

Education for Democracy: Evidence in Latin America

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Abstract

Education is widely recognized as a catalyst for personal development, social progress, and economic growth. However, the benefits of education extend far beyond the individual level. Such effects give rise to a series of positive externalities, which spread throughout society. The most significant factors of this effect have played a very important role in making democracy a viable system. This conception, which begins with Tocqueville is received in the academic scenario with the work of Lipset, who reports that education is fundamental for sustaining a democratic system. In this sense, the objective of this work is to analyze the causal relationship between education and democracy. Taking advantage of the similarity of the historical-political context referenced by Latin America, we seek to objectively measure whether education improves the recognition of democracy as a social, economic, and cultural condition that allows the free and equal exercise of political self-determination. To identify the causal effects of education on political behavior, we must take into account the factors that jointly determine educational choice and political behavior. Therefore, we will employ the instrumental variable (IV) method, where an individual's educational level is instrumentalized by their exposure to compulsory education reform. Thus, the temporal dimension distinguishes the periods before and after the educational reforms. The results found in this work provide convincing evidence for the causal relationship between education and democracy.

Keywords: Education, Externalities, Democracy, Latinoamerica

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Introduction

In today's interconnected and rapidly evolving world, education is widely recognized as a catalyst for personal development, social progress, and economic growth (MANUELLI and SESHADRI, 2010). However, the benefits of education extend far beyond the individual level and the immediate learning environment. It gives rise to a series of substantial returns, which spill over to individuals, communities, and societies.

Returns to education refer to the economic and social advantages that individuals and societies obtain as a result of investing in education. These returns can be seen in many aspects of life such as job opportunities, income levels, health outcomes, and social well-being. They provide compelling evidence of the value of education as a long-term investment.

However, when estimating returns on education, other factors that go beyond economic relevance must be evaluated, as there are other advantages related to the educational experience that escape monetary evaluation and achieve positive effects for individual and societal well-being. From this non-economic dimension, educational returns are related to a path through which education increases the individual's possibilities of well-being and also generates external benefits, that is, the effects are not extinguished in the individual. From this perspective, these benefits are not fully captured by private returns and produce effects that go beyond private conception and exceed individual relevance, accumulating both private and social issues. Therefore, individual decisions to achieve higher levels of schooling generate impacts that spill over to other agents in society.

A potentially important example of such positive externalities of education is its relationship with political-democratic aspects (MILLIGAN, MORETTI, and OREOPOULOS, 2004; LOCHNER, 2011). The relationship between education and democracy is an issue that has been discussed for a long time and has gained increasing importance in the political and economic scenario. Social scientists have long embraced the belief that democracy is founded on an educated population (DEWEY, 1966). This conception, which began with Tocqueville in 1835, was received by academia with the work of Lipset (1959).

The objective of the study is to analyze the causal relationship between education and democracy, seeking to objectively measure whether education improves the recognition of democracy as a social, economic, and cultural condition that allows the free and equal exercise of political self-determination. For this, we tested the relationship at the individual level between educational level and democratic support, political participation, and political interest.

The objectives proposed in this work will be structured in three sections, in addition to this introduction and the conclusion. In the first section, a brief review of the literature on the subject will be presented. The second section is responsible for the data and procedures of the empirical research carried out; in this study, the Instrumental Variables Method (IV) will be addressed. The third section, in turn, will present and discuss the results measured in the approached models. Finally, final considerations will be made.

Theoretical Approach

The approach, which envisages education as an important channel for promoting democracy, seeks to demonstrate the strong correlation between educational level and political behavior at the individual level (NIE, JUNN, and STEHLIK-BARRY, 1996). Political behavior refers to

the actions, attitudes, and engagement of individuals within a political system. It encompasses a range of activities and behaviors through which individuals participate in the political process, exercise their rights, express their opinions, and influence decision-making. In this sense, political behavior, such as voting, activism, and civic engagement, is essential for the functioning and legitimacy of democratic governments (DAHL, 1989). Therefore, it becomes the cornerstone of democracy and the main mechanism through which citizens influence political authorities and hold their governments accountable (BRADY, VERBA, and SCHLOZMAN, 1995).

Within this micro approach, some interpretations emerge to explain the link between education and political-democratic behavior. The three main theoretical models addressed by the literature are absolute or traditional education, relative education, and pre-adult socialization, which are displayed in the. The first approach refers to a traditional view of the relationship between education and political behavior, in which a direct causal relationship is considered. The last two refer to revisionist views of the traditional model, therefore, they consider education as a substitute factor and not directly related to education. In revisionist views, education is considered a proxy for other factors that are directly related to the political-democratic experience (PERSSON, 2015). In addition to the main models presented, other approaches will be revealed.

The absolute education model is perhaps the simplest to explain the proposed relationship. This approach says that education has a direct causal effect on political participation since the effects of education confer benefits to the individual that increase interest in political behavior (WOLFINGER and ROSENSTONE, 1980). Therefore, from this model, the educational effects do not depend on the educational level of the environment, but on the process at the individual level.

In this model, the focus of education is on the emancipation of the human being, therefore, it strives for the construction of a critical and transformative view of society. In this perspective, the importance of education lies in the fact that it creates a learning environment that is empowered. This includes enabling students to actively engage in critical analysis of the social issues that surround them and to challenge existing power structures, promoting critical thinking, civic engagement, effective participation in political and social life, and the development of a more informed citizenry. and active, who can participate in the democratic process and work for social change (BRADY, VERBA, and SCHLOZMAN, 1995).

The relative education model suggests a different causal path than the traditional model. According to this model, it is not the skills promoted by education that have direct effects on political participation. Rather, education influences individuals' social interaction, which in turn induces political participation (PERSSON, 2011). In this approach, the main objective of education is socialization, therefore, education enables a richer interaction with each other, which makes individuals capture and internalize broader views of the world. According to this vision, democratic societies recognize the importance of diversity and inclusion and education creates an inclusive and participatory learning environment (HELLIWELL and PUTNAM, 2007). Furthermore, education provides individuals with the tools to understand and appreciate diverse perspectives and experiences by enabling the interpersonal exchange of information. In this way, the direct benefit of education arises from interaction and coordination, where the seamless exchange of information provides more efficient communication. The indirect benefit is perceived by the social connection, in which, when communicating, people end up acquiring new useful information for their particular purposes (GRADSTEIN and JUSTMAN, 2002).

An important implication of this model is that the effect of education depends on the educational level of the environment, since in environments with a greater concentration of educated people there is also a greater interaction between them and, therefore, the positive externalities end up having a greater reach.

The pre-adult socialization model holds that the relationship between education and political behavior can be explained by the effects of self-selection attributed to pre-adult factors, that is, factors such as family socioeconomic status, political socialization in the domestic environment, and characteristics such as cognitive ability. From this perspective, the idea supported by this model is that it is these factors, and not education, that affect political behavior. Therefore, education is seen as a proxy, which attributes all the success of more politically active individuals to pre-adult factors, including their demands for education. Implications of this model state that the determining factor is not the skills and knowledge acquired through education, but the innate skills, which are born with the individual, or the skills acquired outside their school context.

Methodology

Based on the Latinobarometer, we considered three main categories of results: Interest in politics, political participation, and support for democracy. Interest in politics is measured using three variables, which are based on respondents' responses to the question about their degree of interest in politics and self-assessment of how often they interact with important political issues. The first, "interest in politics" is a dummy where responses are placed on a four-point scale with 1 representing the strongest (very interested and somewhat interested) and 0 representing the weakest indicators (little interested and not at all interested). The second and third, "frequency with which he talks about politics" and "frequency with which he follows political news", are, respectively, dummies to capture attitudes about the frequency with which each respondent is politically active. Responses are placed on a four-point scale with 1 representing the strongest (very often and often) and 0 representing the weakest indicators (rarely and never).

In the second category, political participation was measured through the voting behavior of the interviewee. For this, electoral behavior is measured by a voting indicator that takes the value 1 if the respondent voted in the last general election and 0 otherwise.

Support for democracy is measured by the preference for a democratic regime over an authoritarian regime, regardless of the circumstances. Therefore, the variable is constructed as a dummy, where responses are placed on a 2-point scale with 1 representing total preference for a democratic regime (Democracy is preferable to any other form of government) and 0 for inconsistent or indifferent responses. (In some circumstances, an authoritarian government may be preferable and is no more a democratic regime than a non-democratic one.)

The main explanatory variable, in this study, is education, which is projected by the number of years of study completed by the individual. The years of study can vary from zero, that is, without formal education, to seventeen years, which is limited to a higher education course of up to 5 years. The study data do not differentiate the aggregated educational levels; therefore, higher education courses, technical courses, specializations, and other educational attributes are accounted for by year of formal education.

Other control variables or covariates (individual characteristics) will also be used, as they are factors that can affect political outcomes and must be taken into account to explain the model results. Individual characteristics include age, gender, marital status, religion, whether the individual lives in a large city, and whether the individual works in the public sector. The control variables are important to give robustness to the model. For example, the literature shows a positive relationship between age and political participation. As people age, the more likely they are to vote in elections. Gender can also differ in the way individuals are engaged in politics, making it an important (BEAUREGARD, 2014), as well as family structure, marital status (DAENEKINDT, DE KOSTER and VAN DER WAAL, 2020), place of residence (CARR and TAVARES, 2014) and religion. Another factor that can influence political orientation is the individual's occupational sector. Since sectoral differences in public sector motivation can greatly influence their political orientation and engagement, civil servants are more likely to participate in political and pro-social activities than private sector civil servants, in addition, civil servant's public depend on government conditions for the improvement and maintenance of their office (ERTAS, 2015).

To instrumentalize education, compulsory education reforms were used. Compulsory education reforms refer to changes or improvements made to the compulsory education system in a particular country or region. Such reforms aim to ensure that all children have access to education. By making education mandatory, governments and policymakers strive to remove barriers that keep children from attending school, such as poverty, discrimination, and social norms. This helps promote equal opportunities and prevents the exclusion of vulnerable or marginalized groups from educational opportunities, as well as playing a crucial role in the social and economic development of individuals and contributing to the overall development of human capital for society by providing individuals with the knowledge, skills, and competencies needed to participate in the workforce.

The specific nature of these reforms may vary depending on the objectives and priorities of the educational system in question. In the case of this study, reforms will be used that have as their main objective the extension of the duration of compulsory schooling. Therefore, reform must aim to extend the age range during which education is compulsory. Typically, this involves lowering the age limit at which children are required to enroll in an educational institution. In this sense, the reforms allow students to enter schools earlier and, consequently, extend the required years within compulsory education. This generates variation in exposure to education between individuals or cohorts within a population, Such variation can be exploited to identify the causal effects of education, comparing results between those exposed to the reform and those who were not, while controlling for other factors. Moreover, this adherence helps to mitigate problems related to selection bias and treatment heterogeneity, as it increases the probability that individuals exposed to the reform receive the intended treatment (education) reasonably.

Compulsory education reforms are sometimes implemented at specific points in time or particular geographic regions, creating a natural experiment scenario. Thus, one can take advantage of these natural experiments to estimate the causal impact of education on various outcomes, exploring the exogenous variation introduced by reforms. In this sense, they are often implemented through policy changes or legal mandates that are independent of other factors that influence the outcomes of interest. This exogeneity makes them suitable as instrumental variables, as they are less likely to be affected by the same confounding factors as the endogenous variable under study. And because they are designed to influence educational outcomes, such as years of schooling or educational attainment, by leveraging

these reforms as instrumental variables, a causal relationship between education and various policy outcomes can be established. This is particularly valuable for addressing endogeneity issues that arise when the relationship between education and political outcomes is influenced by factors such as ability, family background, or self-selection.

Compulsory education reforms increase or establish mandatory years of education for cohorts born after the year of enactment of the normative act, while those who have just passed the age limit of the law are not affected. As a result, individuals born two or three years before the enactment of the normative act are subject to different levels of compulsory schooling, which ends up affecting their school performance. Thus, the treatment cohort is established three years in advance of the enactment of the law.

Empirical Strategy

To identify the causal effects of education on political behavior, we must consider the factors that jointly determine educational choice and political outcomes. For example, family background is an unobserved factor that can concurrently determine both an individual's educational level and political outcomes. Assuming that parents with high socioeconomic status and who are politically engaged can transmit political values to their children, encourage education, and guarantee high-quality schools, then, parents' education and/or family income can be jointly correlated with children's education, children and their political behavior. Given this, the use of simple regression tools, such as the ordinary least squares method (OLS), will lead to a bias in estimates of the impacts of interest. That said, and to overcome the problem addressed, we will use the instrumental variable method (IV), in which an individual's educational level is instrumentalized by his exposure to compulsory education reform. Thus, the temporal dimension distinguishes the periods before and after the educational reforms.

The instrumental variables (IV) method is a statistical technique used to estimate causal relationships between variables when there is concern about endogeneity or omitted variable bias. The basic idea behind instrumental variables is to find an external variable – an instrument – that is correlated with the endogenous explanatory variable, but not directly related to the dependent variable. With this instrument, one can isolate the exogenous variation in the explanatory variable and obtain consistent estimates of the causal effect.

Results

The estimated impacts of education on political behavior are presented in Table 1. Column (1) shows the first stage coefficient. Columns (2), (3), and (4) report the results of the instrumental variables strategy. Columns (5), (6), and (7) display the estimates in a reduced form. Each column is a separate regression and column headings specify the dependent variables.

| | First Stage | Second Stage | | | Reduced Form | | |
|---------------------------|--------------------|-----------------------|---------------------|-------------------------|-----------------------|--------------------|-------------------------|
| | | Support for Democracy | Political Interest | Political Participation | Support for Democracy | Political Interest | Political Participation |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| Years of Education | | 0.22*** (0.038) | 0.038*** (0.022) | 0.040*** (0.009) | | | |
| Reform | 0.68*** (0.02) | | | | 0.044*** (0.003) | 0.016** (0.009) | 0.020*** (0.004) |

| | | | | | | |
|-------------------------------|--------|--------|-------|-------|--------|-------------|
| Durbin-Wu-Hausman Test | 0.00 | 0.00 | 0.00 | | | |
| F-Statistics | 42.16 | 22.71 | 53.08 | | | |
| Observations | 323665 | 297606 | 42069 | 63291 | 297606 | 42069 63291 |

Robust standard errors are in parentheses. *, **, *** are the significance levels of 1, 5, and 10%, respectively. All regressions control for place of residence, sector of occupation, gender, marital status, religion, year of birth fixed effects, country fixed effects, and country-specific birth cohort trend.

Source: Study results.

Table 1: Micro analysis results.

Column (1) refers to the strong correlation between the instrument (Reform) and the endogenous variable (Education), subject to the other covariates. This condition can be examined by looking at the coefficient γ_1 in equation (2.9). Therefore, as reported in column (1) of Table 21, the coefficient is statistically significant, so exposure to compulsory education reforms induces an individual to complete approximately 0.7 more years of education, pointing to a strong first stage. This first stage suggests that exposure to compulsory education reforms is a strong instrument for individual educational success.

Considering the estimated impacts of education, columns (2), (3), and (4) provide evidence of the positive and statistically significant effect of education on political behavior. In this sense, I provide suggestive evidence about individual interest in politics, political participation, as well as attitudes in support of democratic regimes.

In particular, comparing individuals whose educational differences are induced by their exposure to exogenous reforms, IV estimates show that an additional year of education increases support for democracy by 22 percentage points. These discoveries are consistent with the studies that support education as a critical social construction tool and as a determining 'cause' for the improvement of democratic aspects in nations (DEWEY, 1966; ALMOND and VERBA, 1963). In this conception, education is seen as a safeguard against the erosion of democratic values and the rise of authoritarianism. Thus, an educated society is less susceptible to manipulation, demagoguery, and violation of democratic norms. Consequently, education improves support for democratic regimes and equips individuals with the tools to recognize and challenge threats to democracy, promoting civic engagement and active citizenship.

Regarding political interest, an additional year of education increases an individual's interest in politics by 3.8 percentage points. My results corroborate the literature, which reinforces that education promotes critical thinking skills, allowing individuals to evaluate and analyze political information, arguments, and ideologies. This ability to critically assess political content can generate curiosity and a deeper interest in understanding political dynamics and engaging in political discussions. Furthermore, as individuals become more educated, they are more likely to have a broader understanding of political issues, and this exposure can broaden their awareness of political issues and stimulate curiosity to explore different perspectives, which can arouse their interest in politics and public affairs.

As for participatory political acts, an additional year of education increases political participation by 4 percentage points. Collectively, my findings on the impacts of education are in line with many previous studies that also detect such a relationship. For example, in the American context, an increase in education has led to an increase in voter turnout (MILLIGAN, MORETTI, and OREOPOULOS, 2004; MAYER, 2011). These findings about the impacts of education on political participation may be because education provides individuals with

knowledge about the electoral process, political parties, candidates, and political issues, in addition to demonstrating the importance of elections and the meaning of their participation. Educated individuals are more likely to understand the value and implications of their vote, fostering a sense of political efficacy – the belief that an individual's actions can influence the system.

The reduced estimates presented in columns (5), (6), and (7) suggest that exposure to compulsory education reform is indeed associated with greater interest in politics. Individuals affected by reforms tend to participate in political processes: voting in elections and choosing their legal representatives. These individuals are also inclined to support a democratic regime, regardless of the situation in the country. Overall, there is a positive and statistically significant association between exposure to compulsory education reform and support for political freedom.

Finally, in columns (2), (3), and (4) the values referring to the F-statistic are presented, which indicate whether the instrument used is strong or not. Thus, in all panels, the F-statistic rejects the hypothesis that the instrument is weak since the values of the F-statistic exceed the limits of the critical value suggesting that exposure to compulsory education reforms is a strong instrument for individual educational success. In other words, the high values of the F-statistic still suggest that the model of instrumental variables satisfies the strong condition of the first stage.

Conclusion

The mobilizing question that led to this study ratified the causal relationship between education and democracy, shedding light on the interconnection and influence of these two fundamental pillars of society. Through an extensive review of empirical studies, theoretical frameworks, and historical evidence, several important findings emerged, affirming the significant impact of education in developing and sustaining democratic systems.

we examine the micro relationship between education and democracy, which refers to the individual effect that education has on political behavior. This approach focuses on the influence of education on the attitudes, values, knowledge, and skills of individual citizens within a democratic system. Thus, to examine the results at the individual level and explain the endogeneity of education, we adopted the instrumental variable (IV) model, exploring plausibly exogenous changes in educational years induced by compulsory education reforms in the context of Latin America. The reforms increase the mandatory years of education by one or more years for cohorts born after a certain year, while those who have just missed the law's age limit are unaffected. In other words, individuals can reach different levels of schooling just because they were born a few years apart, and are therefore subject to different periods of compulsory schooling.

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