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# **EDUCATION AND REVOLUTIONS. WHY DO REVOLUTIONARY UPRISINGS TAKE VIOLENT OR NONVIOLENT FORMS?**

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## **EDUCATION AND REVOLUTIONS. WHY DO REVOLUTIONARY UPRISINGS TAKE VIOLENT OR NONVIOLENT FORMS?<sup>4</sup>**

Is there a relationship between education and the type of revolutionary action – violent or nonviolent? Past studies found a positive relationship between the education and nonviolence, but the influence that education produces on the form that revolution takes has not yet been explored. This paper examines it at a cross-national level with an analysis of 370 revolutionary episodes recorded between 1950 and 2019. By using logistic regression and our own index, we fully confirmed the hypothesis: education is a strong and consistently significant predictor of the form of revolutionary movement.

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Keywords: education, revolutions, nonviolent revolution, violent revolution, destabilization, protest campaigns.

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## Introduction

In 2001 Jack Goldstone made the following observation: “Until very recently, revolutions have invariably failed to produce democracy. The need to consolidate a new regime in the face of struggles with domestic and foreign foes has instead produced authoritarian regimes, often in the guise of populist dictatorships such as those of Napoleon, Castro, and Mao, or of one-party states such as the PRI state in Mexico or the Communist Party-led states of the Soviet Union and Eastern Europe. Indeed, the struggle required to take and hold power in revolutions generally leaves its mark in the militarized and coercive character of new revolutionary regimes [Gurr, 1988]. It is therefore striking that in several recent revolutions – in the Philippines in 1986, in South Africa in 1990, in Eastern European nations in 1989–1991 – the sudden collapse of the old regime has led directly to new democracies, often against strong expectations of reversion to dictatorship” [Goldstone, 2001: 168], see also [Foran and Goodwin, 1993], [Weitman, 1992].

Since that time the number of such revolutions has increased even more, and in the 2000s and 2010s one could observe the emergence of a considerable number of studies dedicated to the answer to the question why some revolutions lead to democratic rather than authoritarian outcomes [Ackerman and Karatnycky, 2005], [Butcher and Svensson, 2016], [Chenoweth et al., 2011], [Stephan and Chenoweth, 2008], [Johnstad 2010], [Stradiotto and Guo 2010], [Celestino and Gleditsch 2013], [Bayer et al. 2016], [Kim and Kroeger 2019], [Rasler et al. 2021].<sup>5</sup>

It is highly remarkable that the main finding of the abovementioned studies [supported by a number of rather rigorous tests on the basis of a very wide range of worldwide empirical data] is that violent revolutions (“campaigns”) are very unlikely to lead to the formation of stable democratic regimes, whereas this is much more probable as a result of nonviolent revolutions

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<sup>5</sup> Note that most of these authors prefer to denote revolutions as “maximalist campaigns”. Following Ackerman and Kruegler [1994: 10–11]. Chenoweth and Stephan [2011: 14] define “campaign” as “a series of observable, continual, purposive mass tactics in pursuit of a political objective.” What is more, the above mentioned studies consider campaigns “with goals that are perceived as maximalist (fundamentally altering the political order); ...we deliberately choose campaigns with goals commonly perceived to be maximalist in nature: regime change, antioccupation, and secession” [Chenoweth et al., 2011: 68]. Thus, the abovementioned works study “series of observable, continual, purposive mass tactics in pursuit of fundamentally altering the political order: regime change, antioccupation, and secession”. Let us recollect that in this chapter (as well as in this book as a whole) we rely on such definitions of revolution as “a revolution is a collective mobilization that attempts to quickly and forcibly over-throw an existing regime in order to transform political, economic, and symbolic relations” [Lawson, 2019: 5]; “anti-government (very often illegal) mass actions (mass mobilization) with the following aims: (1) to overthrow or replace the existing government within a certain period of time; (2) to seize power or to provide conditions for coming to power; (3) to make significant changes in the regime, social or political institutions”, or “an effort to transform the political institutions and the justifications for political authority in a society, accompanied by formal or informal mass mobilization and noninstitutionalized actions that under-mine existing authorities” [Goldstone, 2001: 142]. Thus, we find that “maximalist campaigns” are just nothing else but revolutions (including national liberation ones); hence, the abovementioned works actually study revolutions (rather oddly denoted as “campaigns”). This point is further supported by the fact that Chenoweth’s database of Nonviolent and Violent Campaigns and Outcomes (NAVCO) designates as “campaigns” all the indisputable revolutions since 1900 – including Russian revolutions of 1905–1907 and 1917, Constitutional Revolution in Iran, Xinhai Revolution in China, Mexican Revolution of 1910–1917 and so on [Chenoweth and Shay 2020]. Thus, the results of the abovementioned studies on the outcomes of “maximalist campaigns” turn out to be perfectly relevant for our understanding of the outcomes of revolutions.

[Ackerman and Karatnycky 2005], [Stephan and Chenoweth 2008], [Johnstad 2010], [Stradiotto and Guo 2010], [Chenoweth and Stephan 2011], [Celestino and Gleditsch 2013], [Bayer et al. 2016], [Kim and Kroeger 2019], [Rasler et al. 2021].

Against this background, it is a bit surprising that there seems to be only few systematic quantitative global cross-national studies of factors of violent vs. non-violent revolutions [Butcher and Svensson, 2016], [Dahlum, 2019]. And some of the findings of these papers appear quite relevant. Of special importance is that Butcher and Svensson [2016: 324–325] show that the likelihood of onset of nonviolent revolutions (but not violent ones) increases significantly with the increase of the level of education (operationalized through average years of schooling) of the population of a respective country. Of course, in conjunction with the abovementioned finding that the nonviolent revolutions are more likely to lead to a stable democracy than the violent ones are, this suggests that in a country with a very highly educated population a revolution is quite likely to lead to the establishment of a stable democracy; but, on the other hand, this imply that in a country with a very poorly educated population a revolution is much more likely to be violent and, thus, is very unlikely to produce a democratic outcome. Similar conclusions are found in [Dahlum, 2019], where it is shown that protests, that is, revolutions, with a large number of educated participants are more likely to be unarmed and nonviolent. Moreover, such episodes are more likely to reach success.

Obviously, both presented studies see a clear connection between the level of education and the choice of tactics for unarmed resistance by the protesters, but this hypothesis has not yet been tested. Previous researchers found a consistent relationship between the likelihood of a peaceful protest and education [Brancati, 2014], [Butcher and Svensson, 2016], [Korotayev et al., 2020], [Kostelka and Rovny, 2019], [Machado et al., 2011], [Sawyer and Korotayev, 2021], but they did not investigate how education influences the choice of tactics of the protesters.

Thus, there are several reasons for educated people to choose the tactics of non-violence. They can be summarized as follows: (1) education changes ideological preferences in favor of democracy and commitment to civil liberties, fostering a culture of peaceful discussion and tolerance [Dahlum, 2019], [Dee, 2004], [Galston, 2001], [Inglehart et al., 2015], [Lipset, 1960]; (2) as a result of getting an education, individuals increase the level of human capital, which leads to a rise in the relative costs of participating in violent campaigns that require taking great risks and abandoning the usual life [Barakat and Urdal, 2009], [Dahl et al., 2020], [Dahlum and Wig, 2019], [Hall et al., 1986], [Østby et al., 2019], [Thyne, 2006]; (3) education lowers the cost of participating in a peaceful protest by facilitating cooperation and understanding political

processes, which makes it possible to achieve success through unpopulated campaigns recognized as more successful and less costly [Dahlum, 2019], [Dee, 2004], [Galston, 2001], [Glaeser et al., 2007], [Rabou, 2016], [Stephan and Chenoweth, 2008] and others. However, it is better to dwell on each of the reasons in more detail.

Considering the first reason, it is worth noting that Lipset [1960, 1968] argued that education expands access to information and promotes democratic-liberal values (such as freedom of speech or recognition and respect for the rights of another person) with an emphasis on the development of so-called civic knowledge fostering tolerance in individuals and allowing them to see the world from the perspective of other people who are not like themselves [Dahlum, 2019], [Dee, 2004], [Inglehart et al., 2015]. In other words, education fosters interpersonal interaction and empathy, generating aversion to violence [Pinker, 2011], while its absence, on the contrary, makes people more militarized and inclined to accept the possibility of resolving disputes through violence due to a simplistic view of politics and an inability to understand the meaning behind tolerance and compromise with people you disagree with [Shayo, 2007]. Thus, less educated individuals are more prone to violence, while educated people are sickened by their preference effect [Dahlum, 2019].

It is also important to consider that education reduces the propensity to violence because of the high costs associated with the opportunity cost of their labor and investment in themselves. It assumes that people with low opportunity costs are more likely to engage in collective violence [Dahlum and Wig, 2019], [Hall et al., 1986]. Thus, education provides people with qualifications that increase the value of their labor in the market and improve their well-being, which makes violent protest tactics incredibly expensive [Barakat and Urdal, 2009], [Østby et al., 2019], [Thyne, 2006]. Moreover, an armed conflict presupposes a rejection of the usual way of life, that is, of the usual earnings, in favor of long and extremely dangerous actions associated with the risk of depriving the accumulated investment in human capital – death [Hegghammer, 2013]. At the same time, peaceful protests allow you to quickly switch between ordinary life and protest, which naturally reduces the costs of missed opportunities [Dahl et al., 2020]. In other words, the huge number of prospects for improving welfare that education offers will be lost, making armed tactics unprofitable [Inglehart et al., 2015]. Consequently, recruiting rebels becomes prohibitively expensive for educated people, which makes it less likely that the opposition will choose this path of protest [Barakat and Urdal, 2009, 2009], [Collier, 2004].

Moreover, education not only increases the costs of participating in violent conflict but also lowers the costs of participating in nonviolent conflict. Thus, educated people have the

necessary potential for peaceful protest and, therefore, are more likely to choose nonviolent tactics [Dahlum, 2019], because education provides them with the necessary resources to organize and succeed in peaceful protests, which are considered more effective but also more difficult from an organizational point of view [Dahlum, 2019], [Stephan and Chenoweth, 2008]. For example, educated people are more likely to use the media [Dee, 2004], which increases the speed of news dissemination necessary for mass mobilization and success. This factor has become especially important only recently due to technological progress and the emergence of various social networks that stimulate political expression and participation from below, giving each tribune and the opportunity to participate in the political process independently [Enikolopov et al., 2020]. In addition, education increases communication skills and teamwork [Green et al., 2001], as well as facilitates understanding of policy and reduces the cognitive costs of decision-making bypassing various bureaucratic and technological barriers to civic participation [Dee, 2004]. In other words, more knowledge helps to better recognize public policy and more effectively promote one's point of view in the political sphere [Galston, 2001], which creates the necessary individual resource base for participation in peaceful protests [Chenoweth and Ulfelder, 2017], [Dahlum, 2019], [Stephan and Chenoweth, 2008]. Consequently, the gains from choosing this particular tactic increase. Thus, Education not only provides people with political knowledge but also facilitates cooperation between them, which expands the possibilities for choosing tactics of protest. Simply put, education lowers the material and cognitive costs of political participation [Rabou, 2016], making the possible benefits of participation greater [Glaeser et al., 2007], which [Dahlum, 2019], for example, calls “capacity-enhancing effect”.

Thus, education has a pacifistic effect, because it increases the level of human capital, reduces the relative costs of organizing protests leading to an increase in the likelihood of peaceful protests [Brancati, 2014], and makes violence unacceptable on the personal level, instilling in people a tendency to tolerance [Jenkins and Wallace, 1996]. In general, it is confirmed by empirical studies: researchers find that the average number of years of schooling is positively and significantly associated with the level of peaceful protests [Brancati, 2014], [Butcher and Svensson, 2016], [Korotayev et al., 2020], [Kostelka and Rovny, 2019], [Machado et al., 2011], [Sawyer and Korotayev, 2021]. But at the same time, it is negatively associated with the likelihood of a civil war, which appears as an extreme form of violent conflict [Barakat and Urdal, 2009], [Collier, 2004].

Finally, our hypothesis can be formulated as follows:

**H1:** countries with the highest average years of schooling will have the fewest armed revolutionary uprisings;

## **Materials and methods**

### **Methodology and empirical strategy**

In order to test our hypotheses, we introduce our independent variable for the mean years of schooling in the model along with other control variables related to the modernization process that tend to predict the type of revolution uprising – violent or nonviolent. So as to provide evidence that level of education is responsible for it, we also add controls for the area, population density, youth budge, GDP per capita, urbanization, population size, and index of electoral democracy. For our dependent variables, we include the binary variable “Nonviolent versus Violent”. Each of these variables and their predicted effects are further described in the following section.

It is also important to emphasize that we have to use the logistic model, as we employ dichotomous dependent variables. This particular method is supposed to describe a probability, which is always some number between 0 and 1. Thus, for the logistic model, we can never get a risk estimate either above 1 or below 0 [Kleinbaum et al., 2002].

### **Dependent variable**

We rely on data provided by The Nonviolent and Violent Conflict Outcomes (NAVCO) 1.3, which identifies 622 maximalist protest campaigns that occurred from 1900 to 2019. These data combine numerous instances of violent and nonviolent campaigns with the goals of expelling foreign occupation, regime change or separatism, and in some cases other major types of social change (such as campaigns against apartheid). In addition, the authors determine whether the campaign was successful, achieved its goals or failed, and some other characteristics. However, we are interested in another variable provided by the authors - whether the campaign was violent or not. It is variable that will be the dependent variable in this paper. Thus, it is a binary variable, where 1 is the nonviolent campaign and 0 is the violent one. At the same time, the authors emphasize that “campaigns are primarily nonviolent when the vast majority of participants are unarmed, and when they use mostly nonviolent practices to confound, impede, and challenge the regime and its supporters. Campaigns are primarily violent when most participants use force, especially armed force, to target regimes and their supporters” [Chenoweth and Shay, 2020: 6].

## Independent variable and Controls

Our main explanatory variable is the average number of years of schooling. It is provided by UNDP Human Development Reports and is defined as the “average number of years of education received by people ages 25 and older, converted from education attainment levels using official durations of each level” [UNESCO Institute for Statistics, 2020].

Moreover, we introduce education index that distinguishes countries by the level of formal education enrollment. It is the already described variable “mean years of schooling” which we divide into 6 equal parts from the global sample – sextiles. So, we get:

1. Very low level of education (to 5.6 years of schooling).
2. Low level of education (from 5.6 to 7.7 years of schooling).
3. Lower-middle level of education (from 7.7 to 9.2 years of schooling).
4. Upper-middle level of education (from 9.2 to 10.9 years of schooling).
5. High level of education (from 10.9 to 12.3 years of schooling).
6. Very high level of education (from 12.3 years of schooling).

By this index we analyze cross-tabulation with revolutions form as element of descriptive statistics in order to determine the joint distribution and relationship between the level of education and frequency of types of revolutionary uprisings.

Of course, there are other factors that influence the nature of revolutionary events. Note a recent study by Cincotta and Weber [2020] who demonstrate that violent revolutions are significantly more likely in countries with a very high proportion of the youth in the total adult population of this society – the so-called “**youth bulge**”. This finding is very congruent with other research on demographic structural factors of revolutions.<sup>6</sup> This dependence is associated with the fact that young people are easier to engage in protests because of their readiness for taking risky physical activity and having a lot of energy and free time [Chenoweth and Ulfelder, 2017], as well as because of high expectations and limited labor markets [Weber, 2019]. Thus, the higher the proportion of young people in the population, the higher the likelihood of violent destabilization and the lower stability of the regime [Cincotta and Doces, 2012; Farzanegan and Witthuhn, 2017].

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<sup>6</sup> See, e.g., [Goldstone 1991, 2002, 2010, 2017], [Grinin 2010, 2011, 2012a, 2012b], [Grinin and Korotayev 2012a, 2012b], [Korotayev and Zinkina 2011a, 2011b, 2011c], [Korotayev, Grinin et al. 2011], [Korotayev, Zinkina et al. 2011], [Korotayev, Khodunov et al. 2012], [Korotayev 2014] etc.



So, we operationalize “youth bulge” through 2 approaches found in other studies: (1) through the proportion of people in the population between the ages of 15 and 29 and (2) through the median age of population. These variables are provided by the UNDP database [*World Population Prospects 2019, Online Edition. Rev. 1, 2019*].

Among the other factors proposed as favoring non-violent rather than violent forms of revolutionary action one may mention higher values of **GDP per capita** and **urbanization** (e.g. [Grinin and Korotayev 2016], [Korotayev et al. 2018]). For instance, Inglehart and Welzel [2005] claimed that the explosive growth of wealth (proxy through GDP per capita) is also generating a growing need for self-expression including political participation; and the expansion of markets and trade has always been crucial factor in reducing violence due to the demand for non-violent communication [Inglehart et al., 2015]. So, higher well-being is associated with higher protest activity, because economic development and the natural expansion of the middle class have led to a greater public interest in expanding political and civil liberties [Chenoweth and Ulfelder, 2017], [Massoud et al., 2019]. However, researches find robust evidences that GDP per capita positively associated with nonviolent protests and negatively with violence one [Dahl et al., 2020], [Gleditsch and Rivera, 2017] and civil wars [Hegre and Sambanis, 2006]. This relationship is due to the fact that high well-being dramatically increases opportunity costs for protesters: people have big accumulated investment, and risk of losing everything overrides all possible benefits. So, if the pre-conflict state equilibrium provides people with small level of utility, the higher will be the marginal utility of each increase in goods, what pushes people to risk giving up their usual life [Besançon, 2005], [Sambanis, 2001]. Moreover, the elites of rich countries can actively use various redistributive policies or co-opt the opposition elite to mitigate general discontent, which is possible due to soft resource constraints [Wimmer et al., 2009]. Thus, we add the GDP per capita logarithm from the V-Dem dataset [Coppedge et al., 2021] to control our model for the level of well-being.

The **level of urbanization** also matters. For example, mass mobilization is more likely in the most urbanized and complex societies with dispersed social power [Gleditsch and Rivera, 2017], where a high concentration of the population and human capital helps disaffected groups find a larger audience [Butcher & Svensson, 2016], [Chenoweth & Ulfelder, 2017], [Dahl et al., 2017]. It is also important to note that in urbanized areas there is a high likelihood of peaceful protests, whereas, at the periphery radical groups choose another method of disagreement - violent actions [Buhaug and Lujala, 2005], [Dahl et al., 2017]. For our urbanization variable, we take the share of the population that lives in urban areas. These data are calculated and based on the "Urban

and Rural Population by Age and Sex 1980-2015" database provided by the United Nations Population Division [United Nations Population Division, 2020].

Moreover, a large number of researchers notice that **political sphere** is also matter. Relatively long ago, Karl Popper said that he calls "the type of government that can be eliminated without violence "democracy", and the other "tyranny"" [Popper, 1949: 90]. Modern researchers have similar findings: there is a greater likelihood of peaceful protest mobilization in democracies than in autocratic regimes [Caren et al., 2017], [Chenoweth and Ulfelder, 2017], [Dahl et al., 2017]. This is associated with the facts that: (1) it is easier for dissatisfied citizens to present their demands to the government or to mobilize in a democratic country, where the structure of institutions presupposes the inclusion of broad masses in governance [Nam, 2007]; (2) a relatively high level of freedoms, or rather, their non-suppression through a repressive apparatus that is not developed in democratic countries, also leads to an increase in the likelihood of a nonviolent protest [Massoud et al., 2019]. In other words, higher level of political repression entails to increasing the likelihood of violent uprising [Regan and Norton, 2005]. Thus, democracy does not in itself lead to an increase in discontent but opens the way for its expression through peaceful mass mobilization in polling stations and streets [Dahl et al., 2017]. So, type of regime matters, and we introduce **index of Electoral Democracy** from Varieties of Democracy (V-Dem), that "is formed by taking the average of, on the one hand, the weighted average of the indices measuring freedom of association thick, clean elections, freedom of expression, elected officials, and suffrage and, on the other, the five-way multiplicative interaction between those indices" [Coppedge et al., 2021], and it scales from 0 to 1.

Moreover, it is also important to control our model by introducing variable that can explain **ethnic discrimination**, because this factor is founded as important. Majority of papers in the sphere of the theory of civil war finds that the likelihood of violent uprising onset positively associated with ethnic discrimination [Besançon, 2005], [Buhaug and Lujala, 2005], [Gurr, 2000], [Regan and Norton, 2005], [Wimmer et al., 2009]. This is due to the fact that the discriminated group is likely to choose violent tactic rather than nonviolent one. Firstly, they usually don't have enough opportunities for successful nonviolent uprising, because dominant ethnic groups own most of the resources and use the state to restrict the access of minorities to various goods as, for example, education [Besançon, 2005]. Secondly, costs for collective violent action for ethnic groups are smaller, because there are stable social ties and trust, and opportunity costs also not small, because well-being of discriminative group is low and they haven't got big amount of accumulated investments to human capital, but the possible gain from success is very large [Sambanis, 2001]. Thus, we introduce to our models **share of discriminated population** from

Ethnic Power Relations [EPR] Dataset 2021 that gives following description: “group members are subjected to active, intentional, and targeted discrimination by the state, with the intent of excluding them from political power. Such active discrimination can be either formal or informal, but always refers to the domain of public politics [excluding discrimination in the socio-economic sphere]” [Vogt and Rügger, 2021: 6].

Also, we include several geographical variables, that also can explain tactic of protestors what was noted by several researches [Fearon and Laitin, 2003], [Sambanis, 2001], [Wimmer et al., 2009]. These are **natural logarithm of area** and **population density** that are provided by CNTS Database [Banks, Arthur S., Wilson, Kenneth A., 2021]. Of course, it is also necessary to take control of the **total population** that also positively associated with violent uprisings [Hegre and Sambanis, 2006]. This variable is presented in thousands by Department of Economic and Social Affairs of the United Nations Secretariat [*World Population Prospects 2019, Online Edition. Rev. 1, 2019*].

In sum, we have 491 revolutionary event and all controls with few missing values for period 1950 to 2020 and for each country. Due to the small number of observations and small number of campaigns in each year and each country, it makes no sense to include a country or year fixed effects. However, to take into account the development trend of each country, it is still necessary to include some panel variable. In general, as Dahlum [2019] showed, variables for decades and regions are quite enough, so we will do the same: include a decade and region dummies to control time and context-specific trends.

## Results

In this section, we first present the results of the distribution of revolutionary events across six groups of countries, distinguished by six levels of education, to examine how educational attainment relate to the distribution of violent and nonviolent campaigns. We then present a logistic model with different controls to test our hypothesis about the relationship between education and protesters' tactical choices. Thus, we find robust evidence that the higher level of education, the lower chance of violent revolutionary protests.

### Level of education and the type of revolutionary event

The bar chart in figure 1 presents percentage of nonviolent revolutionary movements by six groups of countries distinguished by our education index. Thus, we can see that most violent revolutionary events occur in the most uneducated societies: in group of countries with very low

level of education 74% of the uprisings are armed. Interestingly, however, when one moves from a very low to a low level of education, the number of violent uprisings decreases dramatically: in the second group only half of the revolutionary movements are violent. If you look at the most educated group of countries, there already 80% of revolutionary protests are peaceful. There is no sharp jump from high to very high level of education in the percentage of violent revolutions.

To summarize, there is a clear trend towards a decrease in the number of armed protests as education level grows. However, while the differences between the first and third groups of countries are radical (the low-middle group has 2.5 times fewer violent revolutions than the group with very low levels of education) there is no such a strong transition between subsequent groups. Thus, the difference between low-middle and upper-middle is only 14%, and between high and very high is only 5%.

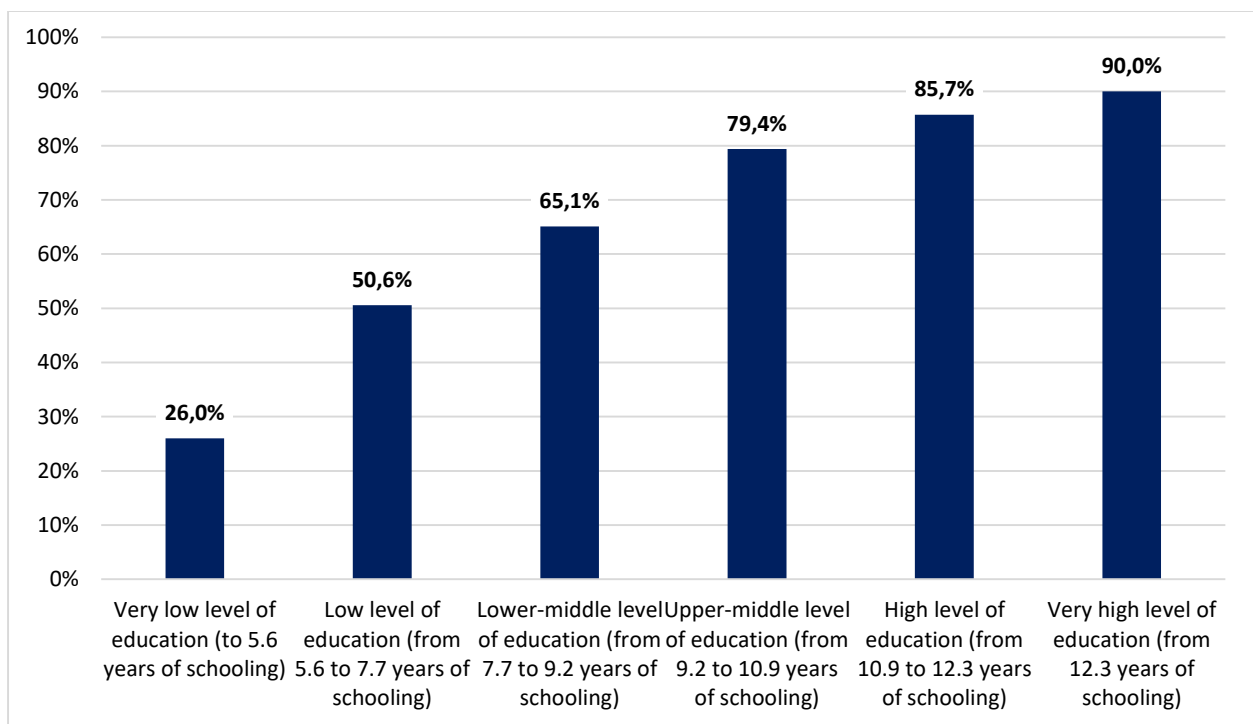


Fig. 1. Percentage of nonviolent revolutionary protests by six groups of countries distinguished by the level of formal education enrollment.

The histogram in figure 2 offers some tentative conclusions about whether participation in graduate or undergraduate campaigns was associated with violence. For example, one can see that countries with high and very high levels of education have almost no violent revolutions. Moreover, these groups of countries have in principle the lowest level of destabilization: only about 40 cases for each group. At the same time, countries with very low level of education have the most violent campaigns and, in principle, any kind of revolutionary events, with just under 80 cases. In countries with just a low level of education, there are slightly more revolutionary protests,

about 85 cases, but the ratio of violent to nonviolent with the previous level is very different: here only half of the cases are violent. In countries with a middle level of education, the number of violent campaigns is roughly the same, but as education increases, the number of violent campaigns also decreases. Thus, there is a clear relationship: as education increases, both the number of revolutionary events and the likelihood of violence decrease.

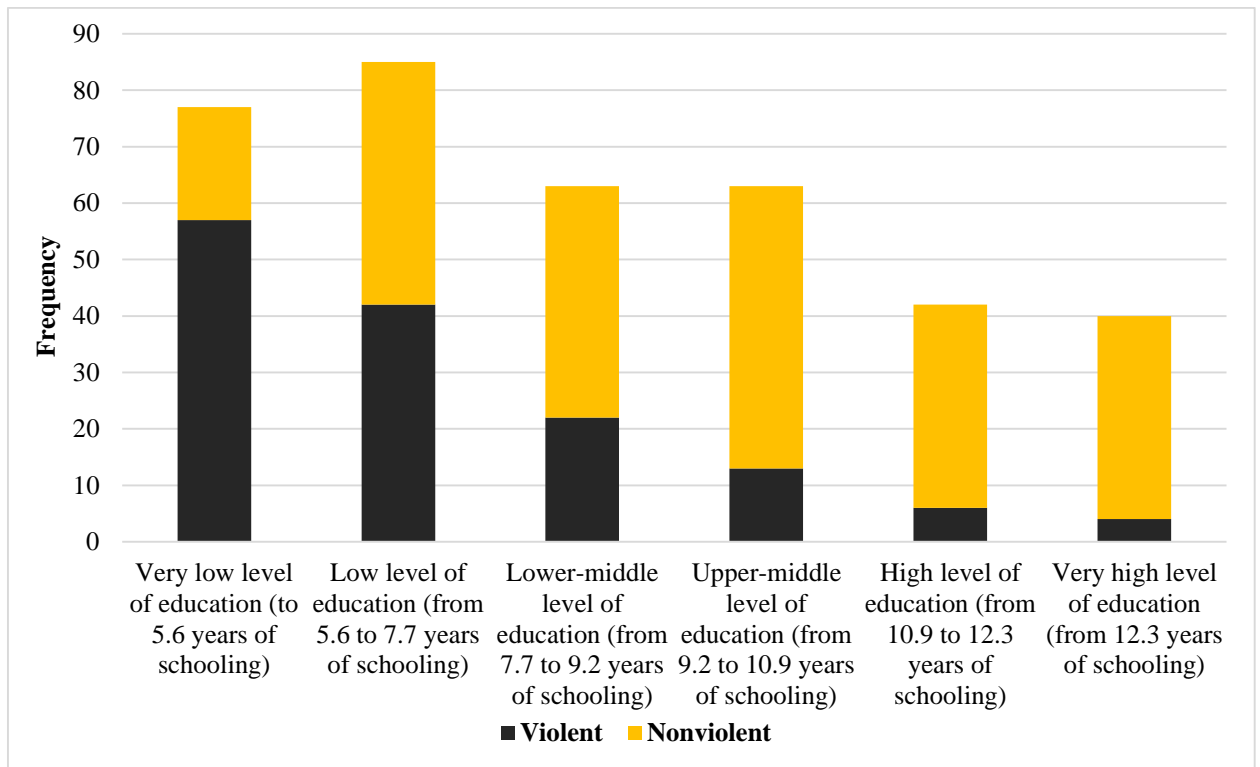


Fig. 2. Frequency of nonviolent revolutionary protests in six groups of countries distinguished by the level of formal education enrollment.

### Mean years of schooling and the type of revolutionary event

Table 2 shows results from logit models where the outcome is whether the campaign was nonviolent or violent. The main explanatory variable is the average years of schooling. As might be expected, based on our theoretical research, education is indeed positively and significantly associated with the nonviolent type of revolutions in most models with the introduction of all kinds of controls.

Thus, even in the first model, which presents a pairwise regression, it is seen that mean years of schooling significantly (at the level  $p < 0.001$ ) affects the protesters' choice of nonviolent tactic. After controlling for logarithm of population, area, and population density in the second model, the result remains the same: education is still significantly related to nonviolence. Interestingly, none of these controls has a significant effect on the protesters' choice of tactics. In the third and fourth models, we introduce political factors – the index of electoral democracy and

the share of the discriminated population. We see that democracy and discrimination itself are not significant predictors, but share of the discriminated population is sustainably more significant and associated with a greater likelihood of violence in all models.

In the following models, we introduce the variables from the "modernization" group in turn to the already ruminated controls. Thus, logarithm of GDP per capita appears in the fifth model, which is marginally significant (at the 0.17 level) and positively associated with nonviolent tactics, and at the same time reduces the significant level of education (from  $p < .01$  to  $p = .115$ ) and its effect (from 0.214 to 0.136). Note, that this model has the smallest prediction error and, therefore, the highest statistical quality (the Akaike information criterion (AIC) is 368.257<sup>7</sup>) among all models. The sixth, seventh, and eighth models add in turn the level of urbanization, the share of youth, and the median age. All of these controls are not significant and do not affect the relationship between education and nonviolence. It is worth noting that the two variables operationalizing the "youth bulge" (share of youth in the population and median age) are not significantly different from each other in our analysis, suggesting that it is possible to operationalize the "youth bulge" through either of them.

The above analysis shows that our hypothesis is confirmed: mean years of schooling sustainably and significantly affects protesters' choice of nonviolent tactics. At the same time, a high level of well-being also encourages protesters to choose peaceful tactics, while a large proportion of the discriminated population, vice versa, indicates that the revolution will be bloody.

**Table 2. Logistic regression models on violent and nonviolent revolutions**

**Dependent variable: Nonviolent (= 1) versus Violent (= 0) revolutions**

Independent variables/Model	M1	M2	M3	M4	M5 (with GDP per capita)	M6 (with urbanization)	M7 (with share of youth)	M8 (with median age)
Mean years of schooling	0.226**** (0.065)	0.212*** (0.066)	0.215*** (0.067)	0.214*** (0.068)	0.136† (0.086)	0.169** (0.085)	0.183** (0.073)	0.161** (0.081)
Population (logged)		0.144 (0.192)	0.141 (0.192)	0.163 (0.193)	0.136 (0.209)	0.179 (0.195)	0.137 (0.195)	0.139 (0.194)
Area (logged)		0.0001 (0.0001)	0.0001 (0.0001)	0.0001 (0.0001)	0.0001 (0.0001)	0.0001 (0.0001)	0.0001 (0.0001)	0.0001 (0.0001)

<sup>7</sup> In other words, the smaller size of the AIC, the higher quality of the model.

**Dependent variable: Nonviolent (= 1) versus Violent (= 0) revolutions**

<b>Independent variables/Model</b>	<b>M1</b>	<b>M2</b>	<b>M3</b>	<b>M4</b>	<b>M5 (with GDP per capita)</b>	<b>M6 (with urbanization)</b>	<b>M7 (with share of youth)</b>	<b>M8 (with median age)</b>
Population Density		-0.122 (0.190)	-0.107 (0.190)	-0.145 (0.191)	-0.127 (0.197)	-0.180 (0.196)	-0.130 (0.192)	-0.140 (0.191)
Index of Electoral Democracy			-0.359 (0.739)	-0.563 (0.758)	-0.683 (0.776)	-0.654 (0.770)	-0.698 (0.776)	-0.670 (0.772)
Share of Discriminated population				-0.950 (0.836)	-1.001 (0.837)	-1.019 (0.844)	-0.922 (0.831)	-0.909 (0.832)
GDP per capita (logged)					0.317 (0.231)			
Urbanization						0.009 (0.010)		
Share of youth							-0.035 (0.032)	
Median age								0.055 (0.047)
Constant	-1.196**** (0.222)	0.460 (1.216)	0.412 (1.256)	0.894 (1.294)	-2.067 (1.912)	0.893 (1.302)	0.351 (1.799)	0.802 (1.375)
Decade Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	387	355	352	340	331	340	340	340
AIC	405.833	380.833	381.772	378.116	368.257	379.365	378.906	378.697

Notes: \*\*\*\* p < .001, \*\*\* p < .01; \*\* p < .05; \* p < .1; †p=0.115055

## **Discussion & Conclusion**

In this paper we have attempted to analyze and close a gap in contemporary cross-national research on how the level of education affects the distribution between countries of violent and nonviolent revolutions and, consequently, how education affects protesters' choice of violent or nonviolent tactics. Overall, our hypothesis is fully confirmed: the level of education does

contribute to the fact that protesters choose nonviolent protest tactics. Thus, the average years of schooling is a significant and incredibly important factor of bloodless revolutions, which was represented by several logistic regression models with a set of strong controls.

At the same time, it is also was found that the key transition from violent to nonviolent revolutions is observed when a country moves from a very low to just a low level of education. In other words, education has the greatest effect in the early stages of modernization, when the average years of schooling moves to approximately 9 years. Then this effect gradually decreases: overcoming the mark from low to lower-middle and upper-middle levels has a markedly less pacific effect, and in already developed societies the transition from upper-middle to very high levels no longer play an important role. Also, it can be suggested that not only people with higher education or students are matter, but primary and secondary education too. Thus, if Dahlum [2019] found relationship between graduated or students and nonviolent tactic, we assume that primary and secondary education matter, because transition from very low to low education level is more about school enrollment, but not university enrollment. In future studies it is necessary to develop this suggestion and test it using different variables that characterize primary, secondary and tertiary education. Note, that there are several papers on this topic, but they examine the onset of civil wars, but not the protesters' choices see for ex. [Barakat and Urdal, 2009], [Collier, 2004], [Thyne, 2006].

While education is an important factor in protesters' choice of tactics it does not the only one. Certainly, there must be other reasons why some revolutions take on an nonviolent character and others a violent one. Our analyze presents both economic and political spheres also are vital factors. For instance, higher well-being (proxy through logarithm of GDP per capita), which is one of the most important factor of “modernization” group, leads to nonviolent revolutions tactic. So, as Huntington [1968] claimed that modernization will lead to conflict as the forces of participation exceed the state's ability to meet the new demands for representation, but we add that it can lead predominantly to non-violent revolutions. Although the other variables which characterize modernization were not significant in our analyzes, but this does not mean that they are not important. So, each of these factors can be researched in the future.

Share of discriminated population proved to be another important factor that negatively associated with nonviolent revolutions. However, it should be emphasized that index of electoral democracy is not significant in our analyzes. Broadly put, it can be explained that smaller level of discrimination implies greater inclusion and greater involvement of population in the political



structure, which is what democracies are all about. Of course, it is also hypothesis that must be investigated in the future researches.

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