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Children of the State:

Ideological Education Increases Support for
Autocratic Leadership

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Children of the State: Ideological Education Increases Support for Autocratic Leadership

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Abstract

How does exposure to authoritarian content in education affect support for autocratic leadership? While higher levels of education are linked to less support for autocratic leadership, states often leverage education to foster regime loyalty in their population. Due to the unavailability of comprehensive data, previous research has not adequately examined how state interference in education might condition the link between education and support for autocratic leadership. Using historical data on education systems from the 20th century provided by the EPSM dataset, alongside individual-level survey data from the ESS and the WVS, this paper tests the conditioning effect of ideology in education. We employ causal inference methods by exploiting compulsory schooling reforms in 15 European countries and account for both the content in the curriculum and the teachers' ideological convictions. The study highlights the role of regime-specific ideology and inter-personal socialization in shaping the strength of the 'education effect'.

Keywords: Ideological education; Autocratic leadership; Indoctrination; Education systems; Schooling reforms.

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Introduction

Widespread popular support for the political system is crucial for ensuring predictable governance, stable economic activities, and sustained economic development (Dalton 2004). Political regimes are therefore interested in fostering norms among their citizens through education that align with the prevailing system (Dennis 1968). This scenario is evident in democracies which aim to foster democratic norms such as tolerance and political participation through education (Persson 2015; Simon 2022), but it extends also to autocracies where the education system is designed to instill regime support, promoting nationalism, and suppressing critical thinking (Paglayan 2022). Consequently, rulers have strong motives to seek control over the education system. Despite this, there is limited evidence on the actual effects of ideological education on political values and how persistent these effects are over time (cf. Neundorf et al. 2024; Cheruvu 2022). We thus focus on the following research question: How does exposure to authoritarian content in education affect support for autocratic leadership?

Education is often assumed to have intrinsic values and bring favorable outcomes, such as increased levels of tolerance (Stubager 2008). Indeed, one of the most established links in political behavior is between education and liberal values (Cavaillé and Marshall 2019), including democratic preferences, cosmopolitanism, and respect for minority rights. However, this literature has overlooked two crucial variables: the extent and implementation of ideological content within the education system. Individuals who are exposed to authoritarian ideology during their education—marked by a significant emphasis on a leader cult and the ruling regime—could be more likely to support authoritarian values, such as a preference for strong leadership and the virtue of obedience. The relative absence of multilevel studies accounting for country-level characteristics that may moderate the relationship between education and political preferences is therefore noteworthy, despite the observation of clear

differences in the strength of the relationship across countries and generations (Lindskog and Oskarson 2023; for an exception, see Frølund Thomsen and Olsen 2017).

It is not just the presence of authoritarian elements in the curriculum that influences this dynamic; the extent to which these values are internalized by those implementing the curriculum—particularly teachers—is also crucial. When teachers align with state ideology, they can amplify the effect from such indoctrination, as they play a central role as authorities in transmitting social norms within schools (cf. Stubager 2008). Thus, we refer to both the curriculum’s authoritarian elements and teachers’ adherence to regime ideology as the ‘authoritarian content’ in education.

The scholarly discussion of these issues is particularly important to settle given the somewhat contradictory findings found in previous literature. One narrative maintains that individuals in emergent democracies carry, on average, less democratic norms than in established ones. Ample evidence from former Soviet states confirms this view, where a ‘shadow of communism’ continues to influence political values long after the fall of the Soviet Union (Pop-Eleches and Tucker 2017; Kratz 2024; Auerbach and Petrova 2022; Alesina and Fuchs-Schündeln 2007; de Juan et al. 2021; Cheruvu 2022). Yet, a second narrative suggests a contrasting scenario, where the experience of an autocratic regime fosters anti-regime sentiments, as documented in China (Wang 2021) and Ukraine (Lupu and Peisakhin 2017; Rozenas and Zhukov 2019), suggesting a liberalizing rather than liberal-skeptic outcome following democratization.

‘Ideological education’ can be defined as the systematic process of teaching a specific set of beliefs, values, and principles that align with a particular ideology into individuals, within a formal education setting. This encompasses both the procedural aspects—the teacher execution—and the substantive content, covering various ideologies in the curriculum. Previous research has primarily focused on the substantive dimension, using various proxies in

order to isolate country differences in the ideological content in education (see e.g., Frølund Thomsen and Olsen 2017; Diwan and Vartanova 2020; Österman and Robinson 2023), leaving questions about the procedural aspects unanswered. Recently collected historical data (Del Río et al. 2024) now enable us to distinguish these matters in comparative analysis and directly study the influence of ideological education. This presents a unique opportunity to generate knowledge that can inform some of the most pressing political issues of our time, such as why some individuals favor authoritarianism despite being well-educated, how rulers exert effective governance over individuals, and the underlying potential of education to mitigate the increasing prevalence of authoritarian values in many societies.

Existing scholarship has established preliminary causal evidence linking ideological education with political values (e.g., Cantoni et al. 2017). Indeed, several studies suggest that modern mass education systems emerged partly from rulers' desires to instill specific values in the citizenry, aiming to foster compliance with the regime's ambitions while also generating competent and loyal servants (Ansell and Lindvall 2020, chapter 5; Paglayan 2021, 2022). This link has been supported by various case studies (e.g., Alesina and Fuchs-Schündeln 2007; Fuchs-Schündeln and Masella 2016; Costa-Font et al. 2024), through comparative survey data (Frølund Thomsen and Olsen 2017; Diwan and Vartanova 2020), and in a recent large-scale expert survey (cf. Neundorf et al. 2024). Additionally, previous research has identified several factors that moderate the effectiveness of political indoctrination, with family socialization (Kao 2021) excessive repression (Wang 2021) and 'hard propaganda' (Huang 2018) emerging as particularly significant.

However, this literature now confronts at least three limitations. First, comparative data that accurately captures ideological education has only recently become available. As a result, much of what is 'known' is based on imprecise data and rough estimations of indoctrination, such as the simplistic proxy of experiences in democracies versus dictatorships (Diwan and Vartanova

2020: 2; Frølund Thomsen and Olsen 2017; Österman and Robinson 2022). Second, critical theoretical and empirical elements are lacking, especially concerning the teacher implementation of ideological education and its impact on political values. Lastly, while prior studies have provided some causal evidence on the effect of ideological (predominantly secondary and higher) education on labor-market participation (Costa-Font et al. 2024; Fuchs-Schündeln and Masella 2016) and regime support (Cantoni et al. 2017), the extent to which these findings apply beyond specific contexts such as China, East Germany and Poland remains unclear. More importantly, it is still uncertain how these effects translate to general authoritarian attitudes formed during the time in education.

We address these shortcomings by leveraging detailed historical data on ideological education across 29 states, complemented by individual responses from nearly 50,000 participants in the European Social Survey (ESS). Our analysis comprises two studies: one examines the relationship between ideological education and support for autocratic leadership, while the other investigates the causality of this relationship.

In the first study, we estimate a series of multilevel regression models to explore how the impact of education on support for autocratic leadership is moderated by the presence of ideological content in the curriculum and the ideological orientation of teachers at the time of the respondents' schooling. More precisely, we examine the degree to which individuals endorse strong leadership and obedience as core principles of political governance, which we conceptualize as autocratic leadership. Our findings reveal that while educational attainment generally is associated with weak support for autocratic leadership, this correlation is significantly influenced by the ideological nature of the educational system. Moreover, the presence of ideological requirements for teachers also weakens the link between education and liberalism, independent of the curriculum. We replicate these findings using two survey waves from the World Value Survey (WVS), which includes 78 countries and approximately 100,000

individuals, confirming the same effect. To our knowledge, this is the first comparative study to investigate these phenomena from such a broad perspective.

In the second study, we replicate and extend the design of Cavaillé and Marshall (2019) and d’Hombres and Nunziata’s (2016) quasi-experimental studies. These studies identify the causal effect of education on anti-immigration sentiments by examining changes in compulsory years in education within a regression discontinuity (RD) framework. We extend their approach in three ways 1) by including additional schooling reforms, 2) incorporating data on the ideological content in the educational systems where the reforms occurred, and 3) testing another dependent variable. Our main analysis aligns with their findings—an increase in compulsory schooling years leads to lower support for autocratic leadership. However, when dividing the sample based on the characteristics of the education system, such liberalizing effect does not occur in authoritarian educational contexts.

Collectively, this paper provides comparative evidence on the conditional effect of education on value formation. It further shows how attitudes formed during childhood can persist even if the regime itself changes (cf. Inglehart 1990 on ‘the impressionable years’). When regimes fall, their fostered values do not necessarily fall with them. Instead, the findings of this paper suggests that citizens often continue to embrace regime-loyal values throughout their lives.

In the remainder of this paper, we present new data and theory that support the effect of ideological education in fostering support for autocratic leadership. The discussion is structured into four sections. First, we present a theoretical framework that connects the key elements of value formation, curriculum, and teacher implementation. Second, we describe the data and methodology employed in our analysis. Third, we sequentially estimate our two studies. Finally, we discuss the implications of our findings in the concluding discussion.

Theoretical expectations

Value formation in education

The link between high levels of education and liberal values, including weak support for authoritarian leaderships, is one of the most robust findings in the study of political behavior (Lipset 1959; Weakliem 2002; Stubager 2008) and is a world-wide phenomenon (Weakliem 2002). Individuals with low levels of education are significantly more authoritarian than highly educated individuals on ‘socio-cultural’ issues such as the rule of law and democratic preferences. This discrepancy in education level also predicts differences in party affiliation and voting behavior (Kriesi et al. 2008; Häusermann and Kriesi 2015).

However, despite the vast scholarly interest in understanding this relationship, surprisingly little is known of its underlying mechanisms. The relative importance of self-selection into education is the subject of considerable debate as individuals’ family background and genetics may foster liberal values as well as motivating them to pursue specific educational trajectories (Campbell and Horowitz, 2016; Weinschenk and Dawes 2018). Recent estimates report that at least 70% of the ‘education effect’ is present already before individuals start their studies (Simon 2022).

While family socialization undoubtedly accounts for a large share of ‘the education effect,’ several studies note a causal effect of studying one additional year (see Cavallé and Marshall 2019; d’Hombres and Nunziata 2016). Scholars commonly highlight the role of socialization and cognitive development during the time spent in education as causing such a change in attitudes (Stubager 2008; SurrIDGE 2016). Increased knowledge and interpersonal contacts are assumed to bring forth a general liberalization in political attitudes. Since individuals usually undergo their education during the formative years, i.e., before values tend to stabilize, such effects can be long-lived and persist throughout an individual’s life (Rekker et al. 2017; Stubager 2008). This could mean maintaining nearly a century of attitude persistence despite

regime changes, state-building, and socio-economic developments (see also Inglehart 1990).

As a baseline expectation, we formulate the first hypothesis:

Hypothesis 1: Education is on average associated with lower support for autocratic leadership.

Ideological content in the curriculum

In 2024, the Chinese government reformed Hong Kong's curriculum to include mandatory modules on what they term "patriotic education." These new modules were introduced to cultivate students' sense of Chinese nationhood, foster affection for the country, and strengthen their Chinese identity (Davidson 2024). Such curriculum changes are even more pronounced in mainland China, where the content of school textbooks is under complete regime control, with the regime's stated aim to "form in students a current worldview, a correct view on life, and a correct value system." Given their wide readership, these textbooks have the potential to influence an entire generation (Cantoni et al. 2017: 345).

The example from China underscores the critical role of the education system as a tool for regimes seeking to establish societal values. The curriculum, in particular, has the potential to create what Max Weber described as a 'national sentiment', which any regime can then shape according to its objectives. Numerous historical and contemporary examples support this view, ranging from Prussia and France to Nazi Germany, the Soviet Union, and present-day China and Russia (Ansell and Lindvall 2013; Paglayan 2022). Moreover, modern democratic states also shape their curricula to emphasize the values of democracy and the respect for minorities (Clots-Figueras and Masella 2013).

However, the attitudinal consequences of ideological content in education involves a good amount of uncertainty despite regime-controlled curricula. Early works argue that the

curriculum has almost no effect on students' values and preferences (Langton and Jennings 1968; cf. Hillygus 2002), while more recent studies find that such effects may occur only in certain subgroups (Campbell and Niemi 2016; Neundorf et al. 2016). Indeed, studying the effects of curriculum is notoriously difficult as educational reforms often accompany other social and economic changes, as well as means of infusing regime support. To clarify the causal relationship, Cantoni et al. (2017) employed a difference-in-difference research design to study the impact of ideological content on Chinese undergraduate students. Although this group falls outside our focus on ideological education during earlier years, the study offers glimpses into the causal effects of educational content and political attitudes. The findings indicate that the sharply introduced ideological curriculum significantly shifted attitudes in the direction intended by the Chinese government.

Based on this reasoning, we expect that individuals who experience and participate in educational institutions with an authoritarian ideology are likely to develop a stronger preference for autocratic leadership compared to those who are encouraged to engage in critical thinking and democratic values. This indicates a negative relationship between education and support for autocratic leadership, but it remains an open empirical question that requires further investigation. We formulate a second hypothesis:

Hypothesis 2: Authoritarian content in the education curriculum weakens the link between education and support for autocratic leadership.

Implementing ideological education

The moderating effect of ideological content on preferences for autocratic leadership is further presumed to be conditioned by the state's capacity to implement its outlined ideological activities in education, and the strength of socialization exerted by the teachers. Teachers, as

central figures within the education system, play a crucial role in upholding the traditional ideals of a competent civil service, including core values such as efficiency and adherence to the rule of law. Their professionalism as civil servants can enhance policy implementation in both democratic and authoritarian regimes (Charron and Lapuente 2011).

In democracies, teachers serve to reflect the impartiality of the state by providing high quality public service to citizens regardless of the political government of the day. By contrast, rulers can exploit this feature in dictatorships, as has happened numerous times in history, by employing the civil service in the ruler's totalitarian machinery (De Juan et al. 2021).¹ Politicians and managers have compelling reasons to motivate these 'street-level bureaucrats', either by ensuring their loyalty to the regime's ideology or adherence to professional norms, depending on the regime type (May and Winter 2009).²

Moreover, evidence suggests that teachers play an important role in shaping students' values (Blazar and Kraft 2017; Stubager 2008), and that students' political preferences may align with those of their teachers over time (Schein's 1967). Through social interactions, students tend to adapt their values to mirror those of their teachers (Pascarella and Terenzini 1991). Talcott Parsons described this process as 'socialization by instruction.' In his framework, the socializing agent acts as a legitimate 'teacher' and establishes the values to be adopted (see also Stubager 2008). Due to the authoritative structure of educational institutions, pupils imitate the socially acceptable attitudes transferred by the socializing agent (Frølund Thomsen and Olsen 2017: 919).

The model of imitation may thus be reinforced by ideologically committed teachers. As highlighted by Frølund Thomsen and Olsen (2017), teachers are likely to reward conformity

¹ The clearest example of this phenomenon is the behavior of bureaucrats in the Nazi regime, which Hannah Arendt (1963) has famously documented as the 'banality of evil.' In essence, the executors of the Holocaust claimed they were merely 'doing their duties' according to the laws outlined in the constitution.

² The Fascist Italian regime recognized this, and in 1929, forced all teachers and university professors to take the Fascist oath of allegiance. Remarkably, out of 1,225 professors, only a dozen dared to refuse the order (Koon 1985: 65).

and like-mindedness while penalizing behaviors and statements that deviate from the norm. This process does not necessarily occur through the teachers' conscious choices, and the extent and type of penalties likely vary depending on the political regime and the hierarchical structure of the education system. Still, following this line of reasoning, we argue that teachers' ideological loyalty to an authoritarian regime moderates the relationship between education and preference for autocratic leadership.

Hypothesis 3: Teachers driven by an authoritarian ideology weakens the relationship between education and support for autocratic leadership.

Data and methods

Empirical considerations

Our aim is to investigate the effect of ideological content on preferences for autocratic leadership. To achieve this, we must account for several confounding factors. Individual-level background factors such as parental background can influence both an individual's educational trajectories and their leadership preferences, raising concerns about endogeneity. Moreover, isolating the individual effects of participating in different types of educational systems from other macro-level factors, such as growing up in an authoritarian state and experiencing state repression, is challenging because the content of education systems is closely tied to the specific regime type (cf. Figure 3). To address these challenges, we incorporate two complementary analyses to estimate the marginal effect of ideological education as closely as possible.

First, we employ a multilevel model that includes a broad sample of countries and individuals. This approach allows us to detect general correlations between the curriculum, teachers' ideological convictions, and attitudes across 29 countries from the European Social Survey and 78 countries from the World Value Survey. Following this, we complement our

analysis with a quasi-experimental research design that accounts for exogenous variation in the time spent in education. Specifically, we build on the work of d’Hombres and Nunziata (2016) and Cavaillé and Marshall (2019), who utilized compulsory education reforms to identify the causal effect of education on immigration attitudes across various European countries. By extending their studies with additional reforms, we further investigate whether the increase in compulsory schooling years occurred within an authoritarian or democratic education system. This approach enables us to interpret the causality of our multilevel estimates by examining the impact of spending more time in an education system with specific characteristics while holding the political regime type constant.

Data

At the individual level, we derive data on support for autocratic leadership from two rounds (2018-2020) of the ESS, a high-quality survey data collection running every two years since 2002. Our pooled sample consists of 49,469 individuals across 29 countries.³ To examine differences in education systems, we leverage the Education Policies and Systems across Modern History (EPSM) dataset introduced by Adrián Del Río, Philipp Lutscher, and Carl-Henrik Knutsen (2024).⁴ This comprehensive dataset provides a detailed examination of the *de jure* characteristics of education policies and systems, enabling us to focus on central factors such as extensions in compulsory education, content in the curriculum, and teachers’ ideological requirements. The coding relies on primary- (education laws and decrees) and secondary sources (e.g., scholarly works, education reports, and newspapers). The EPSM dataset covers 157 countries, with some studied from 1789 to the present. It aims to measure

³ Austria, Belgium, Switzerland, Czechia, Germany, Croatia, Hungary, Netherlands, Slovenia, Slovakia, Ireland United Kingdom, Spain, France, Greece, Italy, Portugal, Cyprus, Denmark, Finland, Iceland, Norway, Sweden, Estonia, Lithuania, Latvia, Poland, Serbia, Slovenia, Slovakia. For country-specific descriptions, see Figure A1 and Figure A2 in the Appendix.

⁴ While the EPSM dataset ranges from 1789, we restrict our sample to 1900-2020 to match with the oldest individuals that has participated in the European Social Survey.

four broad dimensions of education systems through 21 variables: the existence and nature of compulsory education, the ideological guidance and content of education, the extent and nature of governmental intervention and level of education centralization, and the nature of training teachers.⁵

This dataset introduces significant advancements to the comparative study of education system effects. Prior studies (e.g., Diwan and Vartanova 2022; Frølund Thomsen and Olsen 2016; Österman and Robinson 2022) rely on rough proxies of democratic versus authoritarian education, typically assigning a dichotomous value at the country-year level. Such an approach is problematic not only because political systems are dynamic and can embody characteristics of both regime types simultaneously, but also because educational reforms can take place within contexts that defy these classifications. For example, under previous coding schemes, a country like France would—for good reasons—not be considered authoritarian in the late 1940s. Yet, the EPSM dataset, which focuses on the nuances of educational policies and practices rather than assuming they mirror regime type, reveals that France’s formal requirements for teachers and curriculum content during this period encompassed several elements of authoritarian values (see Figure A1 and A2 in the Appendix). Put simply, if the aim is to understand education systems *per se*, this new dataset offers a far more detailed view of ideological education across states, without being limited by binary regime classifications.

It is important to emphasize that the data is constructed based on *de jure* institutions. In many countries, especially in pre-modern contexts (i.e., before the 20th century), what is prescribed in formal document does not always reflect what is implemented *de facto*, due to the state’s limited capacity. In contrast, Neundorf et al.’s (2024) dataset measures the extent and nature of ideological education according to expert judgments, following the methodology of the Varieties of Democracy project (Coppedge et al. 2019). However, we believe that *de jure*

⁵ The coding process was labor-intensive, with the authors and research assistants dedicating around 3,000 work hours.

institutions, particularly since the 20th century onward, provide more reliable insights into education systems than expert surveys that may suffer from experts' biases (see Little and Meng 2024). Additionally, using the latter would significantly reduce the sample size of this study.

Basic results, validity controls, and cross-checks with existing similar datasets (especially Neundorf et al. 2024) have been presented and justified (Del Río et al. 2024). In short, the EPSM dataset offers an unprecedented window into the comparative study of education systems, which has previously lacked precise high-quality data.

Individual-level variables

Dependent variable

The dependent variable, *support for autocratic leadership*, is based on two variables in ESS: *lrnobed* and *loylead*. These variables are labeled as “Obedience and respect for authority are the most important virtues children should learn” and “Country needs most loyalty towards its leaders.” The questions are measured on a scale from 1 (“Strongly agree”) to 5 (“Strongly disagree”), with higher values indicating lower support for autocratic leadership. We combine these items to a linear index that is leveraged in the analysis. This outcome variable shows a relatively high inter-item reliability coefficient of 0.68.

Independent variables

The main independent variable is the length of education, which the ESS measures on a 7-point scale, ranging from primary education to a university degree. We also control for several individual-level characteristics that may influence both a respondent's support for autocratic leadership and level of education. These include gender, income, age, and parental background. Gender is treated as a dummy variable where one equals being a woman. To facilitate a comparative analysis, we measure income by identifying the decile in which each respondent

falls within the income distribution within his or her country. Parental background is operationalized through the fathers' highest level of education (1-6). Age is run in a continuous form, and, we have dropped individuals below the age 22 and individuals still in full time education to ensure that all respondents could have had time to proceed with their studies. We further remove all individuals that are not born in the country, as these may have undergone their education within another education system. For summary statistics of the core variables, see Table A1 in the Appendix.

Country-level variables

We include three independent variables from the EPSM to study the effect of authoritarian content in education on liberal attitudes. (1) *Ideological curriculum*, measured by the prompt “if there are national laws in place students should follow civics education or some form of ideology training in school, how would you characterize this training?” The ideological curriculum variable is recoded to comprise of two main categories: authoritarian and democratic. The authoritarian category includes nationalist ideology and/or clear nation-/state-building purpose, regime-specific ideology (e.g., Fascism, Communism), and leader-specific ideology. The democratic category encompasses civics/social science education without a clear ideological profile, and democratic norms.

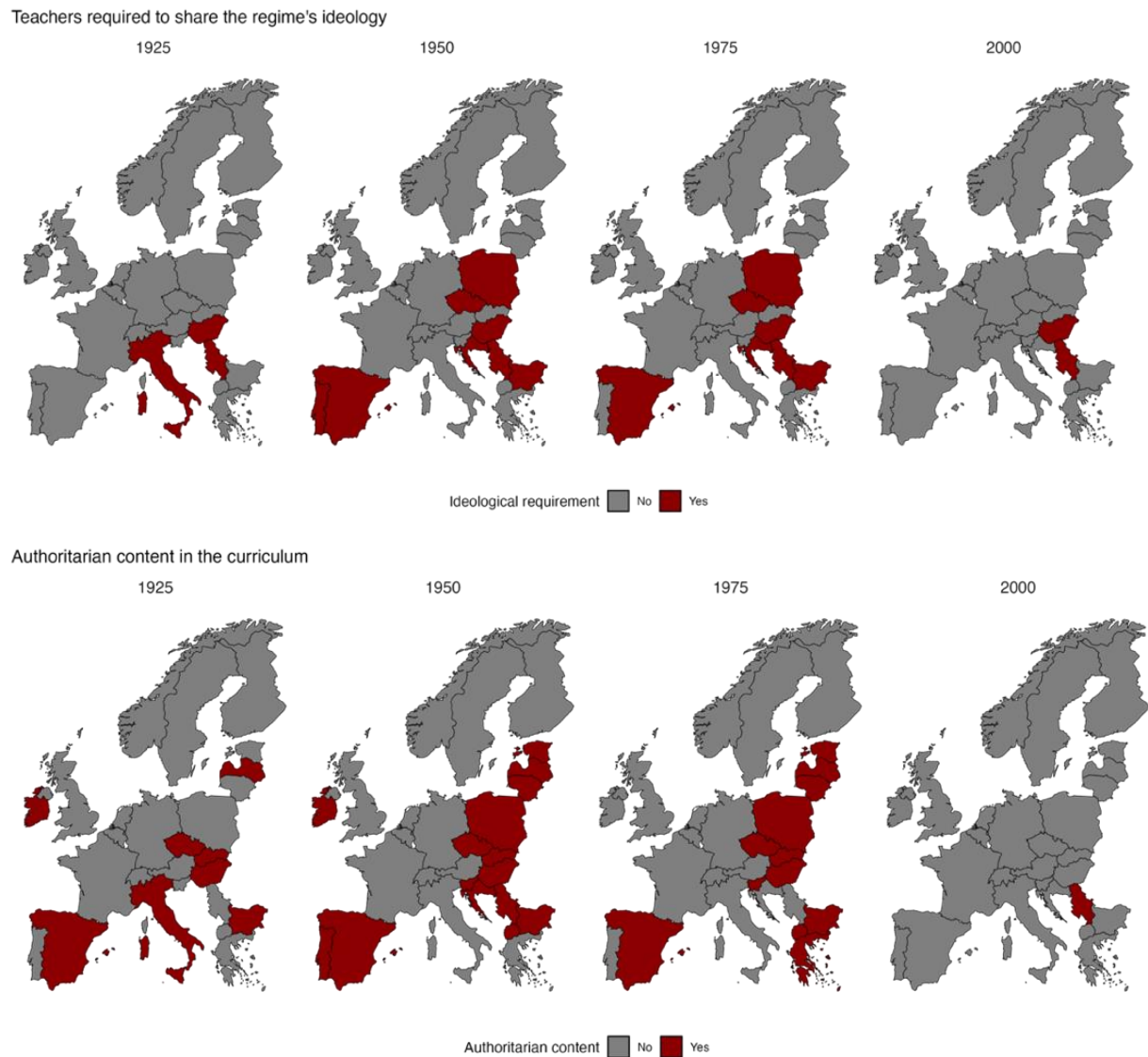
As several countries exhibit characteristics of both dimensions, we create a restricted variable where an authoritarian curriculum is defined as having any of the aforementioned items without any influence from the democratic category. Germany is treated as a single unit in the EPSM dataset, even though the educational systems differed between East and West Germany. To ensure that potential measurement bias does not influence our results, we run all models excluding Germany as a robustness check.

(2) *Teacher ideology* is measured by the following prompt: “is there any formal ideological requirement for all teachers on at least one level of education (primary and/or secondary) and, if yes, of which type? We define it as the existence of formal ideological requirements for teachers in a country that is categorized as a dictatorship. The demand for teachers ideology variable ranges in four values, where 0 = no ideological requirements to become a teacher, 1 = certain formal requirements to become a teacher, such as not having prior convictions; 2 = specific ideological characteristics that prevent a person from becoming a teacher, such as membership in certain political, religious, or social groups; and 3 = specific ideological requirements to become a teacher, such as mandatory membership in certain political, religious, or social groups. We recode it into a binary variable, where 1 represents the most strict and authoritarian option: the presence of ideological requirements to become a teacher. However, since the variable in EPSM-dataset does not specify the type of ideological requirement for the teachers, such demand could theoretically apply to democracies as well.⁶ We therefore combine data on teachers’ ideological requirements with a binary classification of democracy versus autocracy to specifically capture ideological demands imposed by autocratic regimes. Figure 3 illustrates the geographical distributions of ideological education in Europe.

(3) *Years of compulsory education* is measured by the following prompt: “how many years of schooling are required by compulsory education?” Finally, we include level of liberal democracy, unemployment levels and GDP per capita as country-level controls.

⁶ A few examples in the dataset illustrates this, such as Norway until 1967 and Finland until 1964, where the requirement is that teachers adhere to a liberal ideology.

Figure 3. Geographical distribution of authoritarian education, 1925—2000



Research design

Our analysis is based on two distinct studies. Study 1 seeks to establish the relationship between ideological education and liberalism using a multilevel regression approach. Study 2 aims to determine the causal direction identified in Study 1 by employing a RD estimation based on increases in compulsory education. We outline and conduct the empirical strategy for each study separately, and then synthesize the findings in the discussion section.

Study 1: Multilevel regression analysis

Empirical strategy

In the first study, we conduct a multilevel regression analysis to investigate a cross-level interaction: whether the relationship between education and support for autocratic leadership at the individual level is influenced by characteristics of the education system at the country level. Ignoring these country-level differences could violate the assumption of independent observations due to spatial autocorrelation among respondents.

We merge information on the authoritarian content in education from the EPSM dataset with the ESS data, focusing on the respondent's age of ten.⁷ This age is chosen because it falls within the formative years (Inglehart 1990) and serves as a consistent point for comparative analysis, given that children typically start their education between ages 5 and 8. Consequently, this approach provides a proxy for the broader education system experienced by the individual during their upbringing. Additionally, we include survey year fixed effects to account for temporal factors.

Model 1 examines the bivariate association between education and support for autocratic leadership. Model 2 adds individual-level control variables to this baseline. Model 3 introduces the cross-level interaction between ideological content and education length. Model 4 explores the interaction between the teacher's ideological adherence and education on the formation of preferences for autocratic leadership.

Results

This section presents the main results of the first analysis. Detailed evidence and alternative specifications can be found in the Appendix (section A). All evidence supports our main claim:

⁷ We do also test for alternative ages (8 and 12) to reduce the arbitrariness in deciding the respondent's age as a proxy for the educational system.

exposure to authoritarian content in education is linked with stronger support for autocratic leadership. Table 1 demonstrates this conditional effect in our sample. In line with previous studies, we find a positive association between education and liberal values, where one step increase (1-7) in education equals an increase of 0.31 (1-10) of opposition towards autocratic leadership. These results hold consistently when adding various control variables in Models 1-4. Hence, as substantiated by prior studies, higher educated individuals are, on average, more democratic.

However, adding an interaction term of authoritarian content in education and education length (Authoritarian#Education) reveals a significant and negative moderation of the relationship. This indicates that the effect of education on liberal values is weaker when individuals have been exposed to authoritarian content in their education. Interestingly, the intercept is higher among individuals likely growing up in authoritarian regimes. This finding aligns with studies showing a liberalizing effect of experiences in regime suppression (Lupu and Peisakhin 2017; Rozenas and Zhukov 2019). As demonstrated in Model 3, this relationship holds under control of age, gender, income levels, level of democracy, and GDP per capita.

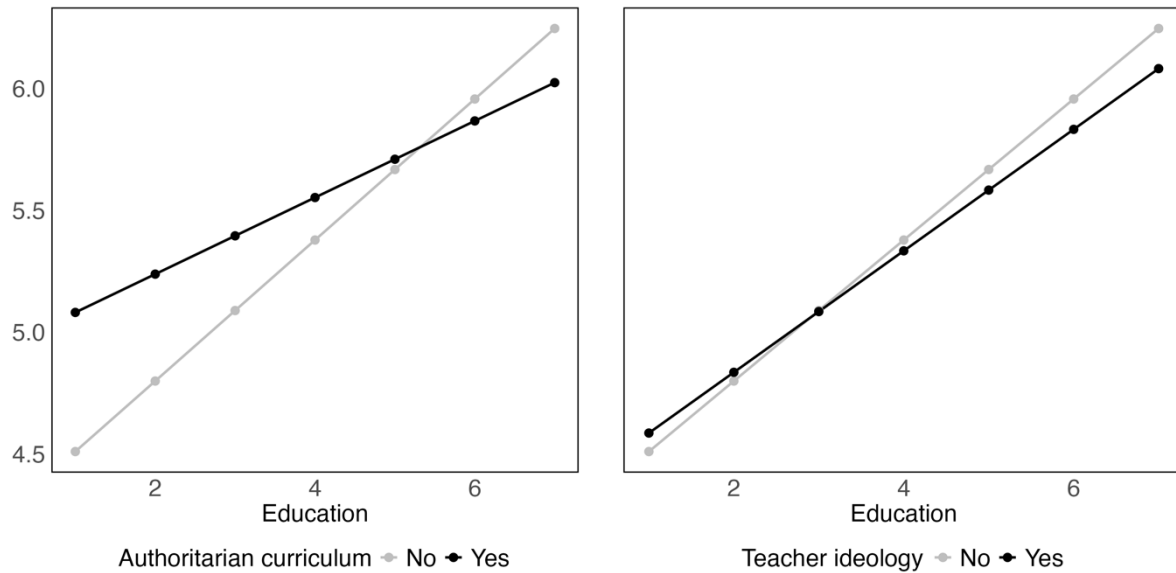
Similarly, teachers' ideological requirement interacts with education length to reduce liberal values. The effect remains unchanged when controlling for the curriculum content, suggesting an independent effect of the teachers. This underscores the significant role teachers play, and not only the curriculum, in reinforcing state indoctrination. When teachers are ideologically aligned with the regime, the ideological content embedded in the regime is more effectively communicated to pupils, thereby consolidating authoritarian attitudes more robustly. Figure 4 demonstrates the predicted marginal effect of education on authoritarianism, depending on the curriculum and teacher ideology.

Table 1. The effect of education on support for autocratic leadership (scale 2-10) depends on the educational system. Multilevel estimations, liberal direction.

	(1)	(2)	(3)	(4)
Education	0.31*** (0.01)	0.24*** (0.01)	0.28*** (0.01)	0.25*** (0.01)
Gender (1=Woman)		0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)
Age		-0.02*** (0.01)	-0.02*** (0.01)	-0.02*** (0.01)
Income		0.04*** (0.01)	0.04*** (0.01)	0.04*** (0.1)
Authoritarian curriculum			0.64*** (0.05)	0.18*** (0.03)
Authoritarian#Education			-0.12*** (0.01)	
Teacher ideology				0.05 (0.07)
Teacher ideology#Education				-0.05*** (0.01)
<i>Country level controls</i>				
GDP/Capita	0.01** (0.01)	0.02** (0.01)	0.02*** (0.01)	0.02*** (0.01)
Democracy	-1.4** (0.51)	-1.26* (0.51)	-1.32** (0.51)	-1.28* (0.51)
Unemployment	0.03** (0.01)	0.03** (0.01)	0.04** (0.01)	0.03** (0.01)
Period FE	YES	YES	YES	YES
Constant	4.56*** (0.41)	5.29*** (0.41)	5.15*** (0.41)	5.28*** (0.41)
<i>Variance</i>				
Level 2	-0.75*** (0.15)	-0.75*** (0.15)	-0.73*** (0.15)	-0.74*** (0.15)
Level 1	0.56*** (0.01)	0.55*** (0.01)	0.55*** (0.01)	0.55*** (0.01)
N	49469	49469	49469	49469

Note: Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. ICC = 0.7 in all models. Results hold when excluding Germany from the sample, see Table A5 in the Appendix. Individuals not born in the country and below age of 22 are excluded from the sample.

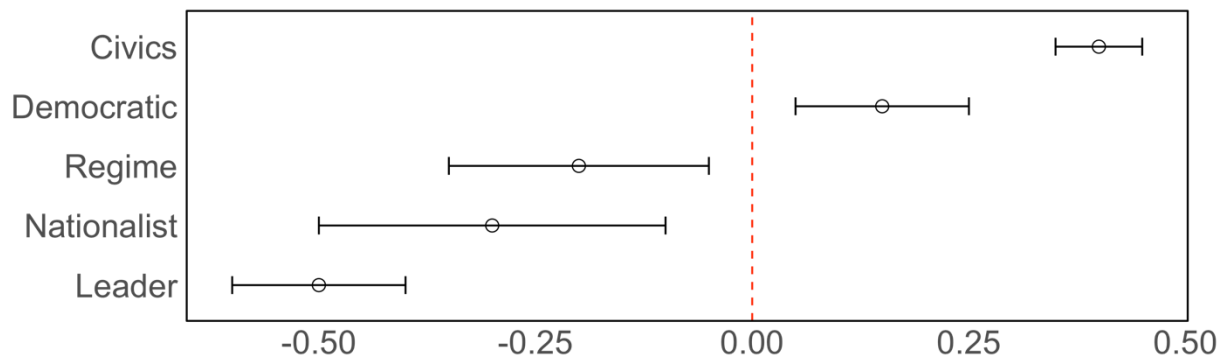
Figure 4. Predicted values of support for autocratic leadership (2-10 scale, liberal direction) across educational levels, contingent on the presence of an authoritarian curriculum or teacher ideology



Alternative specifications

We conducted separate analyses for the various types of ideology present in the curriculum. As previously described, this differentiation is operationalized by the existence of national laws that regulate the extent to which students are ideologically trained in education. We can distinguish between civics training without a clear ideological profile and those with explicit ideological content, such as nationalist ideology and/or clear nation-/state-building purpose; regime-specific ideology; leader-specific ideology; and democracy. The only factors that positively impacts liberal attitudes are civics training and democratic ideology. In contrast, the remaining items generate negative associations, significant on the 0.001 level. Figure 5 visualizes these results.

Figure 5. The estimated conditional effects on support for autocratic leadership (2-10 scale, liberal direction) between education and ideological content, disaggregated analysis

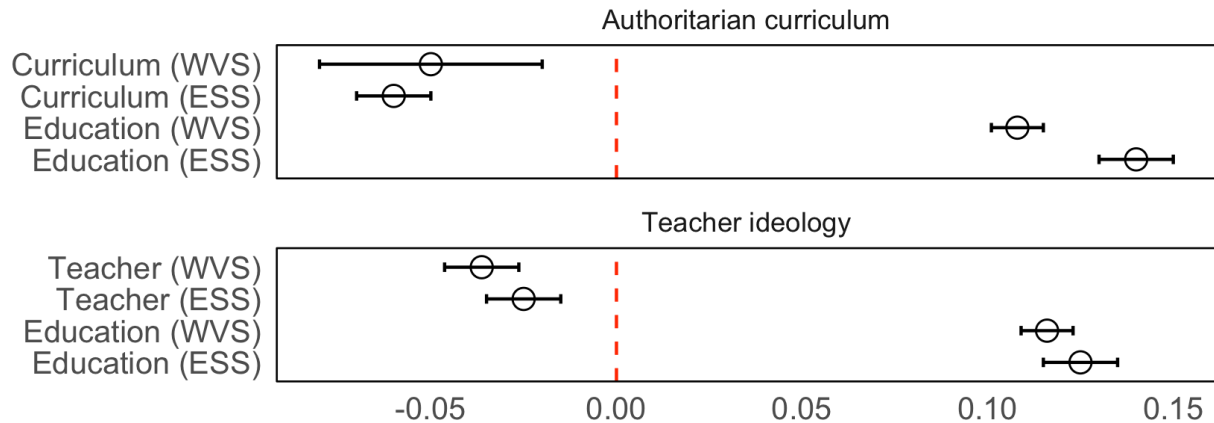


Note: ESS 2018-2022 and EPSM-dataset. The figure illustrates the coefficient estimates of the interaction term from model 4, when ‘ideological education’ is disaggregated into separate ideologies.

We extend our analysis using data from Waves 6 and 7 of the World Value Survey (WVS), covering the periods 2010-2014 and 2017-2022, which includes responses from 106,693 individuals across 72 countries. The dependent variable is an additive index based on two items, ranging from 2 to 8. These items ask respondents to evaluate the following two forms of governance: 1) a strong leader who does not need to consult with parliament or hold elections, and 2) a democratic system.⁸ Responses to the latter item are recoded inversely to allowing the index to run in a liberal direction to correspond to the ESS analysis. While this larger sample of countries is interesting in its own right, the key finding is that the results from the ESS study are clearly replicated. Specifically, the positive effect of education on liberal values is decreased by authoritarian curriculum and teacher ideology, as visualized in Figure 6. Detailed information about this additional study is provided in Section A3 in the Appendix.

⁸ The survey items names are E114 and E117 and are closer correlated to democratic preferences than the items used from ESS.

Figure 6. Comparative analysis of the conditional relationship between education and support for autocratic leadership (scale 2-10, liberal direction), depending on the authoritarian curriculum and teacher ideology.



Note: The figure illustrates the estimated coefficients for the interaction terms between education and authoritarian curriculum versus teacher ideology, as well as the effect of education alone, as presented in Models 3 and 4 in Table 1. These are divided by dataset (refer to Table A9 in the Appendix for the analysis on WVS-data).

Study 2: Evidence from compulsory education reforms

Empirical strategy

Using several credible sources (d’Hombres and Nunziata 2016; Cavillé and Marshall; 2019; Salonen and Pöyliö 2017; Österman and Robinson 2022; and Hörner et al. 2007), we identified 19 compulsory education reforms across 15 countries that took place during the 20th century. We matched the first birth cohort affected by these reforms with data from the ESS for 2018 and/or 2020. This sample largely mirrors that used in Study 1, providing a robust basis for comparison. Like d’Hombres and Nunziata (2016) and Österman and Robinson (2022), we focused on a broad range of countries to enable analyses across diverse educational systems and contexts.

We pool the data to increase statistical power, allowing us to investigate both the general attitudinal effect of the reforms and how these effects vary depending on whether the reforms were implemented within authoritarian education systems. Following Costa-Ljung and Fonte (2023), we exclude individuals with a value of 0 on the running variable in the main analysis due to its discrete nature and uncertainties regarding the exact onset of the treatment. This approach is further supported by inconsistencies in the first affected cohorts as reported by the sources we used to identify the reforms.⁹

Table 2 presents the years in which the reforms were enacted and implemented, along with the first cohort affected by these changes. The sample comprises respondents who experienced these reforms under either an authoritarian or democratic education system, following the classification used in Study 1.

Table 2. Compulsory education reforms in Europe

Country	Implemented	Change in years	First affected cohort	Education system
Austria	1963	8 to 9	1947	Democratic
Belgium	1984	8 to 12	1969	Democratic
Bulgaria	1960	7 to 8	1946	Autocratic
Czechia	1960	8 to 9	1947	Autocratic
Finland	1970	6 to 9	1961	Democratic
France	1967	8 to 10	1953	Democratic
Greece	1975	9 to 10	1963	Democratic
Hungary	1993	8 to 10	1986	Democratic
Hungary	1960	8 to 10	1946	Autocratic
Italy	1963	5 to 8	1950	Democratic
Netherlands	1950	7 to 9	1936	Democratic

⁹ Although the reforms extended compulsory schooling by at least one year, in practice, they only increased the schooling age for a subset of the affected children. Many, particularly those from privileged backgrounds (Lindgren et al. 2019), would have continued their education beyond the lower compulsory schooling years regardless of the reforms.

Netherlands	1976	9 to 10	1959	Democratic
Poland	1961	7 to 8	1952	Autocratic
Portugal	1964	4 to 6	1957	Autocratic
Portugal	1986	6 to 9	1981	Democratic
Spain	1970	6 to 8	1957	Autocratic
Sweden	1965	7 to 9	1950	Democratic
U. Kingdom	1947	9 to 10	1933	Democratic
U. Kingdom	1973	10 to 11	1957	Democratic

Note: See Table B1 for information about the sources of the reforms. Several of the ‘first cohort affected by the reforms’ unfortunately differ between our sources: such as the reform in Sweden (1965), Hungary (1960) and Portugal (1986).

We construct two groups—pre-and post-reform—based on individuals’ birth years.¹⁰ The treatment status for individual i from birth year b in country c is thus:

$$\begin{aligned} \text{reform}_{bc} &= 0 \text{ if } \text{birth year}_{bc} - \text{birth year first affected}_{bc} < 0 \\ \text{reform}_{bc} &= 1 \text{ if } \text{birth year}_{bc} - \text{birth year first affected}_{bc} \geq 0 \end{aligned}$$

The variable bc refers to the birth year of the first cohort impacted by the reform. We then identify the local average treatment effect by comparing cohorts just affected by the reform to those who were not. Following the guidelines from Gelman and Imbens (2018), we apply a quadratic polynomial, triangular kernel, and optimal bandwidths in the analysis. This approach ensures that cohorts closer to the cutoff are given more weight than those further away. As shown in Table B2–B4 in the Appendix, the results remain relatively robust across alternative polynomial specifications (cf. Calonico et al. 2014), placebo reforms, bandwidths, and they are not driven by any single reform. We estimate the effect using local linear regression, with the

¹⁰ Although increases in compulsory education sometimes involved other changes within the education system, such as adjustments to fees or curriculum, Brunello et al. (2013) support the use of the reforms as an instrument for educational attainment by providing evidence that compulsory education reforms offer valid estimates of the causal effects of education on income, independent of school quality.

local average treatment effect calculated as follows. Let y_{ibc} represent the level of support for autocratic leadership by a respondent, f represent a function of the running variable, and ε denote the error term. The following regression model is used to estimate the impact of the reforms:

$$y_{ibc} = \beta_{bc} - f(x_{bc}) + \varepsilon_{ibc}$$

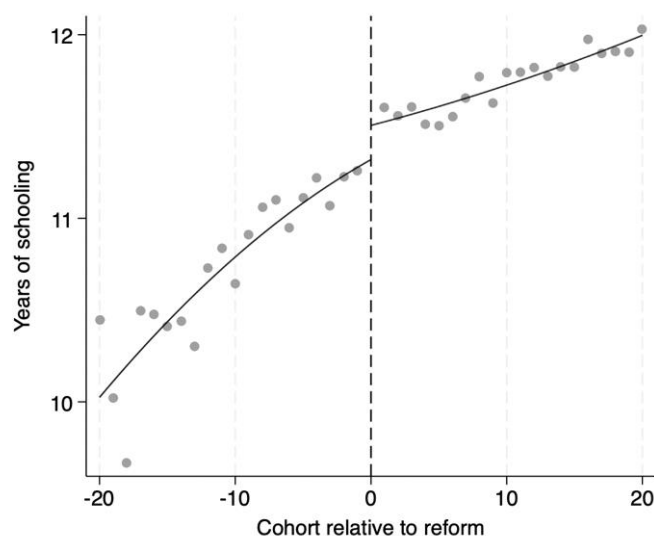
Results

As an initial step, we validate that the exogenous reforms did, in fact, lead to an increase in the average number of years spent in education among the affected cohorts. Figure 7 illustrates this impact on total school years, limited to 13 years to represent the completion of secondary education (cf. Cavallé and Marshall 2019). The average increase observed was 0.36 years—approximately four additional months of education. This result aligns with findings by d’Hombres and Nunziata (2016), although it is slightly smaller than the 6-month increase reported by Brunello et al. (2009).¹¹

Figure B1 in the Appendix further demonstrates that there is no clustering in the sample at the time of the schooling reform, and the results of the McCrary tests (2008) provide additional validation for the ‘no sorting’ assumption, confirming that the distribution of the running variable remains consistent around the cutoff point.

¹¹ The effect is statistically significant at $p < 0.01$ level.

Figure 7. Compulsory schooling reforms increases years spent in education



Note: ESS 2018-2020. The figure is based on the pooled data of all reforms. Quadratic polynomials are leveraged at both sides of the cutoff.

Table 3 illustrates the differences in support for autocratic leadership between the cohorts just before and after the reforms were implemented. Interestingly, we replicate previous findings that education generally has a liberalizing effect on attitudes (though most prior studies focus on immigration attitudes). The treatment effect is 0.13 in the full sample, indicating that the reforms indeed led to a decrease in support for autocratic leadership, as visualized in Figure 8.

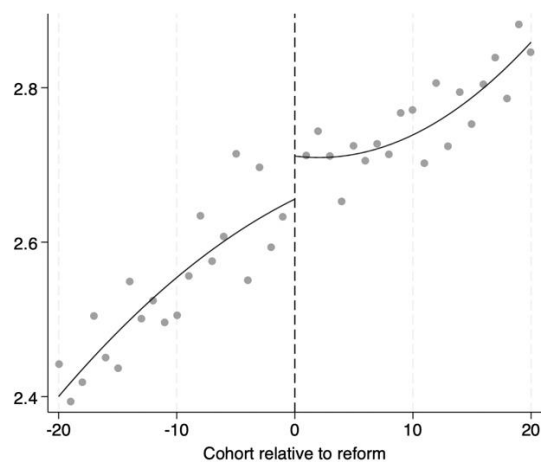
Table 3. The marginal effect of school reforms on support for autocratic leadership (scale 1-5, liberal direction) across educational systems.

	Support for autocratic leadership	Support for autocratic leadership: Democratic system	Support for autocratic leadership: Autocratic system
Reform	0.13*	0.13*	-0.09
Bandwidth	12	12	7

Observations	17 741	12 663	2 542
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Note: ⁺ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All specifications are estimated using optimal bandwidth, triangular kernels and quadratic polynomials. The data used is ESS 2018-2020 and EPSM for a division about the type of reforms. The results are robust to the exclusion of checks for masspoints.

Figure 8. Compulsory schooling reforms increases opposition towards autocratic leadership (Scale 1-5, liberal direction).



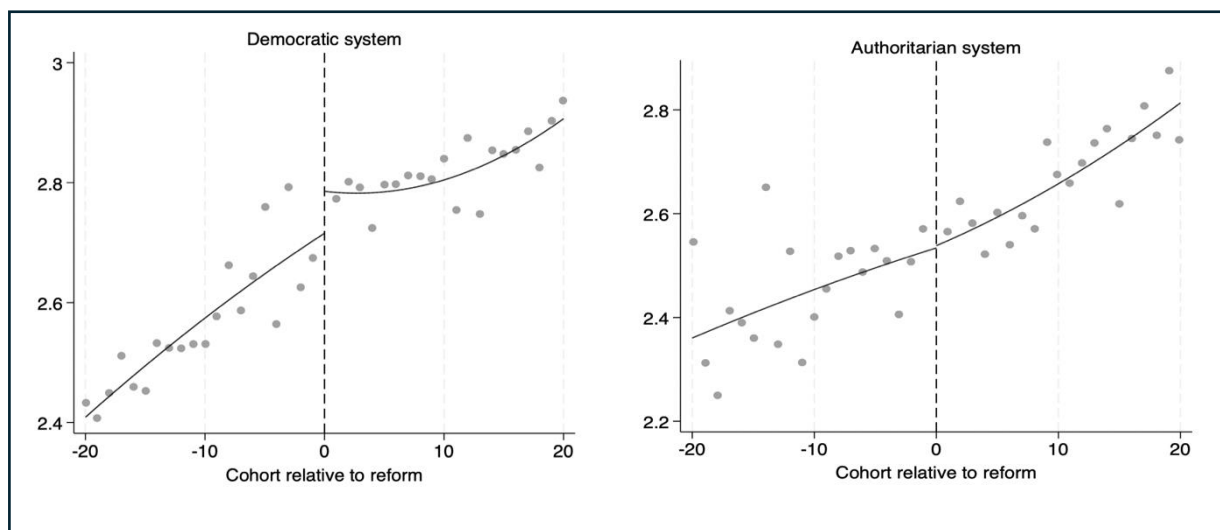
Note: ESS 2018-2020 and EPSM-dataset. The figure is based on the pooled data of all reforms. Quadratic polynomials are leveraged at both sides of the cutoff and a triangular kernel. N=17 741.

However, Table 3 further distinguishes between reforms occurring in authoritarian versus democratic systems and shows that a liberalizing effect is only present when the educational reforms were implemented in states that incorporated democratic content into the education system. In authoritarian contexts, the coefficient fails to reach significance and is in fact negative. While the authoritarian reforms suffer from a smaller sample size, the negative coefficient reassures that an increase in power would yield different conclusions. The results are robust with different polynomial specifications (see Table B2 in the Appendix), are not

driven by the inclusion on any particular reforms,¹² and show no significant effects when testing for a placebo reform five and ten years prior to the actual reforms (Table B3). The findings also remain stable across different bandwidths, though for a critical discussion on deviations from optimal bandwidths as robustness checks, see Arai and Ichimura 2018).

This finding supports the idea that the results of our multilevel analysis have a degree of causal validity. Figure 9 breaks down the effect based on the type of educational system.

Figure 9. Compulsory schooling reforms on support for autocratic leadership across education systems (scale 1-5, liberal direction)



Note: ESS 2018-2020 and EPSM-dataset. The figure is based on pooled data of all reforms, divided on the state of the educational system when the reform was implemented. Quadratic polynomials are leveraged at both sides of the cutoff and a triangular kernel. N=12 663 (democratic reforms), N=2 542 (authoritarian reforms).

As illustrated in Figure 9, a clear discontinuity is evident only within democratic systems. This observation validates the central argument of the paper: that ideological education in

¹² The results remain when excluding all reforms one by one. Small differences occur when excluding UK and Hungary, but the direction and effect sizes remain for both the general, democratic and authoritarian division.

authoritarian settings dampens or even reverses the liberalizing impact of education on support for autocratic leadership. In authoritarian systems, educational reforms may have little or no effect—or even foster support for autocratic norms—due to state-controlled curricula and ideological socialization of teachers. These findings suggest causal validity that corroborates the results from the earlier multilevel analysis, highlighting the critical role of the broader context in shaping the effect of education on political attitudes.

Concluding discussion

The education system yields considerable influence in promoting liberal attitudes such as tolerance for diversity. Our research contributes new evidence to support this link: more education generally leads to less support for autocratic leadership. However, our analysis also reveals that this relationship is moderated by the extent to which the education system consists of ideological content in the curriculum. When autocratic regimes infuse the school curricula with values that align with the regime, its leader, or their vision of the nation, the positive ‘education effect’ reduces. The study thereby provides comparative evidence that aligns with the case study by Cantoni et al. (2017), demonstrating broad support for the importance of curriculum content using novel data from EPSM in a multilevel analysis, as well as causal evidence supporting this link in a quasi-experimental setup.

The paper further shows that one effective method of transferring the ideological content in schools is ensuring that all teachers are committed to the regime’s ideology. With authoritarian content embedded in textbooks *and* by the educators, authoritarian socialization becomes more effective. Our findings indicate that individuals raised under such conditions are significantly more likely to support autocratic leadership. They also underscore that schooling impacts at least two key aspects of learning: the acquisition of new knowledge, and the process of interpersonal socialization (cf. Stubager 2008). While recent research highlights the role of peers as

‘socializing agents’ within educational environments (Lindskog et al., 2024; Mendelberg et al., 2017), the results of this study suggest that teachers can also transmit preferences and social norms (see also Frølund Thomsen and Olsen, 2017). However, unlike peers, teachers may be utilized by a regime as tools to instill loyalty and obedience among the population.

The education system holds immense potential to empower both individuals and societies, a fact long recognized by rulers who have strategically invested in education to enhance state competence (Paglayan 2021). A more educated and skilled workforce leads to more effective governance, enabling states to improve tax collection and increase its coercive capacity. This underscores that education is not just a tool for creating prosperity and knowledge but can also be instrumental in advancing the goals of a regime—especially when it is effectively controlled.

This study thereby offers a critical counterpoint to the predominantly positive view of education as a universal good. Education is often seen as a key driver of societal progress, particularly in terms of empowering individuals to pursue and fulfill their own life goals. Many also believe that higher levels of education in itself erode support for authoritarian regimes. As a result, Western democracies have invested heavily in foreign aid programs aimed at strengthening educational systems in developing nations. According to the latest data from Official Development Assistance (ODA), education aid from western countries¹³ has surged from \$6 billion in 2002 to \$18 billion in 2022—a remarkable 300% increase. As of 2022, 80% of this aid was directed to countries classified as either closed autocracies or electoral autocracies by the V-Dem Institute.¹⁴ Ukraine, the largest recipient, received 19% of the total aid, followed by India, a country whose democracy has been in decline for a decade and is now categorized as an electoral autocracy (Tudor 2023), which accounted for 5.5%. Given the inability of donor countries to oversee every detail of how this aid is used, it is important to

¹³ The so-called DAC countries, comprised by 24 western democracies (see Appendix).

¹⁴ Some recipient countries are undefined, and some smaller island states are missing in the V-Dem data, so these have been excluded. Please refer to section X in the Appendix for more details.

recognize the risk that regimes may exploit these resources to strengthen their own legitimacy, often through control of the education system.

Recent estimates also indicate that 35% of the global population currently resides in states that are undergoing autocratization, i.e., the gradual shift from democracy toward autocracy (Angiolillo et al. 2024). This trend poses significant risks, especially for children, who are vulnerable to indoctrination by the authoritarian regimes. If effectively implemented, this indoctrination can have long-lived effects on preferences for autocratic leadership (cf. Abrahamson and Inglehart 1992). The pace of autocratization varies worldwide, influencing the extent to which regimes can exploit the education system. As Neundorf and colleagues (2024) suggest, the potential for indoctrination varies, with North Korea at the extreme end, followed by China, United Arab Emirates, Kongo Kinshasa, and Belarus. The critical question is at what point in the autocratization process does a regime gain enough control to impose its ideology on the education system. In Hungary, which has been experiencing autocratization since 2010, this threshold appears to have been crossed, as evidenced by the introduction of mandatory school textbooks filled with distortions and fabrications (McKenzie 2019).

To conclude, future research should address key gaps in the literature, particularly in identifying antidotes to indoctrination and during what circumstances such indoctrination is successful. Detailed case studies are needed to explore instances where ideological education has both emerged and subsequently been dismantled, as well as to identify the stages in an individual's educational trajectory when such indoctrination is most formative. Furthermore, evidence suggests that family background influences the effect of education on political participation (Lindgren et al., 2019). Exploring such patterns is beyond the scope of this study, and we leave any investigation of individual-level differences in the reception of ideological education for future research. Additionally, there is significant value in examining how state activities are implemented, and the role teachers play in resisting rulers' attempts to control the

education system. The EPSM data provides initial comparative evidence on the role of teachers' ideological constraints, but we are unable to disentangle the causal effects from the authoritarian curriculum within the RD design. Still, this article offers new cross-national and causal evidence: ideological education moderates the link between education and support for autocratic leadership.

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Children of the State:
Ideological Education Increases Support for Autocratic Leadership

Appendix

Table of Contents

A.	Study 1—Multi-level analysis.....	41
1.	ESS.....	41
	Table A1: Individual-level descriptive statistics.....	41
	Table A2: Country-level descriptive statistics.....	41
	Table A3: List of countries in main analysis, ESS 2018 – 2020.....	41
	Figure A1: Authoritarian curriculum by time and country.....	42
	Figure A2: Ideological requirement for teachers.....	42
2.	Alternative specifications.....	43
	Table A4. “Leader” as the dependent variable.....	43
	Table A5. “Obedience” as the dependent variable.....	44
	Table A6. Germany excluded from the sample.....	45
3.	WVS (replication.....	46
	Table A8. Descriptive statistics.....	46
	Table A9. Regression results, WVS.....	47
B.	Study 2—Regression discontinuity design.....	48
1.	Robustness controls.....	48
	Table B1. Compulsory schooling reforms across Europe.....	48
	Table B2. RD estimates with different polynomials.....	49
	Table B3. Placebo reforms (-5 and -10 years earlier).....	49
	Table B4. Varying bandwidths.....	50
	Figure B1. Density plot and tests.....	50
C.	Miscellaneous.....	51
	Table C1. List of DAC countries.....	51
	Table C2. Education aid in 2022.....	51
	Table C3. Aid by country and regime type in 2022.....	51
4.	Bibliography.....	54

A. Study 1—Multi-level analysis

1. ESS

Table A1: Individual-level descriptive statistics.

Variable	N	Mean	SD	Min	Max
Authoritarian index	49,469	5,53	1,89	2	10
Education	49,469	4,34	1,78	1	7
Gender	49,469	0,52	0,5	0	1
Age	49,469	54,7	16,3	23	90
Income	49,469	5,62	2,72	1	10

Note: The table is based on the full sample used in the main analyses, ESS 2018-2020.

Table A2: Country-level descriptive statistics.

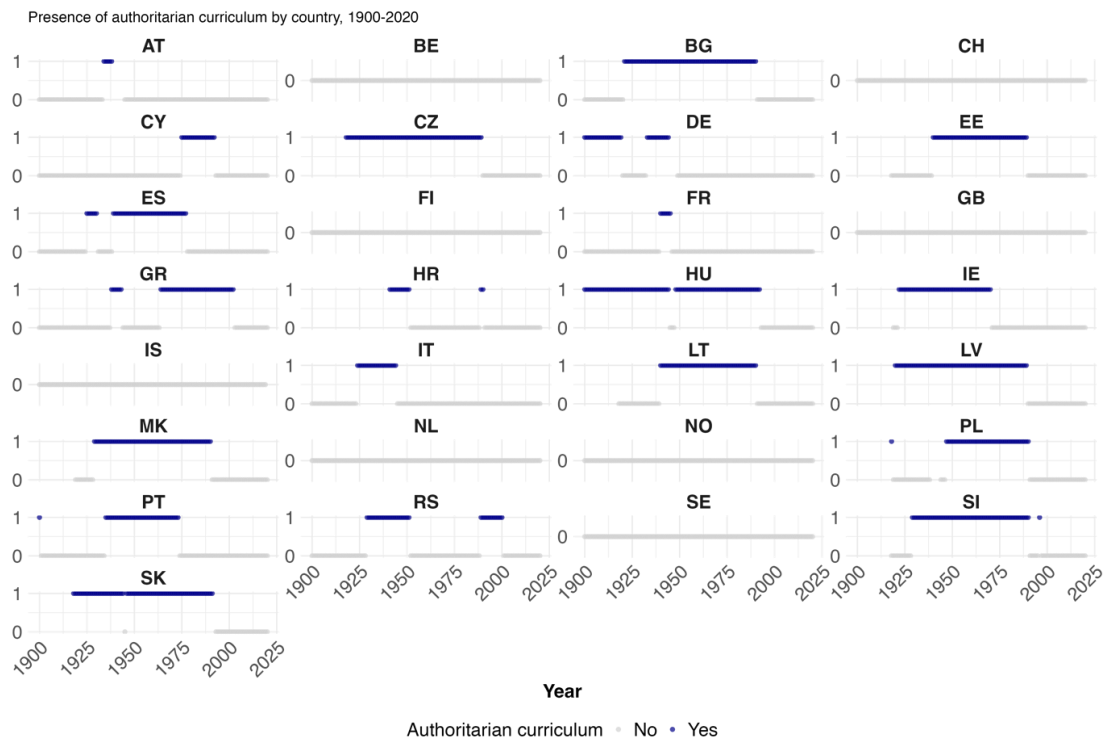
Variable	N	Mean	SD	Min	Max
Authoritarian curriculum	49,469	0,31	0,46	0	1
Ideological teachers	49,469	0,22	0,42	0	1
GDP per capita (US Dollars)	49,469	36,04	12,9	12,09	72,79
Liberal democracy index	49,469	0,76	0,14	0,28	0,89

Note: The table is based on the sample used in the main analyses, ESS 2018-2020.

Table A3: List of countries in main analysis, ESS 2018 – 2020.

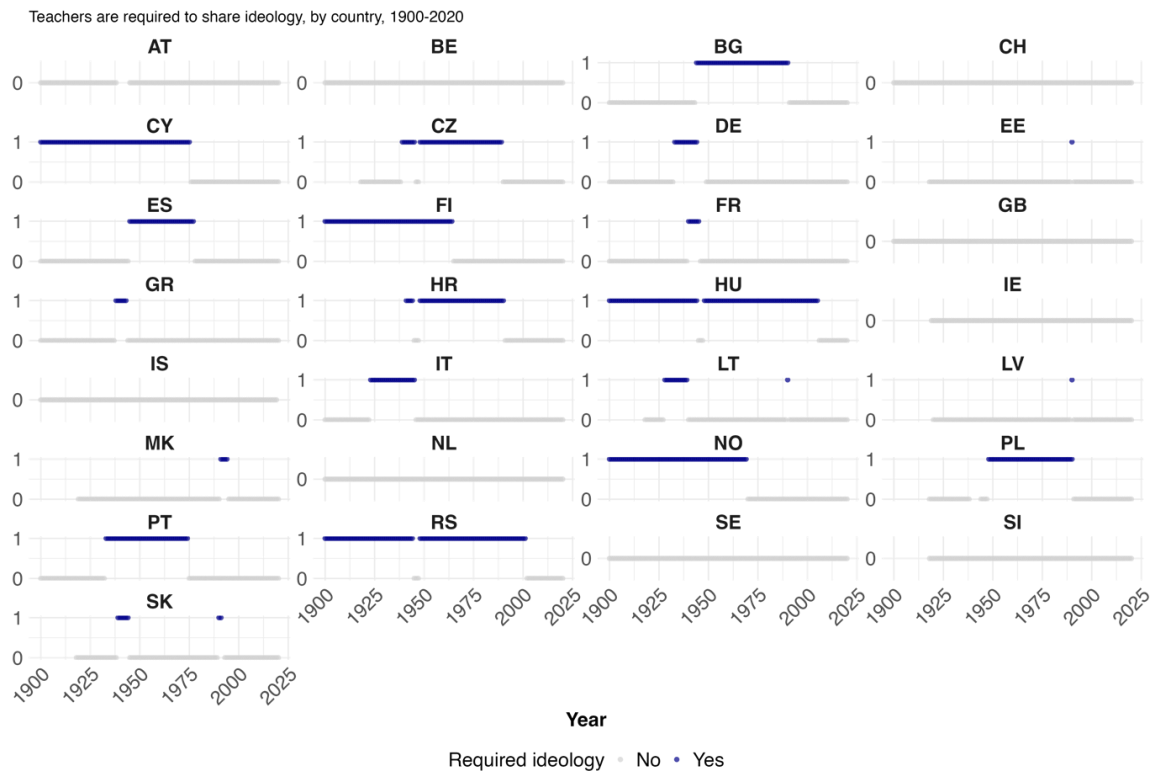
Austria	Spain	Iceland	Portugal
Belgium	Finland	Italy	Serbia
Bulgaria	France	Lithuania	Sweden
Switzerland	UK	Latvia	Slovenia
Cyprus	Greece	North Macedonia	Slovakia
Czechia	Croatia	Netherlands	
Germany	Hungary	Norway	
Estonia	Ireland	Poland	

Figure A1: Authoritarian curriculum by time and country.



Note: The figure illustrates countries' values on 'authoritarian curriculum' over time.

Figure A2: Ideological requirement for teachers.



Note: The figure illustrates countries' values on 'Teacher ideology' over time.

2. Alternative specifications

Table A4. “Leader” as the dependent variable.

	(1)	(2)	(3)	(3)
Education	0.140*** (0.003)	0.109*** (0.003)	0.122*** (0.003)	0.108*** (0.003)
GDPc	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)
Liberal democracy	-0.0287 (0.228)	0.0179 (0.225)	0.0186 (0.227)	-0.004 (0.228)
Gender		-0.0075 (0.009)	-0.007 (0.009)	-0.008 (0.009)
Age		-0.01*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)
Income		0.0128*** (0.002)	0.013*** (0.002)	0.013*** (0.000)
Authoritarian curriculum			0.275*** (0.0286)	0.103*** (0.017)
Authoritarian curriculum x Education			-0.046*** (0.006)	
Teacher ideology				-0.087** (0.0324)
Teacher ideology x Education				0.00405 (0.0064)
Period FE	YES	YES	YES	YES
Constant	2.523*** (0.175)	3.013*** (0.175)	2.951*** (0.177)	3.030*** (0.178)
<i>Variance</i>				
Level 2	-1.270*** (0.134)	-1.280*** (0.134)	-1.258*** (0.134)	-1.240*** (0.133)
Level 1	0.0143*** (0.00)	0.0046 (0.00318)	0.0036 (0.0032)	0.00411 (0.0032)
Countries	29	29	29	29
<i>N</i>	49469	49469	49469	49469

Note: ESS 2018-2020. The table shows the main analysis solely on the item. ‘Loyalty towards leader’. Standard errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table A5. “Obedience” as the dependent variable.

	(1)	(2)	(3)	(3)
Education	0.176*** (0.003)	0.142*** (0.003)	0.167*** (0.003)	0.150*** (0.003)
GDPc	0.009*** (0.002)	0.009*** (0.002)	0.009*** (0.002)	0.01*** (0.002)
Liberal democracy	-1.003*** (0.242)	-0.955*** (0.240)	-0.973*** (0.242)	-0.962*** (0.240)
Gender		0.09*** (0.01)	0.1*** (0.01)	0.09*** (0.01)
Age		-0.007*** (0.00)	-0.007*** (0.00)	-0.007*** (0.00)
Income		0.0223*** (0.00198)	0.0227*** (0.002)	0.0228*** (0.002)
Authoritarian curriculum			0.429*** (0.0294)	0.0780*** (0.0174)
Authoritarian curriculum x Education			-0.0862*** (0.006)	
Teacher ideology				0.123*** (0.0334)
Teacher ideology x Education				-0.0365*** (0.00658)
Period FE	YES	YES	YES	Yes
Constant	2.152*** (0.189)	2.473*** (0.190)	2.375*** (0.192)	2.436*** (0.190)
<i>Variance</i>				
Level 2	-1.128*** (0.143)	-1.129*** (0.142)	-1.104*** (0.143)	-1.132*** (0.142)
Level 1	0.0436*** (0.00)	0.0348*** (0.00318)	0.0325*** (0.0032)	0.0343*** (0.0032)
Countries	29	29	29	29
<i>N</i>	49469	49469	49469	49469

Note: ESS 2018-2020. The table shows the main analysis solely on the item. ‘Obedience as important virtue’. Standard errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table A6. Germany excluded from the sample.

	(1)	(2)	(3)	(3)
Education	0.307*** (0.005)	0.240*** (0.005)	0.280*** (0.006)	0.243*** (0.006)
GDPc	0.008*** (0.003)	0.007*** (0.003)	0.008*** (0.003)	0.008*** (0.003)
Liberal democracy	-0.758 (0.406)	-0.644 (0.402)	-0.668 (0.405)	-0.687 (0.405)
Gender		0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)
Age		-0.015*** (0.00)	-0.016*** (0.00)	-0.016*** (0.00)
Income		0.037*** (0.0036)	0.038*** (0.0036)	0.038*** (0.0036)
Authoritarian curriculum			0.671*** (0.051)	0.181*** (0.03)
Authoritarian curriculum x Education			-0.124*** (0.0103)	
Teacher ideology				-0.023 (0.0575)
Teacher ideology x Education				-0.02 ⁺ (0.0113)
Period FE	YES	YES	YES	Yes
Constant	4.579*** (0.312)	5.387*** (0.312)	5.226*** (0.315)	5.398*** (0.315)
<i>Variance</i>				
Level 2	-0.674*** (0.140)	-0.678*** (0.139)	-0.652*** (0.139)	-0.655*** (0.139)
Level 1	0.569*** (0.00342)	0.557*** (0.00318)	0.555*** (0.0032)	0.557*** (0.0032)
Countries	28	28	28	28
<i>N</i>	42877	42877	42877	42877

Note: ESS 2018-2020. The table shows the main analysis when excluding Germany from the sample. Standard errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

3. WVS (replication)

Argentina	Guatemala	Peru
Armenia	Indonesia	Philippines
Australia	India	Poland
Azerbaijan	Iran	Romania
Bangladesh	Iraq	Russia
Belarus	Jordan	Rwanda
Bolivia	Japan	Singapore
Brazil	Kazakhstan	Slovakia
Canada	Kenya	Slovenia
Chile	Kyrgyzstan	Sweden
China	South Korea	Thailand
Colombia	Lebanon	Trinidad and Tobago
Cyprus	Libya	Tunisia
Czechia	Morocco	Türkiye
Germany	Maldives	Taiwan
Algeria	Mexico	Ukraine
Ecuador	Myanmar	Uruguay
Egypt	Mongolia	United States
Estonia	Malaysia	Uzbekistan
Ethiopia	Nigeria	Venezuela
Georgia	Nicaragua	Vietnam
Ghana	Netherlands	Yemen
Greece	New Zealand	South Africa
	Pakistan	Zimbabwe

Table A8. Descriptive statistics.

Variable	Obs	Mean	Std. Dev.	Min	Max
Democratic system (E117)	106,693	3.314725	0.800234	1	4
Education level (X025R)	106,693	2.015502	0.7667472	1	3
Teacher demand ideology	106,693	0.2135098	0.4097864	0	1
Authoritarian curriculum	106,693	0.3170124	0.4653145	0	1
Gender (X001)	106,693	0.5082058	0.49935	0	1
Age	106,693	43.19358	14.87169	23	103
Income (X047_WVS)	106,693	4.913565	2.094188	1	10
GDP per capita (e_gdppc)	106,693	19.55939	16.74401	1.68	71.391
Liberal democracy(v2x_libdem)	106,693	0.4317611	0.2607612	0.036	0.885

Table A9. Regression results, WVS.

	(1)	(2)	(3)	(4)
Education	0.09*** (0.003)	0.108*** (0.004)	0.123*** (0.00427)	0.116*** (0.00403)
GDPc	0.0139*** (0.002)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)
Liberal democracy	-0.329*** (0.063)	-0.139* (0.058)	-0.133* (0.058)	-0.142* (0.058)
Gender		-0.034*** (0.004)	-0.034*** (0.005)	-0.034*** (0.005)
Age		0.0038*** (0.000)	0.0039*** (0.000)	0.0038*** (0.000)
Income		-0.000 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Authoritarian curriculum			0.0740*** (0.016)	-0.0180* (0.009)
Authoritarian x Education			-0.0465*** (0.0069)	
Teacher ideology (1=yes)				0.0795*** (0.0192)
Teacher ideology x Education				-0.0363*** (0.0079)
Period FE	YES	YES	YES	YES
Constant	3.093*** (0.051)	3.042*** (0.0428)	3.011*** (0.0430)	3.028*** (0.0429)
<i>Variance</i>				
Level 2	-1.237*** (0.107)	-1.493*** (0.085)	-1.498*** (0.0851)	-1.497*** (0.0853)
Level 1	-0.264*** (0.002)	-0.265*** (0.002)	-0.266*** (0.002)	-0.266*** (0.002)
Countries	72	72	72	72
<i>N</i>	106603	106603	106603	106603

Note: The table shows the analyses using World Value Survey data. Standard errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

B. Study 2—Regression discontinuity design

1. Robustness controls

Table B1. Compulsory schooling reforms across Europe.

Country	Implemented	Change in years	First cohort	Source
Austria	1963	8 to 9	1947	Cavaillé and Marshall (2019)
Belgium	1984	8 to 12	1969	d’Hombres and Nunziata (2016)
Bulgaria	1960	7 to 8	1946	Salonen and Pöyliö (2017)
Czechia	1960	8 to 9	1947	Salonen and Pöyliö (2017)
Finland	1970	6 to 9	1961	d’Hombres and Nunziata (2016)
France	1967	8 to 10	1953	Cavaillé and Marshall (2019)
Greece	1975	9 to 10	1963	d’Hombres and Nunziata (2016)
Hungary	1993	8 to 10	1986	Hörner et al. (2007)
Hungary	1960	8 to 10	1946	Österman and Robinson (2022)
Italy	1963	5 to 8	1950	d’Hombres and Nunziata (2016)
Netherlands	1950	7 to 9	1936	d’Hombres and Nunziata (2016)
Netherlands	1976	9 to 10	1959	Österman and Robinson (2022)
Poland	1961	7 to 8	1952	Österman and Robinson (2022)
Portugal	1964	4 to 6	1957	d’Hombres and Nunziata (2016)
Portugal	1986	6 to 9	1981	d’Hombres and Nunziata (2016)
Spain	1970	6 to 8	1957	d’Hombres and Nunziata (2016)
Sweden	1965	7 to 9	1951	Cavaillé and Marshall (2016)
U. Kingdom	1947	9 to 10	1933	Cavaillé and Marshall (2019)
U. Kingdom	1973	10 to 11	1957	Cavaillé and Marshall (2019)

Note: Hörner et al. (2007, 348) includes information on the reform 1993 in Hungary.

Table B2. RD estimates with different polynomials.

	Support for autocratic leadership	Support for autocratic leadership: democratic reform	Support for autocratic leadership: autocratic reform
P(0)			
Reform	0.10**	0.11**	0.05
Bandwidth	3	4	4
Observations	4 578	3 234	1 288
P(1)			
Reform	0.10*	0.08 ⁺	0.02
Observations	12 076	10 650	2 542
P(3)			
Reform	0.13*	0.13*	-0.10
Bandwidth	12	12	7
Observations	17 741	12 663	2 542

Note: ⁺ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All specifications are estimated using optimal bandwidth and triangular kernels. The data used is ESS 2018-2020 and EPSM for a division about the type of reforms.

Table B3. Placebo reforms (-5 and -10 years earlier).

	Support for autocratic leadership	Support for autocratic leadership: democratic reform	Support for autocratic leadership: autocratic reform
Reform (-5)	0.01	0.02	0.11
Bandwidth	15	15	6
Observations	18 894	14 041	1 773
Reform (-10)	0.01	0.01	0.22
Bandwidth	13	14	8
Observations	13 477	11 410	895

Note: ⁺ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All specifications are estimated using optimal bandwidth, quadratic polynomials and triangular kernels. The data used is ESS 2018-2020 and EPSM for a division about the type of reforms.

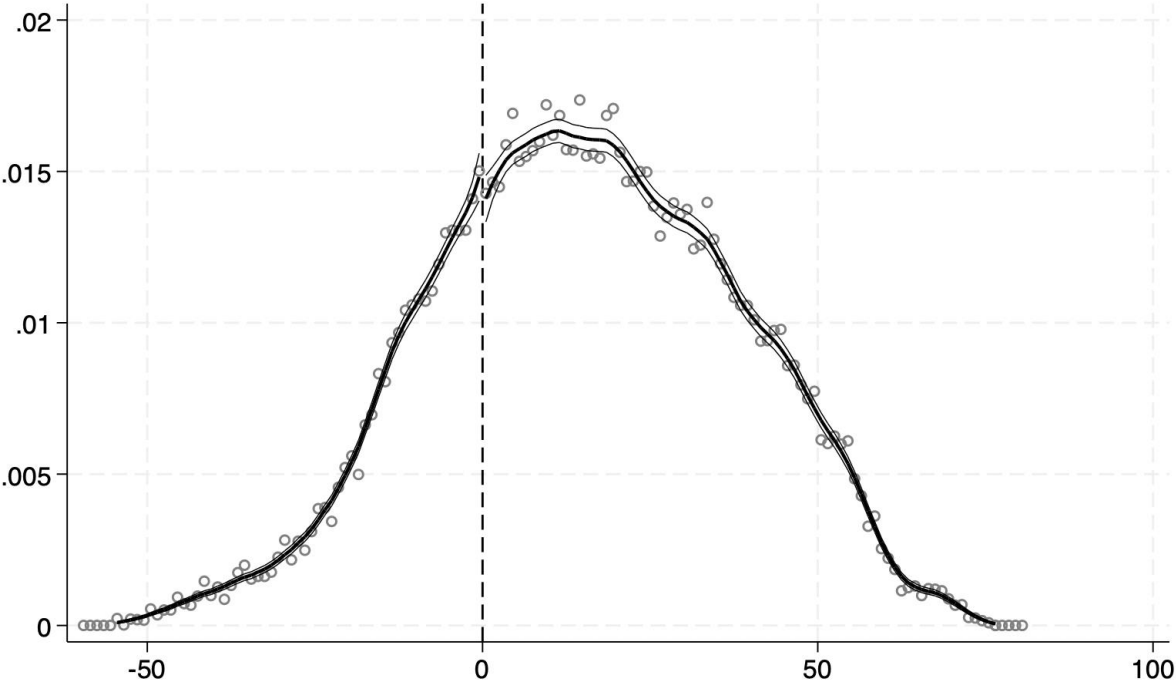
Table B4. Varying bandwidths.

	Support for autocratic leadership	Support for autocratic leadership: democratic reform	Support for autocratic leadership: autocratic reform
Reform	0.14 ⁺	0.17 ⁺	-0.05
Bandwidth (8)	8	8	8
Observations	10 642	7 563	2 935
Reform	0.05	0.11	-0.27
Bandwidth	5	5	5
Observations	6 161	4 336	1 748

Note: ⁺ $p < 0.1$ * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All specifications are estimated using triangular kernels and second-order polynomials. N represents the effective number of observations used in the models. When decreasing the polynomial to p(1), the results remain with a bandwidth of 5 and are borderline significant when adopting a bandwidth of 8.

Figure B1. Density plot and tests.

We conducted DCdensity and McCrary (2008) tests to ensure that there is no sorting in the sample based on the reforms. The results indicate that the sample is relatively balanced, with no evidence of heaping. Additionally, the McCrary test does not reject the null hypothesis, confirming that there is no significant difference in density across the sample.



C. Miscellaneous

Table C1. List of DAC countries.

Australia, Austria, Belgium, Canada, Denmark, European Union, Finland, France, Germany, Greece, Ireland, Italy, Japan, South Korea, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, and the United States.

Table C2. Education aid in 2022.

Regime type	Education aid amount	Percentage of total
Closed autocracies	21165.767	22.3
Electoral autocracies	55048.772	58.1
Electoral democracies	18320.762	19.3
Liberal democracies	290.784	0.3
Total	94826.085	100

Note: Source: OECD (ODA) and V-Dem Institute. Aid data shows amount in US dollars, millions, in 2022. Flow type is disbursements, and sector includes ‘education, level unspecified’. These countries (see Table C3 below) are all countries receiving aid and which can be matched with the V-Dem data.

Table C3. Aid by country and regime type in 2022.

Country	Regime type	Education aid amount
North Korea	Closed autocracy	4,618
Equatorial guinea	Electoral autocracy	6,871
Turkmenistan	Closed autocracy	7,804
Eritrea	Closed autocracy	12,324
Guyana	Electoral democracy	17,356
Maldives	Electoral democracy	26,076
Montenegro	Electoral democracy	37,983
Sao tome and principe	Electoral democracy	38,23
Guinea-Bissau	Electoral autocracy	42,343
Gambia	Electoral democracy	43,895
Malaysia	Electoral democracy	45,55
Suriname	Liberal democracy	47,714
Cape Verde	Electoral democracy	49,295
Kazakhstan	Electoral autocracy	58,281
Bhutan	Liberal democracy	60,02
Comoros	Electoral autocracy	63,824
Jamaica	Electoral democracy	66,34
Botswana	Electoral democracy	67,531
Djibouti	Electoral autocracy	68,366
Eswatini	Closed autocracy	80,962

North Macedonia	Electoral democracy	82,227
Vanuatu	Electoral democracy	84,924
Lesotho	Electoral democracy	86,367
Cuba	Closed autocracy	87,46
Mauritius	Electoral autocracy	88,868
Belarus	Electoral autocracy	92,232
Paraguay	Electoral democracy	92,532
Azerbaijan	Electoral autocracy	95,75
Mauritania	Electoral autocracy	105,574
Nicaragua	Electoral autocracy	119,802
Congo	Electoral autocracy	127,972
Gabon	Electoral autocracy	132,606
Togo	Electoral autocracy	132,645
Tajikistan	Electoral autocracy	135,07
Argentina	Electoral democracy	136,498
Angola	Electoral autocracy	146,169
Kyrgyzstan	Electoral autocracy	152,496
Panama	Electoral democracy	161,359
Fiji	Electoral democracy	165,195
Timor-Leste	Electoral democracy	166,843
Solomon	Electoral democracy	173,747
Bosnia	Electoral democracy	174,414
Sierra Leone	Electoral autocracy	175,417
Guinea	Closed autocracy	176,737
Kosovo	Electoral democracy	178,37
Costa rica	Liberal democracy	183,05
Libya	Closed autocracy	183,642
Algeria	Electoral autocracy	186,39
Namibia	Electoral democracy	188,068
Bolivia	Electoral democracy	203,734
Burundi	Electoral autocracy	205,12
Venezuela	Electoral autocracy	214,764
Liberia	Electoral democracy	218,791
El salvador	Electoral autocracy	228,822
Iran	Closed autocracy	231,675
Mongolia	Electoral democracy	240,166
Albania	Electoral democracy	262,463
Georgia	Electoral democracy	298,484
Chad	Closed autocracy	303,454
Central African Republic	Electoral autocracy	310,918
Sri lanka	Electoral democracy	336,538
Honduras	Electoral democracy	352,409
Dominican republic	Electoral democracy	358,557

Laos	Closed autocracy	368,768
Armenia	Electoral democracy	388,456
Guatemala	Electoral democracy	392,764
Ecuador	Electoral democracy	392,86
Benin	Electoral autocracy	419,193
Serbia	Electoral autocracy	424,678
Moldova	Electoral democracy	443,532
Uzbekistan	Closed autocracy	447,455
Madagascar	Electoral autocracy	450,767
Zimbabwe	Electoral autocracy	480,692
Haiti	Closed autocracy	481,663
Ghana	Electoral democracy	532,351
Nepal	Electoral democracy	540,641
Rwanda	Electoral autocracy	545,724
Malawi	Electoral democracy	565,386
Papua new guinea	Electoral autocracy	591,353
Zambia	Electoral democracy	650,312
Mexico	Electoral democracy	706,268
Cameroon	Electoral autocracy	707,572
Mali	Closed autocracy	710,666
Burkina Faso	Closed autocracy	711,284
Senegal	Electoral democracy	734,443
Pakistan	Electoral autocracy	757,968
Thailand	Electoral autocracy	779,624
Niger	Electoral autocracy	799,642
Tunisia	Electoral autocracy	843,692
China	Closed autocracy	883,591
Palestine	Closed autocracy	890,972
Myanmar	Closed autocracy	900,4
Peru	Electoral democracy	919,175
Brazil	Electoral democracy	921,723
Cambodia	Electoral autocracy	990,303
Sudan	Closed autocracy	1035,304
Ivory coast	Electoral autocracy	1073,584
Lebanon	Electoral autocracy	1114,433
Tanzania	Electoral autocracy	1125,766
Somalia	Closed autocracy	1170,486
South Africa	Electoral democracy	1173,969
Vietnam	Closed autocracy	1178,598
Uganda	Electoral autocracy	1211,882
Türkiye	Electoral autocracy	1259,221
Jordan	Closed autocracy	1284,431
Mozambique	Electoral autocracy	1311,618

Democratic republic of Congo	Electoral autocracy	1342,727
Egypt	Electoral autocracy	1386,975
Kenya	Electoral democracy	1470,925
Nigeria	Electoral autocracy	1490,325
South Sudan	Closed autocracy	1523,07
Morocco	Closed autocracy	1606,258
Iraq	Electoral autocracy	1656,886
Yemen	Closed autocracy	1875,315
Colombia	Electoral democracy	1900,745
Philippines	Electoral autocracy	1921,418
Syria	Closed autocracy	1947,564
Indonesia	Electoral democracy	2233,27
Ethiopia	Electoral autocracy	2756,148
Afghanistan	Closed autocracy	3061,266
Bangladesh	Electoral autocracy	3712,889
India	Electoral autocracy	5141,344
Ukraine	Electoral autocracy	17862,048

Note: Regime data from the V-Dem's classification of regimes in 2022. Aid data shows amount in US dollars, millions, in 2022. Flow type is disbursements, and sector includes 'education, level unspecified'.

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