Being capable, yet helpless, in an egalitarian society: Are more educated individuals always less likely to support political violence?

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Abstract

While some theoretical models of radicalization suggest that less educated individuals are drawn towards political violence due to grievances, others highlight circumstances in which more educated individuals may be more inclined to participate in violent collective actions. A recent systematic review and meta-analysis have not provided any firm conclusions regarding the role of education in determining radicalized attitudes and behaviors. The goal of this study was to provide a systematic overview of bivariate and interactive relationships between the level of education and support for political violence across countries. Therefore, multilevel regression analyses were applied to the World Value Survey data (seventh wave). Next to testing the linear relationship, the focus of this study was to test the relationship between education and support for political violence in circumstances which, according to theories of radicalization revolving around grievance, should undermine the protective role of education. Therefore, the cross-level interaction between education, attribution of success (to hard work or luck and connections) and egalitarianism in a society (measured on the country-level) was also tested. Results of the conducted analyses suggest that education has a weak protective role against support for political violence, although this role depends on the context. More precisely, education loses its protective role only among individuals who attribute success dominantly to luck and connections instead of hard work (i.e., perceive hard work as not an ineffective way of achieving success) and live in egalitarian societies.

Keywords: Political Violence, Radicalization, Attitudes, Education, ISCED

Introduction

Although the relevance of education in radicalization has been recognized, contemporary theories disagree on the magnitude and direction of the education-radicalization relationship. Classic modernization theories (Gurr, 1970) and later grievance-based approaches to radicalization (for an overview, see Maskaliunaite, 2015 or Ajil, 2022) suggested that people with lower socioeconomic status are more likely to become radicalized because of the

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grievance created by the discrepancy between a desirable and actual status. In other words, more educated individuals may have had more chances to succeed in life, which also implies a better socioeconomic status – or at least better chances of improving it (Wang et al., 2016). These available opportunities to change the unfavorable circumstances can serve as a protective factor against radicalization. Rational choice models of radicalization (for an overview, see Fussey, 2012) emphasize the role of cost-benefit analysis in radicalization, and provide additional insights. Namely, attained status and benefits can also be lost, and the idea of losing a favorable status (or opportunities to achieve it) due to engagement in political violence (e.g., being labelled as an extremist, see Stuart et al., 2018) could make individuals prioritize peaceful political actions (Østby et al., 2019). Additionally, individuals who spent more time in education could have been more exposed to the consequences of political violence due to the content of history books (Cairns & Inglis, 1989; Marino, 2011), which could have highlighted the perceived costs of political violence. Finally, during education, individuals form social ties within a normative context and losing these relationships could additionally undermine the probability of joining radicalized groups (Beršnak & Prezelj, 2021; Ofosu & Tesfaye, 2018).

However, these approaches also offer multiple arguments in favor of (higher) education as a risk factor for radicalization. Berrebi (2007) pointed out that education may serve as a catalyst of radicalization by opening students' eyes to the degree and source of injustice, but also available political alternatives. Additionally, more education does not necessarily lead to more opportunities – in a society where opportunities are limited by group memberships, more educated individuals could feel more grievance due to the limited upwards mobility, which makes them supportive of political violence (Gurr, 1970). Moreover, radicalized groups represent just another form of organizations, implying that principles of human resource management could be applied to them, as well (Hunter et al., 2017). Therefore, radicalized organizations also have their mission and vision and need capable personnel to achieve their goals. In other words – radicalized organizations may be especially interested in more educated candidates willing to do anything to introduce a change in a political system (De Mesquita, 2005). Finally, according to the theory of compensatory control (Kay et al., 2008; Kay & Eibach, 2013), individuals in uncertain and unfavorable

circumstances may be more likely to embrace attitudes that offer opportunities to restore the sense of control. Achieving a desirable change, even through violence, could serve this function. As more educated individuals have greater expectations from life (Kristoffersen, 2018), limited opportunities could make them feel more uncertain and, therefore, more vulnerable to radicalized propaganda compared to their less educated peers.

The previous paragraphs present just a few of the multiple theoretical arguments in favor of and against the protective role of education against radicalization. The outcomes of recent systematic reviews and meta-analyses of empirical studies, which adopted the distinction between radicalized attitudes and behaviors (see Hafez & Mullins, 2015; Khalil et al., 2019; McCauley & Moskalenko, 2017; Neumann, 2013), have also yielded mixed findings. Franc and Pavlović (2018; 2021) reviewed studies focusing on the role of inequality in radicalization and concluded that the level of education rarely provided a significant contribution to the prediction of radicalized attitudes, and even when it did, the magnitude and direction of the relationships varied across countries and even within studies, depending on the operationalization of the criterion. Wolfowicz et al. (2020; 2021) conducted a meta-analysis of the risk and protective factors of radicalization, and one of the studied factors was the level of education. They found a very weak and negative relationship between the level of education and radicalized attitudes, while its relationship with radicalized intentions and behaviors was inconsistent. However, all the Q values, indicating the heterogeneity of effects, were statistically significant, which is in line with the heterogeneity of findings reported by Franc and Pavlović (2018; 2021). Their findings regarding Islamist behavioral radicalization were slightly more consistent: extremists were generally more educated than the average but less wealthy. Østby et al. (2019) reviewed studies on the relationship between education and support for political violence and found some support for the pacifying role of education. Nevertheless, the authors highlighted the complex nature of these relationships, as well as the possibility of their dependence on other factors. Therefore, the common conclusion would be that the effect of education on radicalized outcomes is probably determined by other, more potent determinants of radicalization. The latter findings are in line with the conclusions of Krueger and Maleckova (2003, p. 119), who stated that the relationship between "…education and terrorism is indirect, complicated, and probably quite weak".

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The latter statement refers to some of the limitations of the earlier literature focused on determining the factors of radicalization which were highlighted by the recent reviews and meta-analyses (Franc & Pavlović, 2018; 2021; Østby et al., 2019; Wolfowicz et al., 2020; 2021) and may have contributed to ambiguous findings. From a methodological point of view, operationalizing education exclusively via the highest level attained does not reflect the construct completely, as other relevant characteristics (e.g., contents of national curricula or inequality in access to education) are neglected (Østby et al., 2019). Moreover, Franc and Pavlović (2018; 2021) noticed that education was often included in one of the last steps of regression models as just one of the multiple control factors. While this allows researchers to evaluate the contribution of education in the context of other predictors included in the models, earlier researchers rarely reported whether they considered multicollinearity or suppression in their models, which could have led to biased estimates. For instance, Cinelli et al. (2020) describe the overcontrolling bias, which occurs when potential mediators are included as control factors in multiple regression models. In such cases, the introduction of additional control factors backfires and leads to less precise parameter estimates. Although one could make at least a rough estimate of the potential multicollinearity from the correlation matrices, only rare studies presented them. Therefore, one potential reason behind the established inconsistency of findings could lie in the nature of the relationships education forms with the outcomes of radicalization, which could include mediation and moderation. However, these remain invisible from the regression models unless researchers focus on them, which was generally not the case as the level of education was used as a control variable.

Testing more complex relationships is an important methodological and theoretical argument as it represents a crucial step towards a more holistic approach to testing models and theories (Cawvey et al., 2017; McGregor et al., 2015). These more complex relationships could be formed with other individual or contextual characteristics (i.e., cross-level interactions), with contextualization being highlighted as an inevitable element of understanding political violence (Bosi & Malthaner, 2015). Nevertheless, interactive contributions of different determinants represent an understudied area of research in the context of political violence (Franc & Pavlović, 2018, 2021). Rare studies focusing on such relationships (next to the inflated Q values in Wolfowicz et al., 2021) have provided evidence

in favor of their relevance: for instance, Kavanagh (2011) found that highly educated individuals living in poverty are more likely to join radicalized groups. Additionally, multiple authors have called for studying interactive contributions to gain a deeper insight into political behavior (Cawvey et al., 2017; Mondak et al., 2010).

Next to all the mentioned limitations, Franc and Pavlović (2018; 2021) highlighted the problematic use of single-item measures of radicalized outcomes, which were usually developed for the purposes of specific studies and did not discriminate between different aspects of political support. For instance, the content of items did not allow firm conclusions regarding the meaning of responses – it remained unclear whether the participants supported radicalized groups, leaders, goals, or methods. The importance of this distinction should not be underestimated: many groups supporting the goals of extremists do not promote the use of political violence, which makes them a competition for radicalized groups when in comes to attracting new members (Moskalenko & McCauley, 2009, p. 40).

All this served as a motivation to conduct this study, focusing on determining the role of education in support for political violence using a large international World Value Survey (WVS Wave 7, v5.0; Haerpfer et al., 2022) data set. More precisely, this research was focused on four goals. Firstly, our goal was to evaluate the relationship between the level of education and support for political violence, with and without the inclusion of control factors - support for interpersonal violence, economic status, age, and gender (see Wolfowicz et al., 2021, pp. 35-37, for a more detailed insight into earlier empirical evaluations of their relationships with radicalized attitudes). In line with the outcomes of the meta-analysis (Wolfowicz et al., 2021), we expected to find that more educated individuals express less support for political violence, even after controlling for the effects of other included factors. In other words, we expected to find that the relationship between education and support for political violence is not an artifact caused by the lack of control for support for interpersonal violence (and age and gender), as well as that education provides economic benefits and opportunities to achieve them, and even after controlling for economic status, the relationship would remain significant due to these increased opportunities. Secondly, our goal was to determine whether the relationship between support for political violence and the level of education varies across countries, which we also expected to confirm based on the findings of earlier reviews (Franc &

Pavlović, 2021; Østby et al., 2019; Wolfowicz et al., 2021). Finally, we decided to test the hypothesis based on ideas presented by Gurr (1970) and Berrebi (2007), according to which the protective role of education would be diminished in a context where opportunities to improve one's status are more limited. Therefore, we tested a cross-level interaction between education, attribution of success (to own hard work or luck and connections) and egalitarianism (on the country level) in the prediction of support for political violence. We expected to establish a diminished protective role of education among individuals attributing success to connections compared to individuals who attributed success to hard work. We also expected this finding to be most pronounced in countries high on egalitarianism, in which having limited opportunities is uncommon. In such societies, having limited opportunities may reflect marginalization and discrimination as individuals may perceive that the political system treats only them unfairly, which has been recognized as an important driver of collective actions (Wolfowicz et al., 2020; 2021). All this was done using a multi-item index of support for political violence, while taking into account the potential issues due to covariance between predictors.

Methods

Participants

The complete WVS data set consists of 94 278 participants. However, for the main analyses we had to exclude participants from Andorra, Czechia, Great Britain, Libya, Macao, Northern Ireland, Netherlands, Puerto Rico, Slovakia, and Uruguay ($n = 12\,951$) due to the absence of data on egalitarianism, and participants from Turkey due to omission of variables measuring support for political violence ($n = 2\,415$). After the exclusion of participants with missing values in focal individual-level variables ($n = 3\,780$), 75 132 participants from 53 countries (Argentina, Armenia, Australia, Bangladesh, Bolivia, Brazil, Canada, Chile, China, Colombia, Cyprus, Ecuador, Egypt, Ethiopia, Germany, Greece, Guatemala, Hong Kong, Indonesia, Iran, Iraq, Japan, Jordan, Kazakhstan, Kenya, Kyrgyzstan, Lebanon, Malaysia, Maldives, Mexico, Mongolia, Morocco, Myanmar, New Zealand, Nicaragua, Nigeria, Pakistan, Peru, Philippines, Romania, Russia, Serbia, Singapore, South Korea, Thailand,

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Tajikistan, Taiwan, Tunisia, Ukraine, USA, Venezuela, Vietnam, Zimbabwe) remained. The sample was relatively balanced with respect to gender (52% of women), while the average participant was 42 years old (SD = 16.4).

Measures

Support for political violence was measured using two self-report items, one measuring justification of terrorism as a political, ideological, or religious mean (Q192) and one measuring justification of political violence (Q194). Participants responded to both items on a scale ranging from never justifiable (1) to always justifiable (10). The two variables were averaged in a single index based on their high correlation (r = .68), with higher values indicating a stronger support for political violence. To minimize the number of missing values, we additionally included responses of participants who responded only to one of the items as their score of support for political violence.

The main predictor, level of education, was operationalized as participants' highest achieved level of education according to the ISCED 2011 classification (Q275). According to this classification, participants are grouped into nine subgroups hierarchically ordered with respect to the highest level of education achieved, ranging from early childhood education or no education (ISCED 0) to PhD (ISCED 8).

Multiple control factors were introduced in this study. Economic status (Q288) was measured as participants' responses to the item "On this card is an income scale on which 1 indicates the lowest income group and 10 the highest income group in your country. We would like to know in what group your household is. Please, specify the appropriate number, counting all wages, salaries, pensions and other incomes that come in". Participants provided responses on a scale ranging from "lowest group" (1) to "highest group" (10). Although WVS 7 contains multiple variables measuring perceived economic status, this item was chosen because it forces participants to compare their economic status to the economic status of others, which can serve as a basis of relative deprivation, a recognized predictor of radicalized attitudes and intentions (Wolfowicz et al., 2021). Support for interpersonal violence was measured as the level of justification for using violence against other people (Q191). Participants provided responses on a 1-10 scale with higher values indicating more support for

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interpersonal violence. Attribution of success (Q110) was measured using a bipolar item. On the left side of the continuum was the sentence "In the long run, hard work usually brings a better life" (1), while the statement "Hard work doesn't generally bring success—it's more a matter of luck and connections" (10) was presented on the other side of the continuum. Participants provided a rating on a 1-10 scale, which reflected their position on the continuum (i.e., whether they attributed success dominantly to hard work or luck and connections). Of the additional control factors, we included gender (male or female) and age (measured in years).

Finally, egalitarianism in society was operationalized using data from V-Dem (Coppedge et al., 2021). More precisely, we used the Egalitarian component index (v2x_egal), which describes the extent to which egalitarian principles are achieved in a society. Its scores range from zero to one, and high scores indicate that individual rights and freedoms are protected across all groups within a society, with resources and access to power being equally distributed across all social groups. As described in the previous sentence, this index is formed as an average of three first-order indices: equal distribution of resources, equal access index and equal protection index. The basic unit in forming these indices is an expert judgement: on average, five experts from each included country provide their judgements on different topics for a specific country-year combination. These judgements are later aggregated in indices developed as unobserved variables using Bayesian statistics (Marquardt, n.d.).

Procedure

Data (version 5.0) used in this study were collected during the seventh wave of the WVS international survey (Haerpfer et al., 2022), which took place between 2017 and 2022. The majority of data, which represent random probability representative samples of the adult population per country, were collected in face-to-face (CAPI or PAPI) interviews. More details on the characteristics of data collection can be found in the project documentation.[2]

The analytical approach of this study relied on multilevel linear regressions. The analyses were conducted in R (R Core Team, 2022), dominantly using the functions from

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[2] https://www.worldvaluessurvey.org/WVSDocumentationWV7.jsp

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packages lme4 (Bates et al., 2015), performance (Lüdecke et al., 2021), and sjPlot (Lüdecke, 2021). The analytical approach consisted of multiple steps. Firstly, all the predictors were standardized (converted into z-scores) prior to analyses in order to minimize non-essential correlation between variables (see Dalal & Zickar, 2012). After presenting the correlation matrix calculated on the overall sample, we focused on the research questions and conducted multilevel regression analyses. After obtaining estimates from the random intercept model, we added random effects of the predictors and evaluated whether this addition improved model performance using BIC to avoid the sensitivity of χ^2 tests to sample size. All the regression analyses were conducted using equilibrium weights (S018) to provide more robust estimates of the relationships by balancing the contribution of participants from different countries to the calculated estimates.

Results

This section contains summarized outputs of the applied analyses. The initial step of the analysis involved the comparison of included and excluded countries in order to determine the comparability of samples (Table 1). Cohen's *d* was calculated instead of conducting *t*-tests due to the large sample sizes, which imply biased *p* values.

Table 1.

Comparison of participants from countries included and excluded from the main analyses with respect to crucial variables

	excluded		included		
	M	*SD*	*M*	*SD*	*d*
(1) support for political violence	1.63	1.40	1.93	1.75	-0.18

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(2) education (ISCED 2011)	3.74	2.05	3.52	2.02	0.11
(3) success (hard work vs. luck and connections)	4.97	2.74	4.34	2.94	0.21
(4) support for interpersonal violence	1.77	1.63	2.00	1.89	-0.12
(5) economic status	5.37	2.04	4.80	2.07	0.27
(6) gender (ref = 1 = male)	1.55	0.50	1.53	0.50	0.04
(7) age	47.66	17.21	42.6	16.33	0.31

According to the results presented in Table 1, the differences between samples existed, but their magnitude was dominantly weak. Sample excluded from the final analyses, on average, expressed slightly lower support for political and interpersonal violence, and was slightly more educated and older, had a better economic status and attributed success slightly more to luck and connections compared to the sample included in the final analyses.

In the following step, bivariate linear relationships were evaluated using Pearson r correlations (Table 2).

Table 2.

Correlations between support for political violence and focal variables of this study calculated on the overall sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)

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(1)	support for political violence	1						
(2)	education (ISCED 2011)	-.02	1					
(3)	success (hard work vs. luck and connections)	.10	.02	1				
(4)	support for interpersonal violence	.71	.00	.09	1			
(5)	economic status	.03	.28	.00	.03	1		
(5)	gender (ref = 1 = male)	-.03	-.04	.01	-.06	-.01	1	
(6)	age	-.10	-.12	-.01	-.10	-.03	-.01	1

Note. Due to the large sample size which makes even correlations of $r = .01$ significant at $\alpha = .05$, the significance level of correlations was not marked.

The outcomes presented in Table 2 suggest that support for interpersonal violence is the strongest correlate of support for political violence, while the contributions of the remaining variables were of limited practical value. However, the estimates of the direction and magnitude of the exhibited relationships could have been biased due to neglecting potential contextual differences (and weights). Therefore, the correlation matrix was followed by multilevel regression analyses to provide more robust estimates of the explored relationships. However, an inspection of the shapes of the distribution of key variables revealed that the presumption of normality was severely violated (Figure 1). Thus, in order to minimize biases, robust procedures were used to obtain estimates and evaluate the significance of predictive contribution in the final model, which are further described in upcoming paragraphs.

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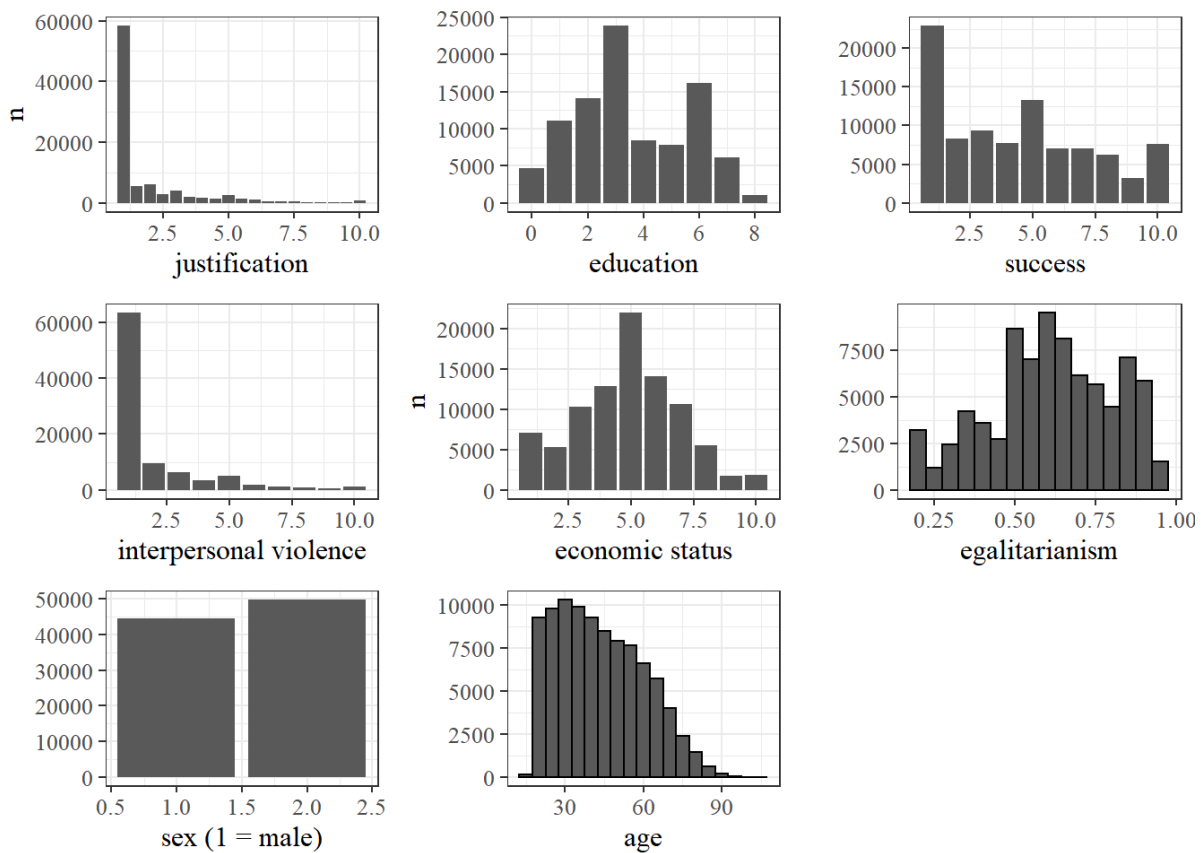Tomislav Pavlović: Are more educated individuals always less likely to support political violence?

Figure 1.

Distribution of participants across response categories of key variables in this study

The intraclass coefficient of correlation (ICC) was consulted to determine whether multilevel analyses should be conducted or not. The obtained value (ICC = .12) suggested a variation in the criterion across countries that exceeds the conventional threshold (ICC = .05, LeBreton & Senter, 2008), which implied the relevance of calculating multilevel models. After forming the baseline model (that is, a model with a random intercept that includes all the predictors and interactions), multiple models were created in which we successively included the random effects of a single predictor. Then, these new models were also successively compared with models from earlier steps to evaluate whether the addition of a random term improved the model.

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Table 3.

Outputs of regression model comparisons based on Bayesian information criterion (BIC)

#	random component (varies across countries)	BIC	ΔBIC (reference model)
1	intercept	242594	(-)
2	intercept + slope (success)	242458	-136 (1)
3	intercept + slope (success + education)	242451	-7 (2)
4	intercept + slope (success + education + support for interpersonal violence)	238610	-3841 (3)
5	intercept + slope (success + education + support for interpersonal violence + gender)	238653	+43 (4)
6	intercept + slope (success + education + support for interpersonal violence + age)	238628	+18 (4)
7	intercept + slope (success + education + support for interpersonal violence + economic status)	235913	-2697 (4)
8	intercept + slope (success + education + support for interpersonal violence + economic status + success x education)	235968	+55 (7)

In the following paragraphs, the attention is focused on the outcomes of the final model, which included random intercept and slopes as defined in model 8 (Table 3). The slope of the first-order interaction was not fixed despite the positive change of BIC in comparison with the previous model. This decision was made because Heisig and Schaeffer (2019) highlighted the potential biases caused by not including random slopes of lower-level variables when testing cross-level interactions.

After computing the final model, variations in the predictive contribution of education across countries were inspected (Figure 2). In this figure, circles reflect the random slope estimates of education across countries.[3] Unlike triangles, which reflect bivariate correlations, all relationships between education and support for political violence (except in the Chinese subsample) were negative or at least neutral, providing robust confirmation of the protective role of education across countries. Therefore, the variation highlighted by BIC seems to dominantly reflect the magnitude of the protective role of education across countries (i.e., coefficients in the vast majority of countries were negative) rather than a shift both in the

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[3] Unfortunately, during the time of preparing this manuscript, available R software did not provide pseudo-standardized estimates of relationships (β per country in the context of multilevel regression analyses) across countries (for more information on pseudo-standardization and its relevance in mixed models, see Hoffman (2015)).

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magnitude and direction of the relationship between education and support for political violence.
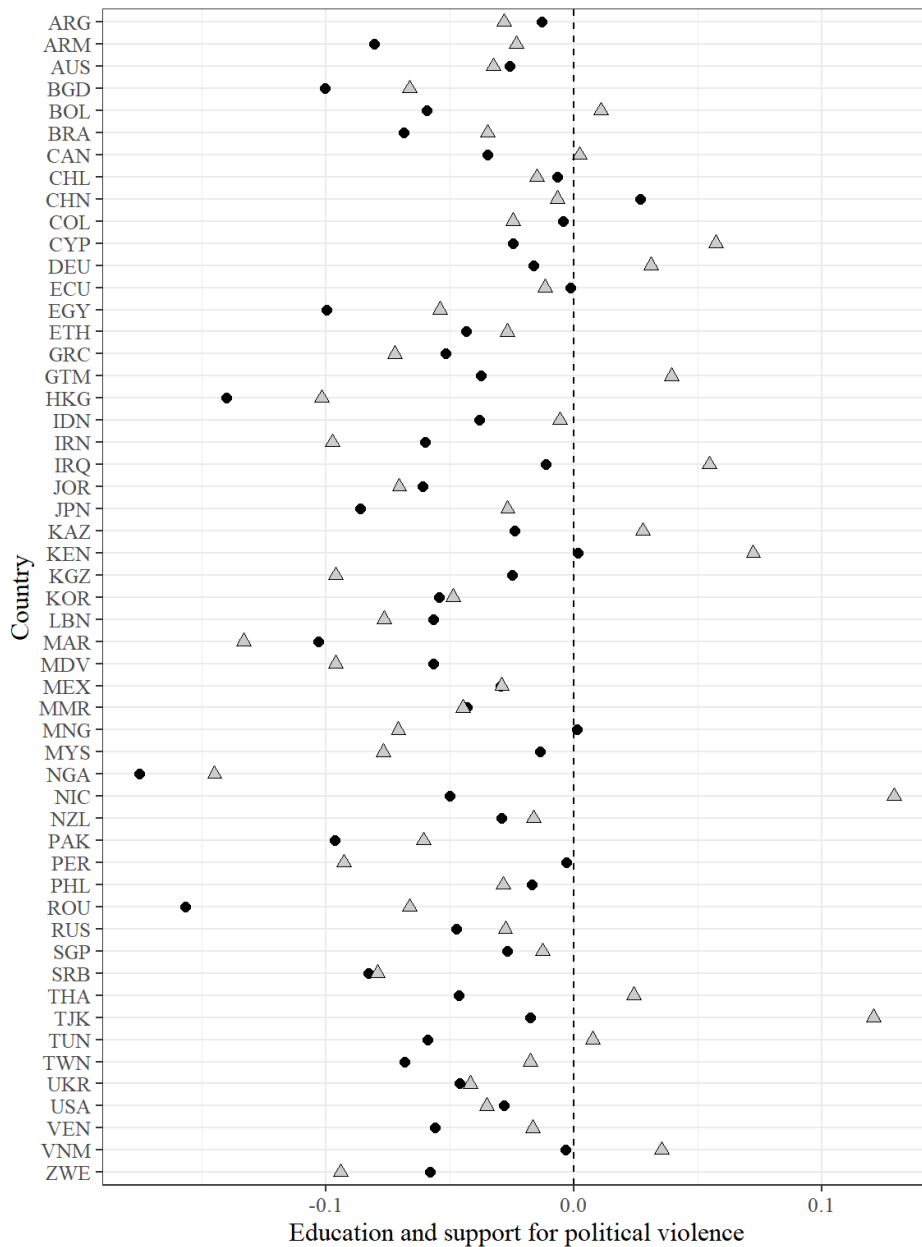
Note. Circles denote b coefficients from the final model (specified as model 8 from Table 2), while triangles denote bivariate correlations.

Figure 2.

Relationship between education and support for political violence across countries

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In the following step, we focused on the parameter estimates obtained from the final model (Table 4). Due to the previously mentioned extreme skewness of distributions, nonparametric case bootstrap was applied to obtain more robust outcomes. Both participants and countries were randomly resampled without replacement in each of the 1000 conducted replications. Percentile confidence intervals were calculated to evaluate the outcomes of bootstrapping.

Table 4.

Outcomes of the (bootstrapped) main analysis - multilevel linear regression – with support for political violence as the criterion (n = 75 132 from 53 countries)

		95% bootstrapped percentile confidence interval (b)		
	b (β)	lower limit	upper limit	
(Intercept)	1.89 (.00)	1.83	1.96	***
success (hard work vs. luck and connections)	0.06 (.04)	0.04	0.08	***
education	-0.05 (-.03)	-0.07	-0.03	***
egalitarian society	-0.04 (-.06)	-0.12	0.03	
support for interpersonal violence	1.11 (.69)	1.04	1.17	***
economic status	0.03 (.02)	0.01	0.05	***
gender (ref = male)	0.00 (.00)	-0.01	0.02	
age	-0.03 (-.02)	-0.05	-0.01	***
success x education	0.00 (.00)	-0.01	0.02	
success x egalitarian society	0.00 (.00)	-0.02	0.02	
education x egalitarian society	0.00 (.00)	-0.01	0.02	
success x education x egalitarian society	0.02 (.01)	0.00	0.03	*
R^2 conditional (Nakagawa)	.53			
R^2 marginal (Nakagawa)	.46			

Note. Calculated b coefficients represent the expected change on the original scale of the criterion with a change of one standard deviation in predictors. * $p < .05$, ** $p < .01$, *** $p < .001$

According to the outcomes of the final model, individuals less inclined to believe that success comes from hard work were generally more supportive of political violence compared to individuals believing hard work leads to success. Similarly, the results suggested that support for political violence is more characteristic for less educated individuals. However, a three-way cross-level interaction between success, education and egalitarianism in society was also observed (Figure 3). In countries with average scores on egalitarianism, the relationship between attribution of success and support for political violence was similar for individuals with the different highest levels of education. In the least egalitarian societies, slopes seemed to diverge: the magnitude of the relationship between attribution of success and support for political violence was strongest among least educated individuals and weaker for more educated individuals. The inverse was found in egalitarian societies: the slope of individuals achieving the highest levels of education was the steepest, leading to the diminished role of education in support for political violence among individuals attributing success to work and ties.
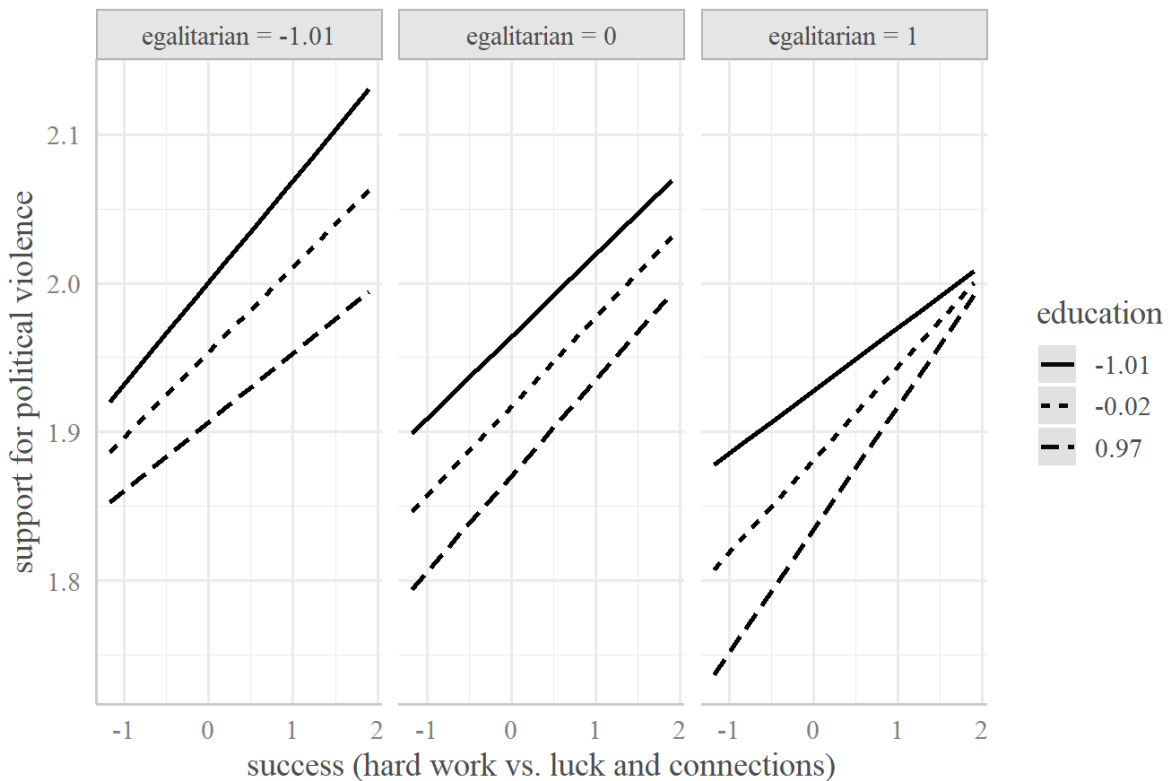
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Figure 3. Education, attribution of success and egalitarianism in a society in the prediction of support for political violence

Discussion

The results of the conducted analyses have provided multiple relevant insights. Firstly, our study confirmed that more educated individuals are slightly less likely to support political violence compared to less educated individuals, which is in line with the hypotheses of earlier researchers and represents arguments in favor of the (weak) protective role of education in radicalization (Østby et al., 2019; Wolfowicz et al., 2021). This relationship was established while controlling for economic status, implying that education has a protective role that exceeds economic benefits and could reflect available opportunities (Danzell et al., 2020; Wang et al., 2016). In other words, even if the economic benefits conveyed by higher education are not immediately visible, the well-managed (and positive) expectations can still

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serve as a protective factor against (support for) political violence. Although this is not a new or unexpected conclusion (e.g., Becker, 1968), it is one worth reiterating. However, the established weak relationship can lead to uncertainty regarding the practical relevance of education in radicalization (and its prevention). Nevertheless, such an approach to interpretation would neglect the complexity of relationships education forms with and through other relevant factors to determine attitudes towards political violence (Østby et al., 2019).

The results also indicated that role of education depends on whether citizens are treated equally or not in a political system, as well as whether these citizens attribute success to their hard work or luck and connections. More precisely, education does not seem to have a protective role against support for political violence in more egalitarian societies among individuals attributing success to luck or connections. This finding is in line with the aforementioned theories of radicalization revolving around grievance (Ajil, 2022; Gurr, 1970; Maskaliunaite; 2015), as well as the theory of compensatory control (Kay et al., 2008; Kay & Eibach, 2013) – individuals who put lots of effort into their education, yet still perceive that their hard work is unrelated to success, in societies where equality is supposed to be emphasized may feel marginalized and be especially frustrated with the political system, which seems to at least partially convert into support for political violence. This is in line with the argumentation presented by Danzell et al. (2020) and Kavanagh (2011), who argued that young, well-educated individuals with severely limited opportunities to succeed in life using their skills and knowledge represent vulnerable targets of radicalization. These arguments rely on the positive relationship between optimism and self-efficacy: individuals believing they can achieve goals in academic (Tan & Tan, 2014) and non-academic contexts (Karademas, 2006) with their actions also score higher on optimism questionnaires, implying more positive future expectations. The relevance of opportunities and positive future expectations has been recognized outside the context of radicalization, as well: for instance, multiple studies have shown that positive future expectations can serve as a protective factor against antisocial and criminal behaviors (Craig, 2019; Doekhie et al., 2017; Robbins & Bryan, 2004).

The previously discussed findings roughly suggest that education serves as a protective factor against radicalization among individuals believing hard work, and not connections, represents a ticket to success, regardless of how egalitarian the political system

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is. Therefore, from a practical point of view, these findings, under the presumption of causality, suggest that investments into education will not lead to an increase in support for political violence regardless of the egalitarianism in society, but *per se* is not sufficient to decrease support for political violence, especially in societies where lots of effort is invested in the protection of rights and opportunities. Instead, approaches revolving around education should be complemented by interventions focusing on a broader perspective of personal and professional development, which highlight the availability of options. Even from a cost-benefit perspective (e.g., Kavanagh, 2011), information on the available lucrative alternatives would increase the perceived costs of becoming radicalized and, consequently, decrease motivation to support political violence. As opportunities are nested within specific social (and political) systems, it becomes evident that perceived characteristics of social (and political) systems play an important role in one's perception of the value of hard work and available opportunities. For instance, multiple studies focusing on the relationship between corruption and entrepreneurship have shown that the two phenomena are related and that reduction of corruption generally leads to increased entrepreneurial activities (Anokhin & Schulze, 2009; Avnimelech et al., 2014). The relevance of macro-level events has been recognized in theoretical approaches to radicalization, as well (see, for example, Borum, 2014 or McGregor et al., 2015). Therefore, while one may argue that the availability of options and perception of own abilities to achieve goals through hard work are individual dispositions (and, therefore, the responsibility of each citizen individually), the role of decisions and actions of political leadership in forming such perceptions should not be underestimated.

Several limitations of this study should also be considered while interpreting its findings. Firstly, the research design was cross-sectional, implying that no firm causal conclusions should be drawn. Secondly, most of the key constructs were operationalized using single-item measures. Although this is not a limitation *per se*, especially in the case of strong or simple attitudes (Ajzen, 2002; Diamantopoulos et al., 2012), it would also be interesting to re-evaluate the findings of this study using multi-item measures of all constructs. Furthermore, education was measured primarily as the highest completed level of education, which neglects other relevant aspects of education (e.g., differences in curricula across countries or inequality in access to education). Moreover, considering the number of

available models of radicalization (e.g., De Coensel, 2018; McGregor et al., 2015; Pisoiu et al., 2020), it should be highlighted that this study evaluated only a limited fraction of potential interactions education level could form with other relevant variables. It is also relevant to point out that the omission of key variables prevented us from using data from some countries, which may have slightly biased our outcomes towards populations slightly more educated and of higher economic status that exhibit slightly lower levels of support for different forms of violence. Finally, it should be highlighted that this study focused on radicalized attitudes as a criterion, implying that the validity of generalizing its findings on radicalized intentions or behaviors is limited.

Altogether, and in line with the conclusions of Krueger and Malečková (2003), Franc and Pavlović (2018; 2021), Østby et al. (2019), and Wolfowicz et al. (2020; 2021), the outcomes of this study have confirmed that the relationship between education and political violence is complex and depends on other individual characteristics or perceptions of circumstances, but also on some contextual factors. Although individuals achieving higher education generally exhibited the lowest support for political violence, this relationship was undermined among individuals from egalitarian societies perceiving their hard work as unrelated to success. Therefore, the efficacy of deradicalization approaches focused on education without considering the context and preparing individuals for upcoming life challenges may be undermined. Additionally, the outcomes of this study provide arguments in favor of testing more complex relationships in order to gain a deeper understanding of (cognitive and behavioral) radicalization, which could help in the development of more effective prevention programs and policies and, ultimately, lead to a safer society.

Acknowledgments

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