.654	3,357	0.173	43.425
12) 1970-1974	6,407	0.753	56.315	3,395	0.171	43.648
13) 1975-1979	6,759	0.756	55.976	3,627	0.170	43.163
14) 1980-1984	6,052	0.764	55.545	3,222	0.172	44.728
15) 1985-1989	3,744	0.763	56.032	2,306	0.179	45.053
16) 1990-1994	2,008	0.792	55.428	1,793	0.780	47.578
17) 1995-1999	2,639	0.794	51.410			
18) 2000-2004	1,787	0.794	54.003			
19) 2005-2009	873	0.795	59.763			
20) 2010-2015	347	0.784	65.264			

Note: Cohorts are clustered in 5-year groups calculated as the birth year plus 15, which corresponds to the timing of the formative years. Entries for macro and micro democracy are averaged across the five-year groupings. Macro democracy is defined as electoral democracy measured using the data by Varieties of Democracy (see below for a more detailed definition). The indicator ranges from 0 to 1, whereas higher values indicate higher levels of democracy. The micro measure is using the survey indicator satisfaction with democracy, which ranges from 0 to 100, whereas higher values indicate higher satisfaction with the way democracy works in Germany.

We measure democracy support using satisfaction with the democratic system (more on the measure in the next section). The data was collected in public opinion surveys between 1973 to 2014 in the West (and unified Germany) and 1990 to 2014 in the East, so during democracy. Respondents are asked to evaluate the performance of the democratic system today. Table 1 then reports how each cohort evaluates the working of the German democratic system on average across all time points for which each cohort was included in a survey. In West/unified Germany

satisfaction with democracy varies between 51 and 65 on a 0 to 100 scale, whereas higher values indicate more positive views.

Turning to the German respondents that lived in the German Democratic Republic (GDR), the socialist East, Table 1 confirms that the period between 1949 and 1990 was autocratic (average democracy score is around 0.17). It is interesting to note that East German respondents are on average much less positive about the democratic system nowadays with an average score of 45. There is also not much variation between cohorts in the East, which might be due to very similar exposure to the socialist regime, which in the GDR did not change much during its 40 years existence.

This illustrates the basic idea of the methodological approach used in this paper. Here we are mainly interested whether there is a systematic relationship between a person's socialization context and her support for democracy. In the example, presented in Table 1, we illustrate this by looking at the average satisfaction with democracy for 20 different cohorts in one country only. Below we present statistical analysis for 73 countries and on average 15 cohorts per country.

### **Individual-level data**

To achieve our methodological and empirical contribution, we merge existing, publicly available survey data from numerous countries from around the globe - both well-established democracies as well as former dictatorships. This substantially expands the country coverage included in our study. We chose the datasets that have been designed to be fielded in several countries, which ensures that questions are less country-specific but rather to travel across borders. Furthermore, all studies



have been conducted as academic studies and hence adhere to a certain standard. Moreover, we only chose studies that included questions related to democratic attitudes and political engagement. We harmonized the data of the following public opinion surveys (including the years that they were fielded):<sup>6</sup>

- World Value Survey (WVS), 1981-2014
- Latinobarometer (LB), 1995-2015
- Asian Barometer (ANB), 2001-2014
- Afrobarometer (AFB), 1999-2015
- Americas Barometer (AB), 2004-2014
- European Values Study (EVS), 1981-2010
- European Social Survey (ESS), 2002-2014
- Eurobarometer (EB), 1970-2002
- Central & Eastern European Barometer (CEEb), 1990-97
- Comparative Study of Electoral Systems (CSES), 1996-2015

Pooling all these datasets together gives us about 1.5 Million respondents for which we have valid data on the dependent variable and all control variables. The different survey questions included in the diverse datasets were harmonized so that a joint analysis is possible. More details on the question of harmonization decisions can be found in Appendices 3 and 4.

#### *Dependent variable: Satisfaction with democracy*

Political support is one of the key factors in the development of a democratic political culture (Almond and Verba 1963; Easton 1965; Norris 1999). The aim is to measure the extent to which citizens support the democratic system using the satisfaction with the way democracy works. We thereby assume that the expression

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<sup>6</sup> In order to account for possible effects of the survey data harmonization process, we include a dummy variable for each of the datasets (using the World Value Survey as a reference). The estimates of these are not reported in the results tables, but are available upon request from the authors. The full list of all waves that was fielded per study can be found in Appendix A2.

of satisfaction asks respondents to evaluate the performance of the political system (Hoffbert and Klingemann 2001: 366; cf. Rose, Mishler, and Haerpfer 1998; Norris 1999). “Satisfaction with democracy” is generally described as an indicator of support for the way the democratic regime works in practice, not as an indicator for democracy in principle (Canache, Mondak, and Seligson 2001; Neundorff 2010), since this item measures the “support for the performance of the regime, which has to do with what the regime delivers to its citizens and how the government of the day is capable of dealing with important issues” (Linde and Ekman 2003, 396). Asking citizens about the “satisfaction with democracy” is therefore less abstract than the usual question of support for “democracy as the best way of government.” On the other hand, it is also less biased than the support for the current government, which is influenced by partisan feelings and other political attitudes as well (Clarke, Dutt, and Kornberg 1993; Norris 1999).

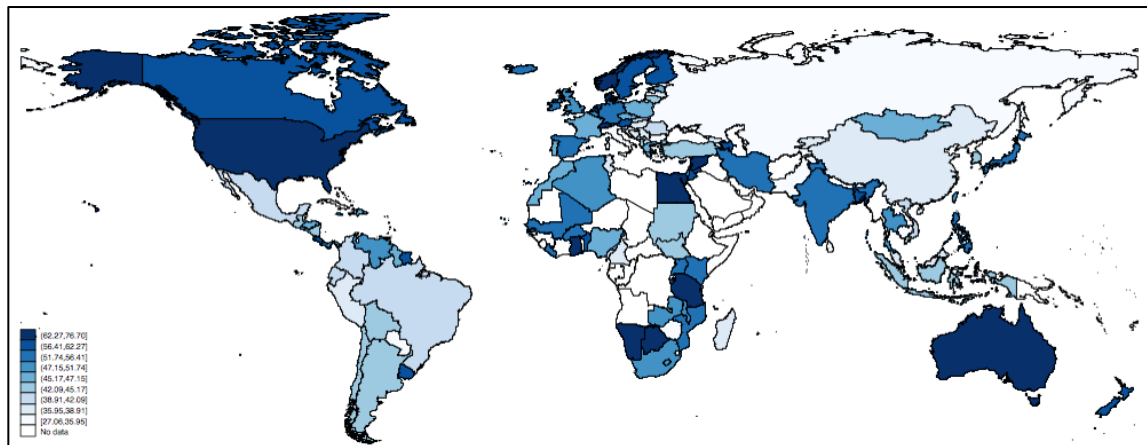
In the datasets that were harmonized for this study, respondents were asked uniformly “how satisfied they are with the way democracy works in their country”.<sup>7</sup> Response categories however varied from 4 to 11. The variable was standardized to 0 to 100, whereas lower values mean less satisfaction with democracy. To account for the specific effects due to study design or questionnaire design, we include the dataset as a control variable into the model, which also accounts for the difference in response categories.

Figure 1 plots the average satisfaction with democracy for the countries for which we have data, where darker shades indicate higher satisfaction. It is not

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<sup>7</sup> The question wording and response categories in each study are listed in Appendix 3.

surprising that citizens living advanced democracies in North America, Western Europe and the Oceania evaluate the performance of their political systems more positively.



**Figure 1:** Average satisfaction with democracy around the globe

However, there are also some surprises. For example, satisfaction with democracy is quite high in Egypt and Syria, which are of course usually not considered to have a democratic system. As we cannot be sure what the response tells us in these cases, countries that are not democratic at the time of the survey are therefore excluded from empirical analysis presented below.

These average scores across all survey waves that we have for each country show that there might be some systematic biases in responding to this survey question. We account for this, by including country fixed effects in our statistical model, which only considers within-country differences in responding to this survey item. The main focus for us is whether generations *within* a country differ in their evaluation of the political system that systematically corresponds to their formative experiences.

### *Individual-level control variables*

We control for the gender of respondents, the education level (primary or less, secondary, post-secondary)<sup>8</sup> and a dummy variable whether a respondent is working opposed to being unemployed, retired or any other reason why people do not work. Unfortunately, it is not possible to control a person's income or economic well-being beyond working, as the measures were too diverse to be harmonized.

### **Macro regime-level data**

The macro-level data on political institutions and regime characteristics are culled from the Varieties of Democracy (V-Dem) project (Coppedge et al. 2016). The V-Dem project collects data on political institutions that existed “within large and fairly well-defined political units and which enjoy a modicum of sovereignty or serve as operational units of governance (e.g., colonies of overseas empires)” (Coppedge et al. 2016b: 15). The data is collected with the help of more than 2,600 country-experts that code the data with a specially designed online survey. The V-Dem project uses a Bayesian item response model to increase the reliability of the coding and eliminate as much of the bias. The unit of observation in our sample is country-year, for 177 countries that cover the period 1900-2015.

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<sup>8</sup> For this we use the categorical variable that measures a person's highest educational degree. In some datasets education was measured as years of education or age of leaving school. The coding scheme to classify respondents into the three education groups based on this is explained in Appendix 3. Combining the education variables (categorical and measured from years) leaves only 2% still missing.

### *Measuring autocracy versus democracy*

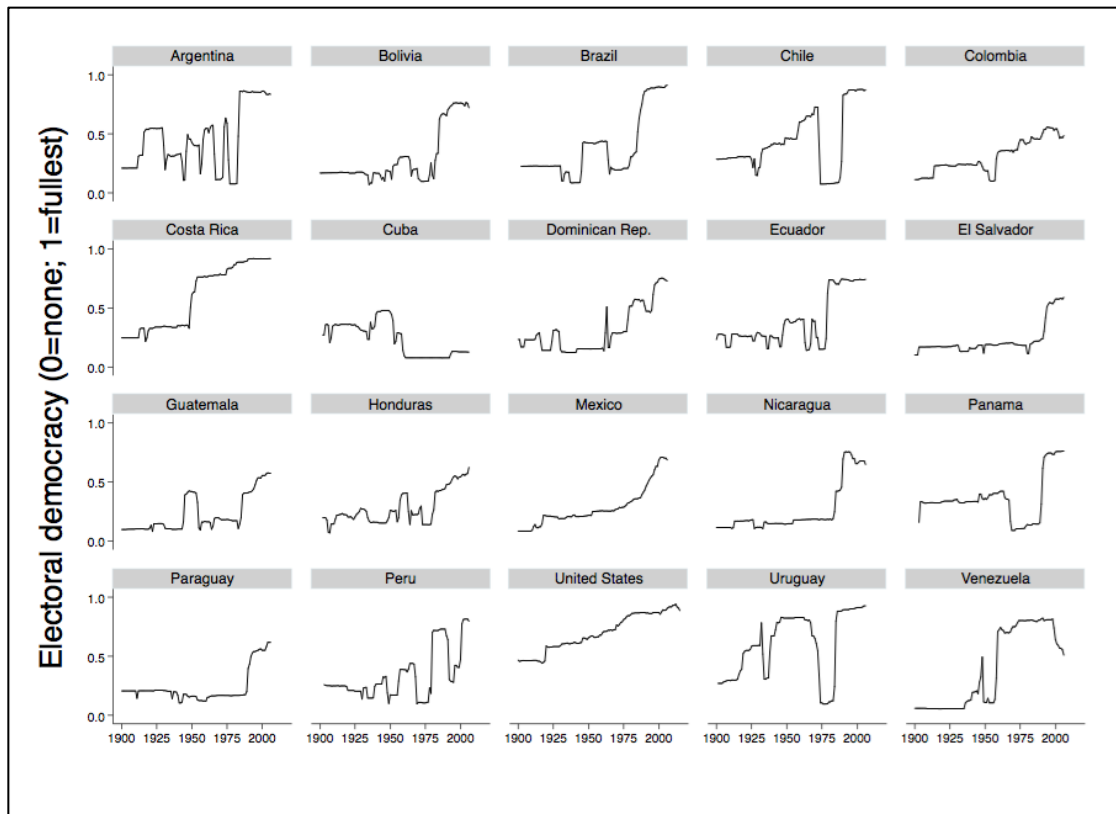
The first variable that we use to evaluate the legacy of authoritarian regimes is the electoral democracy index from V-Dem that tries to capture the ideal of electoral democracy in its fullest sense, whereby the absence of democracy measures autocracy. The index is calculated using Bayesian Item Response Theory (IRT) based on the following indicators (Teorell et al. 2016; Marquardt and Pemstein 2017): freedom of association, clean elections, freedom of expression, elected executive and suffrage.<sup>9</sup> The final index is continuous and ranges between 0 and 1, whereas higher values indicate democracy.

In order to differentiate between a democracy and an authoritarian regime we use a categorical variable approach proposed by Lindberg (2016), which takes the electoral democracy index (described above) to generate categorical variables capturing the level of democracy. We consider a country to be a “minimally democratic” if the electoral democracy index is equal or above 0.67 and an autocracy otherwise. Based on this classification we generate dummy variable that takes a value of 1 for each country-year in which a regime is not “minimally democratic”, and 0 otherwise.<sup>10</sup>

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<sup>9</sup> More precisely, this is the principle that “seeks to embody the core values of making rulers responsive to citizens, achieved through electoral competition for the electorate’s approval under circumstances when suffrage is extensive; political and civil society organizations can operate freely; elections are clean and not marred by fraud or systematic irregularities; and elections affect the composition of the chief executive of the country. In between elections, there is freedom of expression and an independent media capable of presenting alternative views on matters of political relevance” (Coppedge et al. 2016a: 44).

<sup>10</sup> This variable is also used to restrict countries to be included in the study to only those that are classified as minimalist democratic at the time of the survey.



**Figure 2:** Over time development of democracy and autocracy in Latin America

Figure 2 plots the development of the electoral democracy index in 19 different Latin American countries and the US between 1900 and 2015. The figure clearly highlights the autocratic periods, for example, in Chile under Pinochet between 1973 and 1990 or the rule of Chavez from 1999 onwards that saw levels of democracy sliding downwards in Venezuela. This figure demonstrates that the socialization experience under varying political regimes varies starkly between different generations of Latin Americans living in the same country. Here we are interesting in this over-time variation of political experiences within the same countries and whether this corresponds to varying levels of democratic support.

### *Measuring repression*

In order to test the legacy left by authoritarian regimes, we distinguish between two forms of repression.<sup>11</sup> We distinguish between the violations of the physical integrity of a person on the one hand and the violation of private liberties on the other hand. We use the respective physical integrity and private liberties indices from V-Dem that both range from 0 to 1 whereby lower values mean less respect for human rights (more repression) and higher values mean more respect for human rights (less repression).

Figure 3.E and F. illustrate the distribution of the two types of repression, distinguishing between autocracies (solid line) and democracies (dashed line). As expected, repression is very rare in democracies. However, we also note that the extent of repression varies greatly in autocracies.

### *Measuring indoctrination*

We measure indoctrination using a composite index that captures the three mechanisms through which we expect autocracies to indoctrinate: education, political propaganda and control over mass civil organizations. All three items were measured using data from Varieties of Democracy. Figure 3 plots the distribution of these variables, distinguishing between democracies and autocracies.

Firstly, education equality measures the extent that high quality basic education is guaranteed to all, sufficient to enable them to exercise their basic rights as adult citizen. V-Dem defines basic education to refer to ages typically between 6

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<sup>11</sup> Refer to Appendix A5 to see the exact operationalization of all macro indicators.

and 16 years of age but this varies slightly among countries (Coppedge et al. 2016: 252). The variable ranges from 0 to 1, where 0 denotes that educational provision is extremely unequal and at least 75 per cent of children receive education that is of such low-quality that it undermines their ability to exercise their rights as adult citizens.

It is regrettably impossible to quantitatively measure educational indoctrination through curriculum design, content of school textbooks or teacher training for such a large-N study. Using this indicator of education equality is the best measure that we could find. The rationale for using this to measure autocratic indoctrination is based on a capacity argument and resource allocation. Dictatorships can only successfully use the education system as a tool for indoctrination if they have sufficient capacity to do so. Given resource constraints, regimes have to make a decision on how to allocate resources. We assume that if an autocracy has the capacity and the willingness to prioritize school education to extend basic provision to the whole population that they will use education for extensive indoctrination.

We further make the assumption that education is controlled by the state in autocracies. The state is expected to make important decisions on curriculum design (e.g. when and how much political education pupils have to take, content of material), textbooks (e.g. does school material promote a specific view, mentality or ideology?), learning methods (e.g. are students taught to memorize or engage in critical thinking?) and teacher training (e.g. how autonomous are teachers? How are they trained?).



Figure 3.B plots the distribution of education equality in autocracies (solid line) and democracies (dashed line). Most autocracies do not provide equal education. However, there is variation and about 20 percent of dictatorships scoring above 0.5 on education equality. Figure 3.B also reveals that there is some variation in education equality among democracies.

Second, we measure political propaganda using the standardized factor score formed of the following indicators from V-Dem: government censorship effort, critical print/broadcast media, perspectives of the print/broadcast media, harassment of journalists, media self-censorship, access to critical media, media bias and corruption of media. The final index ranges from 0 to 1, whereas higher values mean more press freedom and less political propaganda. We assume that the more the media is controlled by the state, indicated by low values on this index, the higher the indoctrination of the regime, as it controls the content of news information. As Figure 3.C shows, there is quite a bit of variation among authoritarian regimes of the extent to which media is censored.

Thirdly, we measure the extent to which civil society is controlled by the authoritarian regime using three items that tap at the extent to which civil society organizations (CSOs) can operate freely without the interference of the state. Firstly, we include a measure of the extent to which the government achieve control over entry and exit by CSOs. If the state has full control over civil society, government exercises an explicit monopoly over CSOs. Second, we include the CSO structure that measures whether the government and CSOs are linked formally through a corporatist system of interest intermediation. Lastly, we measure the CSO

participatory environment and whether most associations are state-sponsored, and although a large number of people may be active in them, their participation is not purely voluntary. Together these items form a standardized factor that ranges from 0 to 1, whereas lower values indicate more state control over civil society. As Figure 3.D shows, there is quite a bit of variation among authoritarian regimes of the extent to which the state interferes into civil society.

To sum up, we assume that authoritarian regimes that control media and civic organizations on the one hand and that equally distribute the resources for education are the most successful in indoctrinating their people. More specifically we calculate the indoctrination index for autocracies as:

$$\text{Indoctrination (autocracies)} = \text{free media} + \text{free CSO environment} - \text{equal education}$$

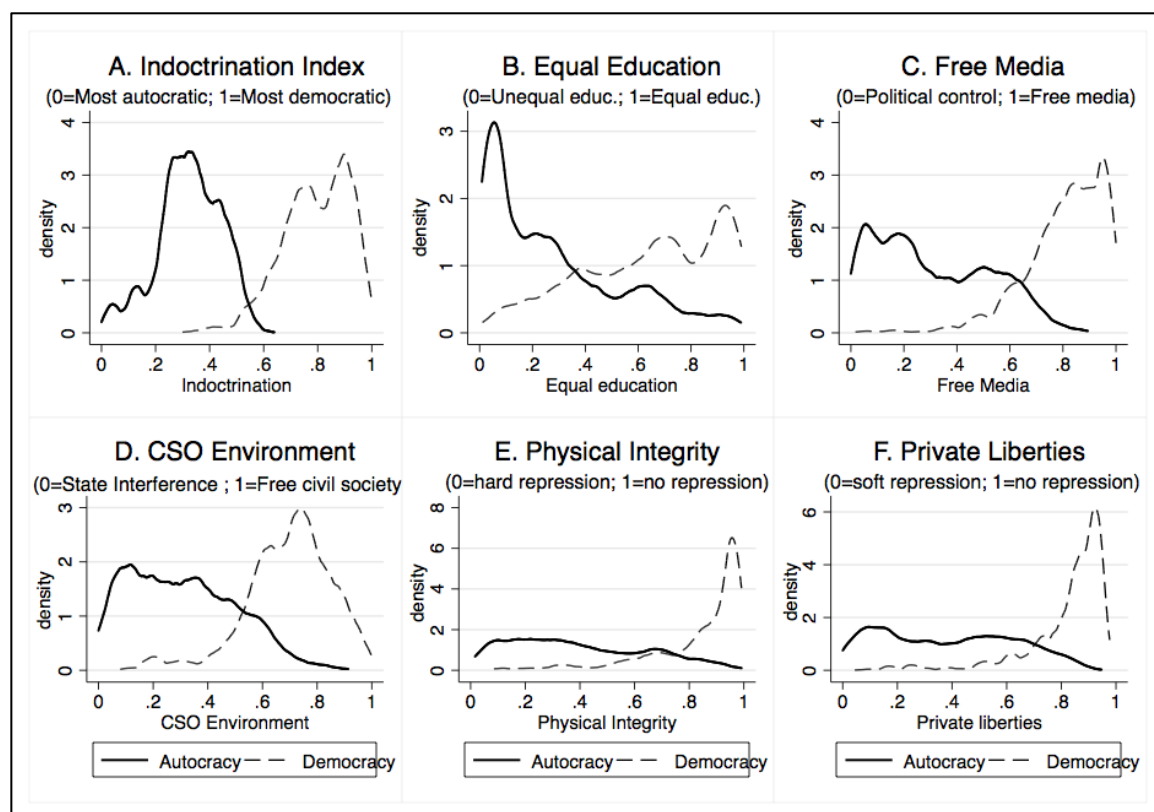
Here low values in free media and CSO environment together with high equal education creates a high autocratic environment. We further calculate indoctrination in democracy by assuming high values in free media, CSO environment *and* equal education. The index for democracies is hence calculated as:

$$\text{Indoctrination (democracies)} = \text{free media} + \text{free CSO environment} + \text{equal education}$$

This combined indoctrination index for democracies and autocracies ranges from 0 to 1, whereas lower values mean autocratic indoctrination and high values mean democratic, free indoctrination. As Figure 3.A shows, there is a very clear

distinction of indoctrination in democracies and autocracies that is as expected.<sup>12</sup> In the empirical analysis, we are however leveraging the variation within the two types of regimes and their long-term effect on their citizens that were indoctrinated in the respective regimes during their formative years.

**Figure 3:** Distribution of Indoctrination Index, its Sub-Components and Repression



<sup>12</sup> One could argue that our measure of indoctrination simply captures the difference between single party regimes and the other types (Geddes 1999). It is expected that single party regimes are the ones that very strongly indoctrinate. We explore this in Appendix 6 by classifying countries having a strong indoctrination capacity if they have a score of more than one standard deviation below the mean for autocracies. On the scale from 0 to 1, this is a score of below 0.2. Table A.6 lists the countries and the number of years when a country was classified as having a strong indoctrination capacity. We further divide the countries by regime type, focusing on whether the autocracy was a single party regime or not using the Geddes (1999) classification. As the Table shows, indoctrination capacity crosscuts through regime type, even so as expected single party regimes are indeed more likely to have strong indoctrination capacity. We see this as a confirmation that our measure captures the theoretical concept of indoctrination well, while still giving us enough variation to go beyond existing classifications.

All regime variables - electoral democracy, violations of personal integrity and private liberties, and political indoctrination via education, media, and civil society - are averaged across five-year intervals and are matched to each countries' socialization cohorts.

#### *Macro control variables*

Several cohort and period control variables are included in the statistical model in order to account for alternative explanations about the legacy of authoritarian regimes and the formation of democratic support. Firstly, we created a composite measure for modernization to measure general societal changes that go beyond the political regime of the time of socialization. Modernization is calculated using the following items:<sup>13</sup> proportion of literate population (based on Vanhanen 2003), urbanization rate, proportion of non-agricultural population (both based on Coppedge et al. 2016a and Clio Infra), infant mortality rate, life expectancy rates (both based on Gapminder and Clio-Infra), as well as primary, secondary, and tertiary school enrolment (based on World Bank Education Statistics Database and Barro and Lee 2015).

Further, we include levels of political corruption (Coppedge et al. 2016a) as a potential alternative explanation for cohort differences in support for democracy.<sup>14</sup> If people grow up with a dysfunctional and corrupt state, they might develop anti-

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<sup>13</sup> We estimated the modernization index using principle component factor analysis using eight items that tap at the modernization level of a country. Some of the variables have missing values. We hence re-ran the factor analysis numerous times to combine the eight variables in different ways, dropping variables, to maximize the number of country-year observations. A minimum of two items was required. The final score was calculated as average standardized factor score from the different iterations of the factor analyses. See appendix 5.4 for more details.

<sup>14</sup> The details of how political corruption is measured in the V-Dem data can be found in Appendix 5.5.

politics sentiments that affect their evaluation of the democratic political system in general. The corruption index that runs between 0 (no corruption) to 1 (highly corrupt) and captures how pervasive corruption is in a country.

Several variables are included in the models to rule out the possibility that citizens' democratic support is not explained by the current state of affairs in their polity and economy (Karp et al. 2003; Wagner et al. 2009; Lüthke 2014). First, we include the economic development level by including GDP per capita at the 2011 PPP value of the dollar (source: World Bank). Secondly, we include the current level of democracy using the electoral democracy index as introduced above. But instead of using the democratic level at the age of 15 of a respondent, we use the current level as measured in the survey year. This gives us a measure for the quality of the democratic institutions, which could vary between 0.67 and 1 on the electoral democracy index.<sup>15</sup> Thirdly, we include the age of the democratic system, which was calculated to account for how the time living in a democracy affects a citizen's view on it.<sup>16</sup>

## **The model**

We estimate an age, period, cohort model. The most important covariates are therefore, firstly, the age of the respondents, which we include as age in years. Secondly, we measure cohorts in five-year groupings, as introduced above. Lastly,

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<sup>15</sup> As we restrict our sample to only those countries that are minimalistic democratic, the index cannot be below 0.67, which is the cut-off point.

<sup>16</sup> In order to generate this variable we use the autocracy/democracy dummy variable introduced above to generate a count of years for which a country has been a democracy. To minimize the potential for error in counting the years of democracy we rely on the *btscs* Stata add-on from Beck, Katz and Tucker (1998).

we include the year of the survey to capture the period effect. The problem of estimating these three time effects simultaneously is the identification problem, as:

$$Cohort = Survey\ Year - Age$$

Yang and her colleagues (2006, 2008) proposed to solve this identification problem by including cohort clusters (in our case five-year groups) and survey years as random effects into a Hierarchical Age-Period-Cohort (HAPC) model. In this multilevel model we consider periods and cohorts as cross-classified contexts in which individuals are nested. Including macro-level variables that capture the cohort context (democracy versus autocracy, indoctrination and repression at age 15) as well as the period context (current level of democracy measures in the same year as survey is conducted) allows to test the effect of these context variables. The model is specified as

$$DemSupport_{ijtc} = \alpha_{ojtc} + \beta_1 Age_{it} + \sum_{m=2}^M \beta_m X_{mi} + \varepsilon_{ijtc}$$

where we model support for democracy of respondent's  $i$  who belongs to cohort  $j$ , was interviewed in year  $t$  and lives in country  $c$  as a function of her age and our individual-level control variables  $X$ . The most important part of this model is the random intercept  $\alpha_{ojtc}$ , which can be written as:

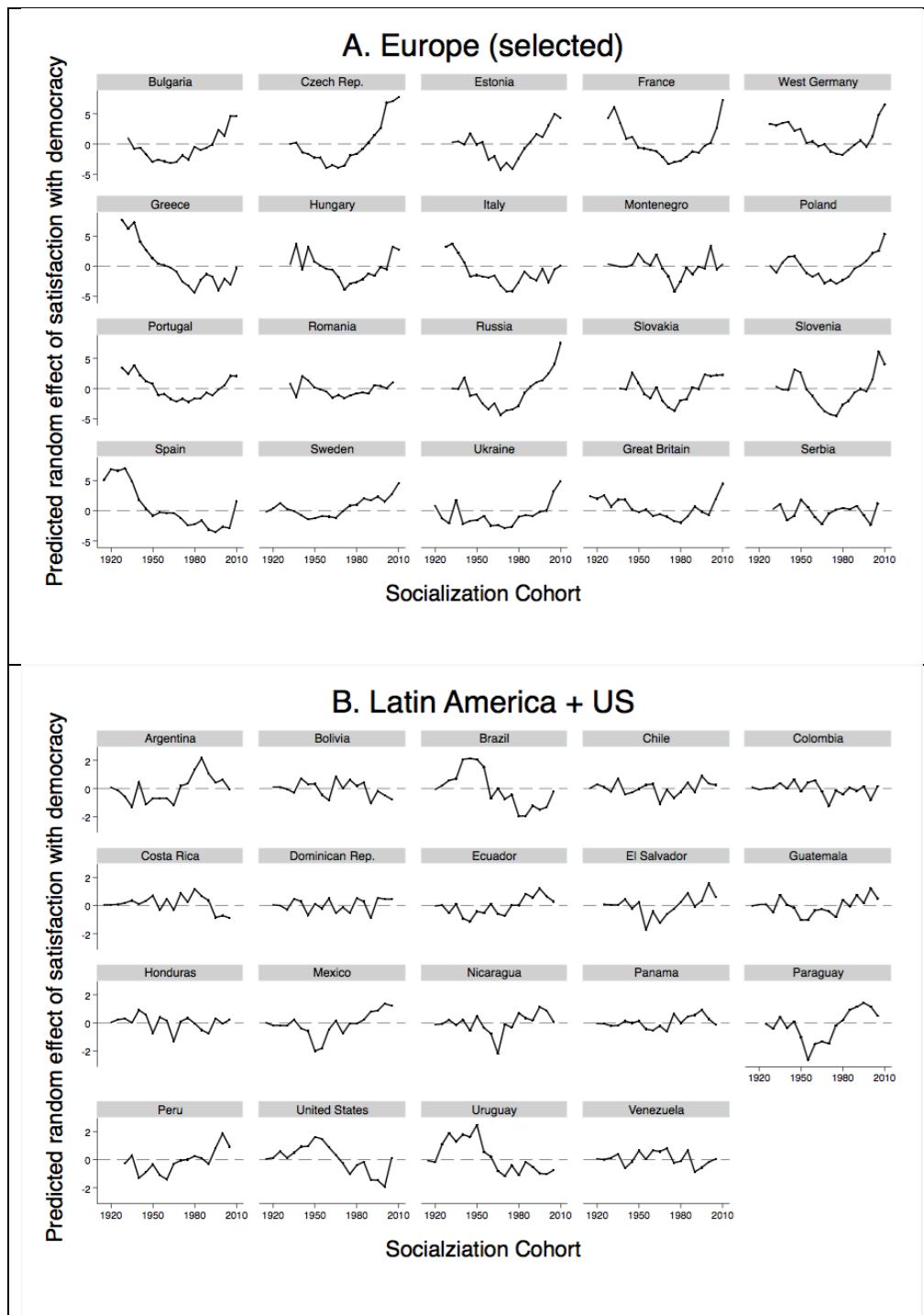
$$\alpha_{ojtc} = \gamma_{0c} + \sum_{l=1}^L \gamma_l Z_{ljc} + \sum_{p=1}^P \gamma_p V_{ptc} + \sum_{c=2}^C \gamma_c C + u_{0j0c} + v_{00tc}$$

where  $Y_{0c}$  measures the grand mean, Z measure the context of the cohorts and V measure the current period effects. We also include country fixed-effects C. Here we treat our dependent variables as continues, estimating linear HAPC models.

## Results

As a first step we turn to the random effects for generations in some selected European and Latin American countries and the US. The random effects plotted in Figure 4.A and B. are based on Model 1 of Table 2, which only include individual-level control variables. These estimated random effects show us how the cohort effect looks like for each country for each of the socialization cohorts (birth year + 15). Estimates below the line of 0 indicate that this cohort is more critical with democracy, while positive random effects indicate positive evaluation of the political system.

Turning first to the random cohort effects in Europe, we note that the HAPC models confirm the curve-linear cohort effects already demonstrated by Neundorf (2010). Eastern European generations that were socialized during the socialist regimes are more critical than the younger post-Cold War generations. In some of the well-established democracies such as the UK and Sweden we do not find cohort differences in regards to democratic support, while for example in France there are quite big cohort differences, with younger generations being more positive. This seems to generally be the case across the selected European countries and the US and is contradictory what Fao and Mounk (2016) have argued in their recent paper.



**Figure 4:** Predicted cohort effects on democratic satisfaction

*Notes:* The results are based on Model 1 in Table 2 for a selected number of countries.

Turning to Latin America we firstly note that the cohort effects are much smaller than in Europe, as can be seen in the size of the random effects. To highlight



however a few interesting findings, it appears that there are no generational differences in Chile, as the random effects are very close to 0. In Argentina, we clearly see the post- Military junta generation that came of age in the 1980s and 1990s to be particularly positive, while the generation that most suffered under the juntas to be more negative. We find a similar pattern in Paraguay, which saw one of the longest lasting autocracies in Latin America. Mexico on the other hand saw a slow democratization, which is also visible in the V-Dem data plotted in Figure 2 above. The cohort effect in Mexico seems to follow this slow upward trend, with more recent generations to be most positive about the Mexican democratic system.

From these descriptive analyses of the cohort effects in a few examples, it appears that generation which experience autocracies during their youth to be more negative than those that grew-up in democratic times. The next step is to include our measures for socialization context to test whether we can explain the cohort variation with these the type of political regime - democratic vs. autocratic, indoctrination and repression. The results of these models are reported in Table 2. Model 2.A includes only the socialization context. In addition to the regime variables, we also include the control variables modernization levels and political corruption when respondents were 15 years old. Model 2.B additionally includes the control variables that account for potential period effects that are measured at the time of the survey.

First we test the general direction of authoritarian imprinting and whether people who grow up under an authoritarian regime did learn to be democratic

**Table 2:** HAPC linear regression, predicting satisfaction with democracy

	M1 Indiv. Controls	M2.A Socializ. Context	M2.B Period Controls	M3: Autocracy x (socialization context)		
				A. Indoc- trination	B. Physic. Integrity	C. Private liberties
Age	0.036*** (0.003)	0.103*** (0.008)	0.092*** (0.008)	0.069*** (0.007)	0.071*** (0.008)	0.087*** (0.008)
<u>Individual-level controls (at t)</u>						
Female	-0.397*** (0.045)	-0.387*** (0.045)	-0.393*** (0.045)	-0.393*** (0.045)	-0.391*** (0.045)	-0.393*** (0.045)
Education (ref=primary)						
Secondary	0.101* (0.061)	0.112* (0.061)	0.111* (0.062)	0.130** (0.062)	0.112* (0.062)	0.116* (0.062)
Post-secondary	2.012*** (0.073)	2.056*** (0.073)	2.076*** (0.074)	2.090*** (0.074)	2.077*** (0.074)	2.080*** (0.074)
Working	1.299*** (0.050)	1.320*** (0.051)	1.326*** (0.051)	1.313*** (0.051)	1.325*** (0.051)	1.323*** (0.051)
<u>Socialization context (at c)</u>						
Electoral Democracy		9.727*** (0.426)	10.651*** (0.432)			
Autocracy (dummy)				-0.866 (1.274)	3.226*** (0.903)	5.621*** (1.303)
Soc. Context				7.990*** (1.494)	11.772*** (1.006)	15.119*** (1.472)
Soc. Context x autocracy				8.833*** (2.140)	-6.730*** (1.175)	-7.682*** (1.662)
Modernization		1.069 (1.229)	-1.763 (1.250)	1.264 (1.135)	-2.592** (1.236)	-0.486 (1.209)
Pol. Corruption		-7.451*** (0.809)	-3.287*** (0.886)	-1.889** (0.801)	-2.522*** (0.873)	-4.220*** (0.870)
<u>Current context (at t)</u>						
Electoral Democracy			-4.160 (4.277)	-2.309 (4.262)	-3.933 (4.328)	-4.685 (4.308)
Age of democracy			0.044*** (0.016)	0.059*** (0.016)	0.053*** (0.016)	0.056*** (0.016)
Log GDP (per Capita)			0.071 (0.482)	0.164 (0.482)	0.118 (0.488)	-0.019 (0.486)
Pol. Corruption			-14.284*** (2.382)	-16.323*** (2.347)	-14.119*** (2.397)	-14.003*** (2.389)
Data FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	46.687*** (0.543)	39.785*** (1.287)	45.383*** (5.513)	42.182*** (5.619)	43.266*** (5.630)	40.412*** (5.659)
<u>Variance Components</u>						
Cohorts (1900-2010)	1.800*** (0.059)	2.645*** (0.088)	2.534*** (0.087)	2.020*** (0.068)	2.439*** (0.081)	2.339*** (0.078)
Periods (1973-2015)	10.637*** (0.263)	8.592*** (0.223)	8.059*** (0.206)	8.161*** (0.205)	8.186*** (0.209)	8.166*** (0.208)
N	1,380,869	1,366,540	1,354,047	1,353,927	1,354,657	1,354,657
N of countries	73	73	73	73	73	73

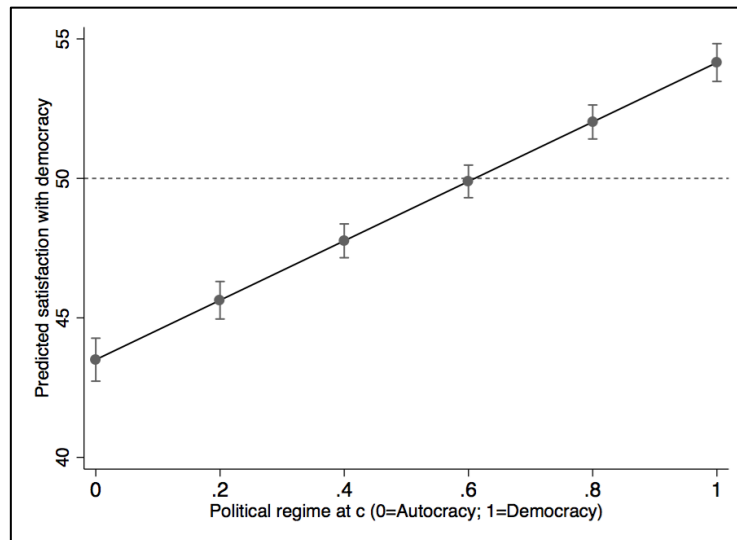
*Significance:* \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $P < 0.01$ . *Data:* Harmonized survey data from 96 single cross-national datasets. List of datasets in Appendix 2. V-Dem, 1900-2015.

*Note:* Entries are regression coefficients and their standard errors of a HAPC model. The dependent variable is satisfaction with democracy where 0="not satisfied at all" and 100="completely satisfied".

citizens and hold similar democratic political values compared to those that grew up under democracy. We test this by including the level of electoral democracy when a respondent was 15 years old. The results presented in Table 2 confirm that there is strong significant effect of the regime socialization context. The difference in democratic satisfaction between those that grew-up under a democracy (score=1) versus an autocracy (score=0) is about 10.5 points higher. This points in the direction that the indoctrination hypothesis might be true, as the direction of the authoritarian socialization is in the expected negative direction. This effect is even stronger than political corruption. The difference for those growing-up in the most corrupt systems (score=1) compared to those in non-corrupt systems are only 3 points.

The effect of the political regime is illustrated further in Figure 5, which plots the predicted satisfaction with democracy depending on the level of electoral democracy during one's formative years across all countries in our sample. If we take 50 as the neutral point, Figure 5 confirms that those that grew-up in an autocracy to evaluate the performance of their political system much more negative than those that grew-up in a democracy. Interestingly, it appears that just at the cut-off point of 0.67 that Lindberg (2016) established as the "minimal democracy" point, we find that democratic satisfaction passes the neutral 50.

Next we turn to the question what drives the socialization effect of the political regime. Above we hypothesized that repression should have a positive effect on democratic support (H1), while indoctrination should lead to long-term negative democratic attitudes (H2). We test these hypotheses by interacting

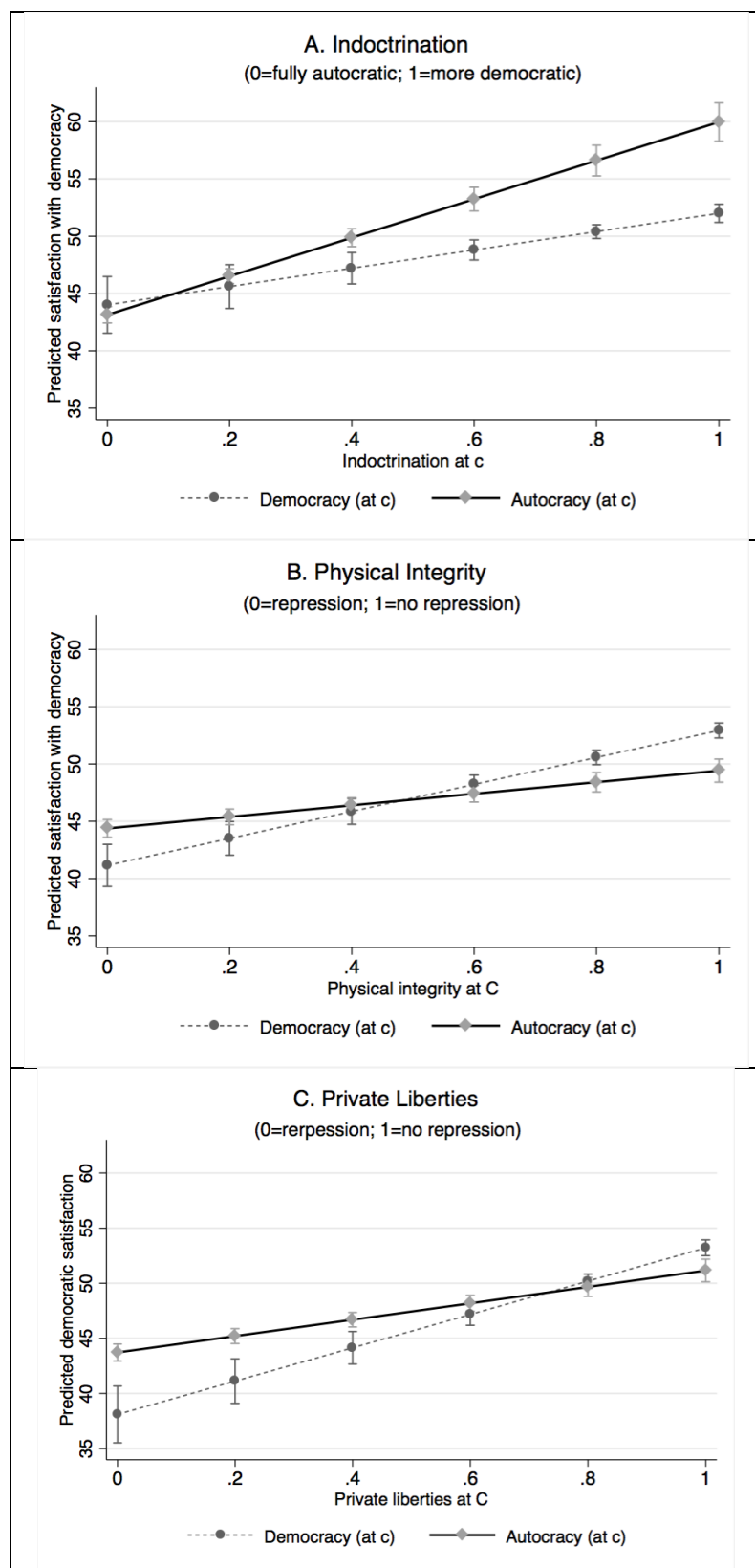


**Figure 5:** Predicted effect of non-democratic socialization on democratic satisfaction

*Note:* Predicted values are based on Model 2.B in Table 2, controlling for individual, cohort and period covariates.

whether the regime (at youth) was democratic or autocratic with our measures for repression (physical integrity and private liberties) and indoctrination (composite index of education, political propaganda and civil society environment). We thereby leverage the within autocracy variation in repression and indoctrination, which we have demonstrated in Figure 3 above. The results for these tests are presented in Models 3.A to 3.C in Table 2.

As interaction effects are sometimes difficult to interpret, we turn straight to the predicated values that are plotted in Figure 6. Here we distinguish between the socialization context in autocracies (solid line) and democracies (dashed line). The focus thereby is on autocracies, while democracies are the reference point. Based on the results illustrated in Figure 6.A, indoctrination seems to have a very strong effect on democratic support. A dictatorship that controls the media and civil society tightly, but prioritizes broad basic education leads to very low levels of satisfaction of



**Figure 6:** Predicted interaction effect of regime type and regime characteristics on democratic satisfaction

*Note:* Predicted values are based on Model 3.A to 3.C in Table 2, controlling for individual, cohort and period covariates.

democracy among citizens that grew-up under such a democracy. The list of regimes that fall under this category can be found in Appendix 6. However, if an autocracy would not use such tools of indoctrination, democratic support would be considerably higher among those cohorts in their later life. The difference between complete authoritarian indoctrination and low indoctrination capacity (free media and civil society environment at low levels of broad education) is a staggering 17 points on democratic satisfaction. Given that autocracies very much rely on indoctrination (see Figure 3.A), the results in Figure 6.A suggests that the negative socialization effect of authoritarian regimes is driven by these indoctrination measures.

We can compare this effect to the impact of repression on democratic satisfaction, which is illustrated in Figure 6.B for violations of personal integrity rights and 6.C for private liberties. First of all it is striking that the effect is much weaker, which we see by the slopes of the repression effect among those that were socialized in autocracies. The difference in democratic satisfaction is only 5 points between those that had to endure regimes that target the personal integrity (score 0) compared to those that lived in dictatorships that did not use any such violence. The magnitude of 7 points is similar for private liberties. This is in contradiction of what we expected based on Hypothesis 2. It seems that repression under autocracies does not lead to a feeling of liberation once the regime is abolished and consequently to an embracement of democracy. If that would have been true, we should have found a negative interaction between the severity of repression and socialization in a dictatorship.

Figure 6 reveals a general explanation why we see lower levels of democratic support among generations that experienced autocracies during their formative years. Comparing the effects of indoctrination and repression between democracies (dashed lines) and autocracies (solid lines), it is striking that the effect direction is the same. Growing-up in a hypothetical democracy that represses physical integrity rights and private liberties, also leads this generation (compared to other generations in the same country) to be more critical with democracy today, even if we control for current levels of democracy and the economic and political performance of the current system.

The reason why we see very different levels of democratic satisfaction for generations growing-up in these two different systems is that the context under autocracies is characterized by strong indoctrination (see Figure 3.A) and repression (see Figures 3.E and F), while democracies are guaranteeing a much more pluralistic environment, physical integrity and private liberties. Given the predicted values presented in Figure 6, it is not surprising that levels of democratic satisfaction differ very much between these two contrasting experiences.

## **Conclusion and Discussion**

Autocracies have two instruments that they use in order to create a following among their citizens. They can repress their people and they can try to legitimate their rule by indoctrinating the people. These instruments stabilize their grip to power. What has not been studied yet in a comparative fashion is that these instruments do not only work once the autocracy is in power, but that they have a lasting legacy.

In our global analysis, we demonstrate that autocracies leave an imprint on their citizens. Even when the autocracy already broke down, we can see its influence on the people's mindset. People that grew up under authoritarianism remain more skeptical about democratic values. Be reminded that this holds true when we control for age effects and the political circumstances in which the surveys are conducted. That is to say that we can identify a cohort effect: The predicted satisfaction with democracy is an astonishing ten points lower for people that have been socialized in an autocracy compared to a democracy. In other words, what you experience during your formative years is likely to be a steady companion throughout life.

We found very strong empirical evidence that indoctrination matters. An autocracy that spends much time and effort to indoctrinate its citizens by controlling the schools, the media, and the civil organizations will leave its citizens with a 17 point lower predicted satisfaction with democracy compared to an autocracy that does not so. This has important implications for the academic research on the political culture of a post-authoritarian country. Yet, it has similar repercussions for the praxis of political education. The experience that people make during their formative years needs to be emphasized more thoroughly. Our analysis shows that the lesson for political education could be that it needs to contextualize experiences that we make in early adulthood.

Surprisingly, we did not find a liberation effect. We expected that a person A that experienced a repressive regime would be embracing democracy more openly. S/he would long for a political regime that respects human rights. Instead, this person A – when s/he has experienced a regime that violated personal integrity



rights and private liberties – remains more skeptical with democracy. S/he does not develop the same satisfaction with democracy compared to her/his hypothetical alter ego that grew up under a non-repressive regime. Experiencing a political regime that oversteps red lines and intervenes in your private life leaves person A more alienated with politics in general – even when the environments drastically change. We speculate that s/he views politics as a nasty business irrespective of democratic or autocratic signs. Person A remains therefore decoupled and disappointed from political processes when s/he has experienced repressive politics. This is the second important lesson that both academia and praxis need to keep in mind: Experience with repression, as well as with indoctrination, survives regime change.

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## Appendix

### Appendix 1: Geographic coverage

The inclusion into the study was restricted as follows: There are at least three data points per country that cover at least 10 years of time. The listed number of observations in Table A1 below lists the number of observations, which corresponds to the number of survey respondents that gave a valid response to the questions how much they are satisfied with the way democracy works in their countries today.

**Table A1:** List of countries and number of observations

Country	N	Country	N	Country	N
Albania	4,662	Ghana	6,325	Norway	28,036
Argentina	23,802	Greece	51,570	Panama	20,338
Australia	7,932	Guatemala	18,688	Paraguay	21,507
Austria	17,506	Honduras	16,670	Peru	24,665
Belgium	63,744	Hungary	14,224	Poland	22,244
Bolivia	26,611	Iceland	8,421	Portugal	50,372
Botswana	5,466	Indonesia	3,822	Romania	8,493
Brazil	31,758	Ireland	60,889	Russia	3,904
Bulgaria	12,292	Israel	11,024	Slovakia	12,139
Canada	15,196	Italy	53,419	Slovenia	15,995
Chile	23,610	Japan	9,137	South Africa	10,757
Colombia	14,520	Kenya	5,142	Spain	49,368
Costa Rica	23,616	South Korea	5,593	Sweden	25,898
Croatia	5,337	Lesotho	4,151	Switzerland	23,974
Czech Rep.	19,314	Latvia	5,992	Thailand	1,197
Denmark	60,519	Lithuania	9,683	Turkey	8,207
Dominican Rep.	19,395	Malawi	4,207	Ukraine	11,697
Ecuador	29,135	Mali	2,341	Macedonia	1,467
El Salvador	23,797	Mexico	38,392	Great Britain	76,203
Estonia	14,774	Moldova	1,890	United States	8,113
Finland	25,999	Namibia	5,657	Uruguay	26,924
France	61,821	Netherlands	66,159	Venezuela	14,164
Georgia	1,348	New Zealand	7,589	Serbia	3,963
Germany	87,213	Nicaragua	18,907	Zambia	5,343
		Nigeria	4,568		
				Total	1,528,795



## Appendix 2: List of individual-level datasets

- World Value Survey (WVS), 1981-2014
  - 6 waves (1981-84; 1990-94; 1995-98; 1999-2004; 2005-09; 2010-14)
- Latinobarometer (LB), 1995-2015
  - 17 waves (1995; 1996; 1997; 1998; 2000; 2001; 2002; 2003; 2004; 2005; 2006; 2007; 2008; 2009; 2010; 2011; 2013; 2015)
- Asian Barometer (ANB), 2001-2014
  - 4 waves (2001-03; 2005-08; 2010-12; 2014)
- Afrobarometer (AFB), 1999-2015
  - 6 waves (1999-2001; 2004; 2005; 2008; 2015)
- Americas Barometer (AB), 2004-2014
  - 8 waves (2004; 2006; 2007; 2008; 2009; 2010; 2012; 2014)
- European Values Study (EVS), 1981-2010
  - 4 waves (1981-84; 1990-93; 1999-2001; 2008-10)
- European Social Survey (ESS), 2002-2014
  - 7 waves (2002; 2004; 2006; 2008; 2010; 2012; 2014)
- Eurobarometer - Mannheim Trend file (EB), 1970-2002
  - 32 waves (1970-2002, excluding 1972)
- Central & Eastern European Barometer (CEEb), 1990-97
  - 8 waves (1990; 1991; 1992; 1993; 1994; 1995; 1996; 1997)
- Comparative Study of Electoral Systems (CSES), 1996-2015
  - 4 waves (1996-2001; 2001-06; 2006-11; 2011-15)

## Appendix A3: Coding of dependent variables

### A3: Satisfaction with Democracy

The variable was recoded to 0 “not at all satisfied/non democratic” to 100 “very satisfied” with the way democracy works.

Dataset	#Cat	Question wording
Latino-barometer	4-R	In general, would you say you are very satisfied, 1 very satisfied, 2 quite satisfied, 3 not very satisfied, or 4 not at all satisfied with the working of the democracy in [country]? -4 not asked, -2 no answer, -1 don't know
WVS	4-R	On the whole are you very satisfied (1), rather satisfied (2), not very satisfied (3), or not at all satisfied (4) with the way democracy is developing in our country?
Americas Barometer	4-R	In general, would you say that you are very satisfied (1), satisfied (2), dissatisfied (3), or very dissatisfied (4) with the way democracy works in (country)?
Asian Barometer	4-R	On the whole, how satisfied or dissatisfied are you with the way democracy works in our country. Are you 1 very satisfied; 2 fairly satisfied; 3 not very satisfied; 4 not at all satisfied
Afro-barometer	5	Overall, how satisfied are you with the way democracy works in [country]? 0 this country is not a democracy; 1 very dissatisfied; 2 somewhat dissatisfied; 3 neutral; 4 somewhat satisfied; 5 very satisfied; 9 don't know
	4	Wave 2 & 3: Overall, how satisfied are you with the way democracy works in [country name]? Are you: 0 [country] is not a democracy; 1 not at all satisfied; 2 not very satisfied; 3 fairly satisfied; 4 very satisfied.
EVS	4-R	One the whole are you very satisfied, rather satisfied, not very satisfied, or not at all satisfied with the way democracy is developing in our country? 1 very satisfied; 2 rather satisfied; 3 not very satisfied; 4 not at all satisfied
ESS	11	And on the whole, how satisfied are you with the way democracy works in [country]? 0 Extremely dissatisfied - 10 extremely satisfied
Euro-barometer	4-R	On the whole, are you very satisfied, fairly satisfied, not very satisfied or not at all satisfied with the way democracy works in (country)? Would you say you are...? 1 very satisfied; 2 fairly satisfied; 3 not very satisfied; 4 not at all satisfied
CSES	4-R	On the whole, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the way democracy works in [country]? 1 very satisfied; 2 fairly satisfied; 3 not very satisfied; 4 not at all satisfied
CEEB	4-R	On the whole, are you satisfied, fairly satisfied, not very satisfied or not satisfied at all with the way democracy is developing in (our country)? 1 very satisfied; 2 fairly satisfied; 3 not very satisfied; 4 not satisfied at all 1997 - split ballot between democracy is developing and democracy is working.

*Notes:* Variables that are reversed in their order have an -R behind the number of categories.

**CEEB:** In 1997, the CEEB used a split sample to change the question wording slightly. One question asked about the satisfaction with the development (V18) and one with the workings (V19) of democracy. The mean value for the latter is significantly lower with 2.23 (people are more satisfied with workings) than for the development of democracy with mean of 2.75 (less satisfied).

**Afrobarometer:** There is 1.7% of respondents that said that their country is no democratic. 22% of those are from Zimbabwe. Those responding that country is not democratic were set to “very dissatisfied”.

## Appendix 4: Harmonizing education levels

Assumption: Kids start school with 6

- Primary: 6 years old + 8 of school = 14 years old
- Secondary: 6 years old + 14 years of school (max) = 20 years old
- Post-Secondary: Secondary: 6 years old + 15 years of school (min) = 21+ years old

### Eurobarometer

- Var = What age did complete your education [1-22+]
- Recoding
  - Primary = up to 14
  - Secondary = 14/20
  - Tertiary = 21+
- No categorical question asked

### WVS

- Var = What age did complete your education [1-99]
- Recoding
  - Primary = 1-12
  - Secondary = 13/20
  - Tertiary = 21+
- This is used to replace 10,482 missing on categorical variable. Hardly any missing left.

### EVS

- Var = What age did complete your education [1-99]
- Recoding
  - Primary = 1-12
  - Secondary = 13/20
  - Tertiary = 21+
- This is used to replace 10,482 missing on categorical variable. Hardly any missing left.

### ESS

- Var = Years of Full-Time education [0-56]
- Recoding
  - Primary = 0-8
  - Secondary = 9/14.5
  - Tertiary = 15+
- This is used to replace 73,184 missing on categorical variable. Hardly any missing left.

## **A5: Macro variables**

### **A5.1. Hard repression - Physical integrity**

- Torture is conceptualized as the purposeful infliction of extreme physical or mental pain, with the aim to extract information or intimidate victims, who are in a state of incarceration.
- Political killings are killings by state agents without due process of law with the purpose of eliminating political opponents and as a result of deliberate use of force.
- This physical integrity index is formed by point estimates from a Bayesian factor analysis model including the two indicators for torture and political killings. It ranges between 0 and 1 so that lower values indicate less respect for freedom from torture and political killings (more repression) and higher values represent more respect for these rights (less repression).

### **A5.2. Soft repression - Private liberties**

- The private liberties index is formed from points estimates drawn from a Bayesian factor analysis model including sub-indicators for property rights for men and women, forced labor for men and women, freedom of religion, religious organization repression, freedom of foreign movement, and freedom of domestic movement for men and women.

### **A5.3. Political Propaganda Index**

- Government censorship effort is an ordinal measure that captures indirect forms of censorship such as political motivated awarding of broadcast frequencies, withdrawal of financial support, influence over printing facilities and distribution networks, selected distribution of advertising, onerous registration requirements, prohibitive tariffs, and bribery.
- Critical print/broadcast media captures how many of the major print and broadcast outlets routinely criticize the government.
- Perspectives of the print/broadcast media captures whether major print and broadcast media represent a wide range of political perspectives.
- Harassment of journalists variable captures whether individual journalists are harassed (threatened with libel, arrested, imprisoned, beaten or killed) by governmental or non-governmental actors while engaged in journalism.
- Media self-censorship variable capture whether journalists self-censor when reporting on issues that are considered political sensitive by the government.
- Access to critical media measures the % of the population that has access to media that sometimes criticizes the government.
- Media bias captures whether there is media bias against opposition candidates or organizations.
- Corruption of media measures the extent to which journalists, publishers and/or

broadcasters accept payments in exchange of altering their news coverage.

#### **A5.4. CSO environment Index**

- CSO entry and exit: To what extent does the government achieve control over entry and exit by civil society organizations (CSOs) into public life? Ranging from
  - 0: Monopolistic control. The government exercises an explicit monopoly over CSOs. The only organizations allowed to engage in political activity such as endorsing parties or politicians, sponsoring public issues forums, organizing rallies or demonstrations, engaging in strikes, or publicly commenting on public officials and policies are government-sponsored organizations. The government actively represses those who attempt to defy its monopoly on political activity.
  - 4: Unconstrained. Whether or not the government licenses CSOs, the government does not impede their formation and operation unless they are engaged in activities to violently overthrow the government.
- CSO structure: Civil societies inevitably involve a mix of larger and smaller organizations. Please characterize the relative influence of large mass constituency civil society organizations (CSOs) versus smaller, more local, or narrowly construed CSOs.
  - Large encompassing organizations dominate. The government and CSOs are linked formally through a corporatist system of interest intermediation; or, due to historical circumstances, particular large CSOs are highly influential. The voice of such organizations is recognized by the government and is accorded special weight by policymakers.
- CSO participatory environment: Which of these best describes the involvement of people in civil society organizations (CSOs)? Ranging from:
  - 0: Most associations are state-sponsored, and although a large number of people may be active in them, their participation is not purely voluntary.
  - 3: There are many diverse CSOs and it is considered normal for people to be at least occasionally active in at least one of them.

#### **A5.4: Modernization index**

We estimated the modernization index using principle component factor analysis using eight items that tap at the modernization level of a country. Some of the variables have missing values. We hence re-ran the factor analysis numerous times to combine the eight variables in different ways, dropping variables, to maximize the number of country-year observations. A minimum of two items was required. The final score was calculated as average standardized factor score from the different iterations of the factor analyses. The items used are as follows:

- Literate population (%) based on Vanhanen (2003)
- Urbanization based on V-Dem codebook and Clio Infra ([clio-infra.eu](http://clio-infra.eu))
- Infant mortality rate: measured as the number of deaths prior to age 1 per 1000 live births in a year. The base variable is drawn from (a) Gapminder, with additional data imputed from (b) Clio-Infra. Interpolations and imputations employ linear models.
- Life expectancy refers to expected longevity at birth based on current age- specific mortality rates. The base variable is drawn from (a) Gapminder, with additional data

drawn from (b) Clio-Infra. Missing data within a time-series is interpolated and imputed using linear models, as follows.

- Non-agricultural population %: What percentage of the population work in non-agricultural occupations?
- Primary/secondary/tertiary school enrollment: What percentage of the primary school-aged population is enrolled in primary school? Clarification: The base variables are UNESCO's adjusted net primary enrollment rate (available in the World Bank Education Statistics Database) and Barro and Lee's (2015) long-run data on primary enrollment (available in 5-year intervals). These two variables correlate at .94. This compiled time series is interpolated increasing the number of observations from 5,181 to 11,927. Missing data for the base variable is then imputed from UNESCO's total primary enrollment percentage, which includes those enrolled who are not of primary-school age. The linear imputation increases the number of observations from 11,927 to 12,840.

**Table A5:** Correlation between measures of modernization

	Literacy	Urban.	Inf. Mort.	Life exp.	Non- agri.	Prim.	Seco.	Terti.
Literacy	1							
Urbanization	0.66	1						
Infant mortality	-0.69	-0.62	1					
Life expectancy	0.74	0.68	-0.89	1				
Non-agricultural pop.	0.79	0.84	-0.68	0.73	1			
Primary school enroll.	0.81	0.56	-0.64	0.74	0.65	1		
Secondary enrollment	0.56	0.60	-0.75	0.78	0.67	0.56	1	
Tertiary enrollment	0.47	0.60	-0.61	0.65	0.60	0.42	0.82	1

Table A5 reports the correlation matrix of the eight items used to estimate the modernization index. As is clear, these items are very much tapping at the same underlying construct.

#### A5.5. Political corruption index

- Executive corruption index – it captures how routinely members of the executive, or their agents, grant favors in exchange for bribes, kickback, or other material incentives, and how often they steal, embezzle or misappropriate state resources for personal or family use.
- Legislative corruption – it is an ordinal measure that captures how common it is that members of the legislature abuse their position to obtain financial gains (e.g. bribes, facilitating government contracts for the legislator's connections, doing favors for companies in exchange of employment after leaving the legislature, and stealing money from the state or campaign donations).
- Public sector corruption index – it captures the extent to which public sector employees favors in exchange for bribes, kickback, or other material incentives, and how often they steal, embezzle or misappropriate state resources for personal or family use.

- Judicial corruption – it's an ordinal indicator that captures how often individuals or businesses make undocumented extra payments or pay bribes to delay, speed up or obtain a favorable judicial decision.

## Appendix 6: Countries with Strong Indoctrination Capacity and Regime Type

We classify countries having a strong indoctrination capacity if they have a score of more than one standard deviation below the mean for autocracies. On the scale from 0 to 1, this is a score of below 0.2. Table A.6 lists the countries and the number of years when a country was classified as having a strong indoctrination capacity. We further divide the countries by regime type, focusing on whether the autocracy was a single party regime or not using the Geddes (1991) classification. As the Table shows, indoctrination capacity cross-cuts through regime type, even so as expected single party regimes are more likely to have strong indoctrination capacity. 75.6% of all country-years of strong indoctrination happened in single-party regimes.

**Table A.6.** List of countries and number of years with strong indoctrination capacity (1945-2015)

Country	Single party		Total years	Country	Single party regime		Total years
	No	Yes			No	Yes	
Albania	0	45	45	<i>Laos</i>	0	35	35
Algeria	0	26	26	<i>Libya</i>	42	0	42
Argentina	3	0	3	Malawi	29	0	29
Bulgaria	0	44	44	<i>Mongolia</i>	0	44	44
<i>Burundi</i>	4	0	4	Mozambique	0	10	10
<i>Belarus</i>	13	0	13	Poland	0	41	41
<i>Central African Repub</i>	17	0	17	Portugal	4	0	4
<i>Chad</i>	12	15	27	Romania	0	42	42
Chile	4	0	4	Russia	0	44	44
China	0	29	29	<i>Saudi Arabia</i>	8	0	8
Taiwan	0	31	31	Spain	30	0	30
<i>Cuba</i>	1	51	52	<i>Syria</i>	0	41	41
Dominican Rep.	15	0	15	<i>Tajikistan</i>	4	0	4
<i>Eritrea</i>	0	9	9	<i>Togo</i>	27	0	27
East Germany	0	40	40	<i>Tunisia</i>	0	18	18
Greece	8	0	8	Turkey	3	0	3
<i>Guinea</i>	0	17	17	<i>Turkmenistan</i>	0	19	19
Hungary	0	39	39	Tanzania	0	18	18
<i>Iraq</i>	11	0	11	Uruguay	4	0	4
<i>North Korea</i>	0	62	62	<i>Uzbekistan</i>	0	19	19
South Korea	14	0	14	Serbia	0	44	44
<i>Note:</i> Countries in italic are not included in the analysis, as there is no or not sufficient individual-level data.				Total	253	783	1,036



