

# Grievances or skills? The effect of education on youth political participation in Egypt and Tunisia

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## Abstract

The educated have figured prominently in protests and elections in several Middle East and North Africa (MENA) countries. The dominant explanation for this pattern centers on grievances and unfulfilled aspirations due to low education returns in the MENA. However, the pattern may simply reflect the unequal participation observed in many democracies where education provides skills and resources that facilitate political participation. This article compares the roles of skills and grievances in explaining the relationship between education and youth political participation during and after the Arab Spring. We use youth surveys with detailed data on education and political participation from Egypt and Tunisia. We control for parental education and family background to partially account for the potential of background to drive the education and participation relationship. Overall, our results are consistent with the skill channel and lend little support to the grievance channel. Our findings raise concerns about the exclusion of uneducated youth from both unconventional and conventional political participation in MENA politics.

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Political participation, Middle East and North Africa, youth, education, grievances

**Introduction**

Before the Arab Spring, elections in the Middle East and North Africa (MENA) were held in hegemonic authoritarian regimes where turnout was driven by clientelistic linkages, coercion, or appraisals of regime quality (De Miguel et al., 2015). Poverty and lack of education were strong predictors of electoral participation (Pellicer and Wegner, 2014). With the Arab Spring this pattern of political participation changed in some Middle Eastern countries, with educated citizens taking center stage in protests and elections. Protest participants in the Arab Spring were more likely to be among the more educated (Beissinger et al., 2012; Sieverding and Ramadan, 2015). Surveys of voters in the fairly free elections following the Arab Spring protests in Tunisia, Egypt, and Libya showed that more educated, urban voters were more likely to turn out than uneducated, rural ones (Benstead et al., 2013).<sup>1</sup>

Most democracies around the world display a positive relationship between education and political participation (Gallego, 2014). The standard explanation for this relationship is that education provides skills and resources that encourage political participation (Brady et al., 1995). The positive relation between education and political participation observed in the MENA when contexts were freer could thus reflect simply an evolution towards the familiar unequal participation patterns around the world.

However, this has not been the standard account of the role of education for political participation during and after the Arab Spring. The more frequently invoked narrative focuses on youth grievances. Concerns about lack of access to formal stable jobs and the frustration and discontent this engenders in youth are common around the world (United Nations Development Programme, 2014). However, in the MENA these concerns are particularly heightened (World Bank, 2014). In particular, returns to education are especially low for MENA youth (Krafft, 2018; Salehi-Isfahani et al., 2009), and as a result the educated youth in the MENA are thought to have particularly high levels of grievances. The standard accounts of the Arab Spring depict the turnout of highly educated youth as stemming from their high grievances, not from their mobilization advantage (Goldstone, 2011; Sanborn and Thyne, 2014).

This article seeks to disentangle the skill and grievance channels for driving youth political mobilization in Tunisia and Egypt during and immediately after the Arab Spring. These two channels have very different consequences for the type of grievances that are articulated and heard in the MENA. If the grievance channel is the main driver, the higher grievances of the educated would be articulated and heard. If the skill channel is the main driver, the grievances of the uneducated in the MENA may remain unarticulated.

Assessing the grievance and skill theories is not straightforward, for two reasons. First, youth feature prominently both in accounts of recent political participation in the MENA, and in the grievance explanation of this participation. A focus on youth requires information on a sufficiently large number of youth, which is typically lacking in the representative opinion surveys commonly used, such as the Arab Barometer or the World Values Survey. Second, education is correlated with many other variables relevant for political participation, such as family background. Accounting for this is important in order to isolate the role

of education. Opinion surveys typically do not include measures of family background and thus are not able to account for relevant confounders of education.

This article assesses the grievance and skill theories by analyzing the effects of education on youth grievances, skills, and political participation in Egypt and Tunisia. Our analysis partially addresses the data and identification challenges just mentioned. We analyze two rich data sets focusing on youth in Tunisia and Egypt: the 2014 Survey of Young People in Egypt with around 15,000 observations; and the 2012 World Bank Tunisia Urban and Rural Youth Surveys with around 5500 observations. While these surveys still suffer from some of the common problems that plague surveys in the MENA as described in Pellicer and Wegner (2018) (notably regarding responses under the fear of repression), they appear to be of fairly high quality. Moreover, the surveys contain information on several siblings and on parental education, and this allows us to control for family background.

We measure grievances using questions on life satisfaction, happiness, and trust in the state (or satisfaction with the country, for the case of Egypt). In order to assess the skill theory, we focus on questions regarding political knowledge. For participation, we consider participation in the 2011 uprising in Egypt, as well as voting in the first post-Arab Spring elections in Tunisia and Egypt.

We find evidence consistent with the skills theory, with education being linked to higher political knowledge, both subjectively and objectively. In contrast, there is no evidence supporting the link between education and grievances. Youth with high educational attainment generally tend to be happier, more satisfied with their lives, and more satisfied with the status of their country compared to less educated youth. Although these effects tend to disappear once we control for family background, this result puts into question the relevance of a substantial grievance channel. We assess the extent to which the effect of education is mediated by skills or grievances and find results along the same lines: part of the effect of education on political participation seems to be via skills, but not via heightened grievances.

Our findings help clarify drivers of youth political participation in the MENA in a way that challenges notions of ‘Arab exceptionalism.’ First, our findings clarify the role of education in MENA protest behavior among youth. As noted above, many accounts of protest participation emphasize particular grievances of educated youth in the Middle East, especially those of unemployed university graduates. Our analysis suggests that these particular grievances do not account for the higher propensity to participate politically by the highly educated. This is not to say that educated youth in the Middle East do not have legitimate grievances, or that these grievances do not matter for their political participation. What our analysis questions is the idea that the highly educated tend to participate politically more in the MENA because of their higher level of grievances. Instead, it seems to be the skills associated with education that help the educated to articulate their grievances politically. In this way, protest participation in the MENA might reflect more general trends of youth political behavior in other contexts. Anti-austerity protests in European countries, for example, have been dominated by highly educated, unemployed or underemployed youth with little participation from the working-class segments of society who were most strongly hit by austerity (Grasso and Giugni, 2016; Hylmö and Wennerhag, 2016). Similar to their MENA counterparts, these educated youth do not have grievances that are *a priori* higher than those of the uneducated but have the skills to articulate them via protest.

Second, our findings contribute to understanding drivers of conventional political participation in the MENA more generally. In standard MENA elections the poor and

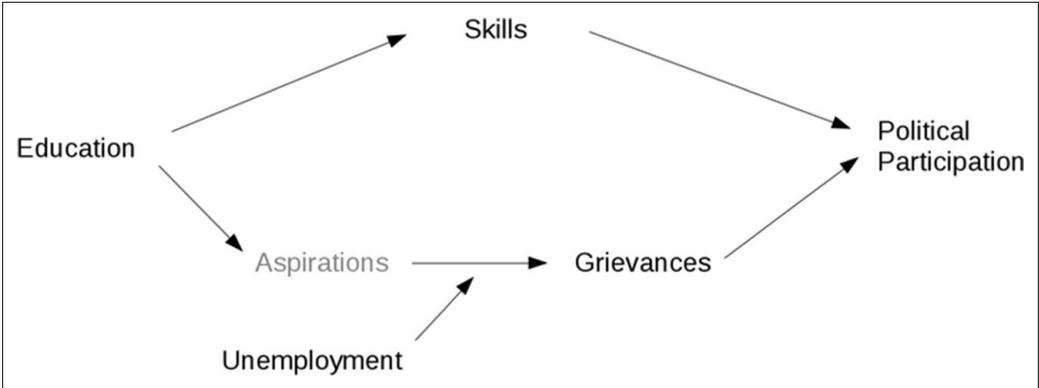
uneducated have been most likely to turn out (Blaydes, 2010; Pellicer and Wegner, 2014). In contrast, our analysis finds the skills channel of education to be an important driver of political engagement. This suggests, that, in conditions of relative freedom, as was the case in 2011/2012, MENA political participation follows a similar logic as participation in consolidated democracies.

In addition, our findings raise concerns about the exclusion of uneducated youth from both unconventional and conventional political participation in MENA politics. That educated youth are overall more likely to participate does not imply that the uneducated lack strong grievances. Indeed, several scholars have highlighted the grievances and initial participation of the uneducated and disenfranchised youth in the Arab uprisings (Merone, 2015; Shehata, 2012; Woltering, 2013). The fact that educated youth came to be more dominant in MENA political participation and the uneducated remained excluded raises the question of how the grievances of the poor and uneducated will be addressed and articulated. As the literature on political participation in Western democracies points out, the political exclusion of the uneducated and minority groups is concerning (Gallego, 2014; Schlozman et al., 2018). Exclusion from political participation implies that the problems of such groups are less relevant to policy-makers and this may fuel further disadvantage and grievances.

### **Framework: Grievances or skills?**

We consider two channels that potentially link education to political participation in the Arab Spring protests and post-Arab spring elections. The channels are depicted in Figure 1. The first channel corresponds to the ‘skills’ theory of political participation. The premise for this theory is the well-established relationship between education and involvement in civic and political activities through conventional participation such as voting, as well as through unconventional participation such as protest (Brady et al., 1995; Norris, 2002; Sondheimer and Green, 2010). Education is argued to create skills that are useful for political participation: education may enable citizens to better grasp political problems; to have higher beliefs about efficacy; and to become part of peer groups that value political participation and transmit political knowledge. The skill theory has been used to explain the Arab Spring in Campante and Chor (2012). Accounts of political participation in MENA that emphasize the role of social media networks requiring literacy and computer skills also build – albeit not always explicitly – on the skill theory (Breuer, 2016; Lynch, 2011).

The second channel corresponds to the ‘grievance theory’ of the origin of the Arab Spring. This builds on the well-established finding in the protest literature that a relevant driver of protest is deprivation relative to some reference point (Gurr, 1970). For educated youth in the MENA, this reference is likely to be the job market outcomes of earlier cohorts of educated citizens. Earlier cohorts were likely to be employed in stable public sector jobs or state-owned companies. However, returns to education in the MENA have declined substantially (Krafft, 2018; Pellicer, 2018). Newly educated cohorts now find it increasingly difficult to obtain valued public sector employment, and unemployment and underemployment are particularly high among the educated youth (Dhillon et al., 2009). Thus, education raised aspirations for current educated youth, but the labor market was unable to fulfill them. These unfulfilled aspirations translated into the grievances motivating the political participation of educated youth. The consequences of these grievances for political participation in the MENA have been emphasized in Goldstone (2011) and Sanborn and Thyne (2014).

**Figure 1.** Channels linking education to political participation.

We operationalize the two theories as implying that different variables mediate the effect of education on political participation in the MENA. In other words, the two theories imply very different reasons why youth with more education are more likely to participate politically than those with less education. In the skill theory, this is because education provides youth with tools that make it easier to mobilize; skills mediate the effect of education on political participation. In the grievance theory, it is because education generates unfulfilled aspirations: grievances mediate the effect of education on political participation. It is of course also possible that both theories are correct and that both skills and grievances mediate the effect of education on political participation.

The grievance theory implies that it is the combination of education and poor labor market outcomes that generates most grievances and is most likely to lead to political participation (see Figure 1). In contexts such as the MENA, where labor market opportunities for graduates are severely limited, this indeed implies a mediating role of grievances for the effect of education on political participation: education heightens aspirations that, on average, are unfulfilled and lead to grievances. However, it is also useful as a robustness check to consider a more literal interpretation of the grievance theory in terms of the interaction between education and labor market success for grievances and political participation. Then, the grievance theory can be operationalized as having two implications. First, labor market success ought to reduce grievances and reduce political participation among those with more education. Second, these effects should be stronger for those with higher education. In other words, this operationalization of the grievance theory implies that landing a bad job as opposed to a good one is painful and leads to political participation for the highly educated, and the more so the higher one's education.

## Data and empirical approach

### Data

We use the 2012 World Bank Tunisia Household Surveys on Youth in Urban and Rural Areas (THSYUA and THSYRA) and the 2014 Survey of Young People in Egypt (SYPE). The

THSYUA and THSYRA were actually administered separately and some items in the questionnaire differ between the two. Except for one question on political knowledge, we choose variables present in both surveys. Both surveys contain a household module with socio-economic information and a special youth module answered by individuals 15 to 29 years old with detailed questions on attitudes. In the THSYUA 4214 households and 3936 youth were sampled, while in the THSYRA 1400 households and 1396 youth were sampled.<sup>2</sup> The SYPE was first fielded in 2009, prior to Egypt's 2011 revolution. The 2009 round included 15,029 youth aged 10–29 (Population Council, 2011). The post-revolution second round was fielded in 2013/2014 and successfully tracked 72% of the 2009 sample, a total 10,916 youth (Roushdy and Sieverding, 2015).<sup>3</sup> Sample weights, which reflected the sampling strategy in 2009, were updated in 2014 to account for attrition. In both the 2009 and 2014 rounds, household data were collected, as well as information from individual youth. In the youth questionnaires, there were detailed modules about educational experiences, political participation, and opinions. In the 2013/2014 round, there were specific questions relating to the revolution.

### *Variables*

We restrict our attention to concepts that can be captured by the surveys in the two settings in a reasonably homogenous way. Table A1 in the Online Appendix provides a full account of all variables, including the original survey questions and their possible responses, as well as our coding of the relevant variables. To capture the concept of grievances, we use life satisfaction, happiness, and trust/satisfaction with the state. We combine the three variables into an index ('satisfaction index') that is simply the average of the three standardized items.

The questions on life satisfaction and attitudes towards the state in the Egyptian survey are somewhat unusual. For the 2014 SYPE, these questions are part of a module on community values and are asked explicitly in reference to the major political events in Egypt in recent years. Specifically, the three questions ask about life satisfaction before the 25th January revolution, from January 25th, 2011 to June 30th, 2013 (when former president Mohamed Morsi was ousted), and since June 30th, 2013. Three further questions cover the same periods, but ask about satisfaction with the state of the country instead of life satisfaction. Because these questions target such specific political situations, we believe that they can be misleading as measures of general satisfaction. This is particularly so given that we seek to test theories that deal with socioeconomic grievances, and not exclusively political ones. We thus simply take as our measure for satisfaction the average of the satisfaction variables in the three periods, whether it be referring to life satisfaction or satisfaction with the country.

In contrast, in the Tunisian survey, questions about life satisfaction and attitudes towards the state are more standard. The life satisfaction question simply asks the extent to which one is satisfied with one's life. The question on attitudes towards the state is part of a battery of questions asking about trust in various institutions, one of which is the state.

For political knowledge, we use two indicators: one on self-reported knowledge of politics; and another on 'objective' political knowledge. The latter asks a question about political knowledge (voting age in Tunisia, and the name of the governor of the respondent's governorate in Egypt) and codes whether the answer is correct or not.

For political participation, we use questions on participation in protest events in Egypt as well as voting in Tunisia and Egypt. Information on participation in the Egyptian January 25th Revolution includes a series of questions. There are questions on participation in different types of activities, such as participation in party meetings, or providing support

for protesters. We create a participation variable equal to one if the respondents participated in any of these activities (except for participation in security-related night watches, which can be considered a non-political activity). However, this variable is likely to suffer from a problem common in surveys conducted in repressive contexts, where respondents are understandably reluctant to respond truthfully (Pellicer and Wegner, 2018). We tackle this problem by considering less sensitive alternative questions available in SYPE 2014 on whether family and friends participated in the revolution, and whether the respondent supports the revolution. On voting, we use questions on the two elections resulting from the Arab Spring protests. In Tunisia, voting for the 2011 Constituent Assembly elections; and in Egypt voting in the parliamentary election rounds of 2011/2012.

Our main explanatory variable is years of education, which ranges from 0 to 18. We restrict our sample to those over 20 years old to reduce the share of the sample that has not yet completed their education. In our samples, only around 13% of respondents in Tunisia and around 5% in Egypt are still studying. For some of our empirical exercises, we need measures of labor market success. In all surveys, we have information on monthly income. Our benchmark income variable essentially captures income quartiles. In particular, this is an income category variable that has value zero if the person earns no wage, and values 1 to 3 if her income belongs to the 1st to 3rd terciles, among those with positive income. For robustness, we consider alternative measures of labor market success: employment status; and log income (where those with no employment are dropped). We also measure the degree of religiosity using questions on time spent on religious activities. In Tunisia, religiosity is coded as 1 if the person spent time on religious activities last week and 2 if the person spent one hour or more in the previous day. In Egypt, religiosity is coded as the average of the frequencies (always, most of the time, sometimes, etc.) of practicing different religious activities (praying, fasting during Ramadan, etc.).

### *Descriptive statistics*

Table A2 in the Online Appendix provides the summary statistics of our samples. The results appear sensible, picking up well-known differences between Egypt and Tunisia, such as the slightly greater youth educational attainment in Tunisia (Krafft and Alawode, 2018) or later ages at marriage and more nuclear households (Assaad et al., 2016; Salem, 2015), leading to a higher incidence of being the son or daughter of the household head in Tunisia. Regarding the outcome questions, it is important to note that they are not strictly comparable across countries, for the exact question asked in each country differs. Another important point to note is the high number of missing values in the parental education variables of the Tunisian sample. This reflects, partly, the fact that in this survey parental education is not available when parents do not live in the same household as their children.

Table A2 shows the descriptive statistics of political participation variables. Consistent with the argument above, there is a strong discrepancy between respondents in Egypt in 2014 reporting that they have actively participated in the revolution and those that say that their close friends and family did. For voting, participation is very similar in Egypt and Tunisia (a turnout of around 56–58% of the sample). For comparison, we also provide information on voting pre-revolution, from the 2009 survey (for respondents aged 21–29 in 2009). The turnout figure is a much lower: 19%. This strengthens the idea that the pattern of voting changed after the Arab Spring.

Because the theories we seek to address in this article emphasize the labor market outcomes of different education groups, we also present some descriptive statistics on labor market outcomes. Table A3 in the Online Appendix shows the distribution of income categories by education level (less than secondary, secondary, and university), for those not studying, and separately for men and women. Two factors are worth noting from Table A3. First, most young women are in the zero-income category, with zero earnings, in all samples. Second, young men with high education tend to have more density in the highest, but also the lowest, income category relative to other education levels, likely because they are not employed. Overall, consistent with the literature, Table A3 shows fairly meager returns to education in our samples, particularly in Egypt.

### *Empirical approach*

The theories we seek to assess can be interpreted as stating that grievances or skills/political knowledge mediate the relation between education and political participation, or, in other words, that education affects political participation through a grievances or a skills/knowledge pathway.

We assess this in two ways. First, we simply check if education is positively related to political participation, political knowledge, and indicators of grievances. This is a partial but transparent way of testing these mediation hypotheses: if grievances (skills) mediate the effect of education on political participation, we ought to observe a positive relation between education and grievances (skills), and a positive relation between education and political participation. Failure to observe any of these relationships puts these hypotheses seriously in question.

To implement this, we simply estimate ordinary least squares regressions of measures of political participation, grievances, and skills on education. Our estimates have standard errors robust to heteroskedasticity. In the basic specification, we control for sex, a full set of age dummies, governorate dummies, birth order dummies, and a rural/urban indicator. We also consider specifications that control for family background, using two approaches: first, we control for parental education; and, second, we restrict the sample to households with more than one child over 20 years of age with different years of education, and perform a regression with family fixed effects on this sample.<sup>4</sup> Our preferred specification is the one with parental education controls. This is because the family fixed effect specification tends to lead to highly imprecise estimates, due to its relatively low sample size and the low variability of education that results from exploiting only within-family variation.

Second, we perform a formal mediation analysis using the procedure in Imai et al. (2011). These authors separate the total effect of education on our political participation outcomes in two parts, the part mediated by skills (or grievances), and the rest, which is then considered the 'direct effect.' The mediated part is computed by estimating separately a model for the mediating variable and another model for the outcome that includes the mediator. The mediated effect is computed by predicting the outcome for different values of the mediator. Lastly, we implement the alternative operationalization of the grievance theory mentioned above by using an interaction between education and income. We regress satisfaction variables and political participation variables on education, on a variable measuring income, on the interaction of the two, and on the controls above including parental education.

**Table 1.** Ordinary least squares (OLS) regression models for various outcomes: coefficient on education, by inclusion of family background controls.

	Tunisia 2012			Egypt 2014		
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Participation</b>						
Vote	0.0189*** (0.0019)	0.0167*** (0.0028)	0.0189*** (0.006)	0.0237*** (0.0015)	0.0218*** (0.0017)	0.0253*** (0.0045)
Participate in revolution				0.0021*** (0.0005)	0.0014*** (0.0005)	0.0012 (0.0014)
Friends participate in revolution				0.0027** (0.0012)	0.0019 (0.0013)	-0.0008 (0.0031)
Support revolution				0.0073*** (0.0014)	0.0066*** (0.0015)	0.004 (0.0035)
<b>Grievances/satisfaction</b>						
Life satisfaction	0.0288*** (0.0042)	0.0326*** (0.006)	-0.0028 (0.0118)	0.013*** (0.0044)	0.0116** (0.0049)	-0.0056 (0.0102)
Happiness	0.0228*** (0.0035)	0.0202*** (0.005)	-0.0049 (0.0097)	0.0027*** (0.001)	0.0028*** (0.0011)	0.0053* (0.0029)
Satisfaction with country	0.0058 (0.0038)	0.0087 (0.0053)	0.0316*** (0.012)	0.0059 (0.0047)	0.0043 (0.0053)	0.0005 (0.0113)
Satisfaction index	0.0204*** (0.0028)	0.0216*** (0.0039)	0.0056 (0.0083)	0.0072*** (0.0022)	0.0067*** (0.0024)	0.0048 (0.0057)
<b>Knowledge</b>						
Knowledge (subjective)	0.049*** (0.0027)	0.0507*** (0.0039)	0.0341*** (0.0103)	0.0496*** (0.0032)	0.0453*** (0.0035)	0.0399*** (0.0083)
Knowledge (objective)	0.0112*** (0.0024)	0.0114*** (0.0035)	0.0111* (0.0064)	0.0095*** (0.0008)	0.008*** (0.0009)	0.0087*** (0.0031)
<i>n</i>	1775	1118	636	4813	4807	1082
Parental education control	no	yes	no	no	yes	no
Family fixed effects control	no	no	yes	no	no	yes

Notes: coefficients of OLS regression of different outcome variable (in rows) on years of education and other controls, with robust standard errors in parentheses; significance codes: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ ; and grievance variables are reverse coded and represent satisfaction (i.e., the opposite of grievances).

## Results: Education, grievances, skills, and political participation

### Basic results

Table 1 shows the basic regression results. Each row corresponds to a different outcome variable. Table 1 displays only the coefficients for years of education. All regressions control for the basic characteristics mentioned above, such as age, gender, etc.

Columns 1 (for Tunisia) and 4 (for Egypt) in Table 1, show results without controlling for family background. The first four rows (outcomes) are for political participation. The two theories both imply that education should be positively related to political participation. Table 1 shows that more educated individuals are indeed more likely to be politically active. Education is positively related to voting in Egypt and in Tunisia. Moreover, for Egypt,

education appears clearly correlated with participation in the revolution, according to all indicators.

The next four rows of Table 1 address the grievance channel. According to the grievance theory, education ought to be linked with less happiness, lower life satisfaction, and more negative attitudes towards the country. This is not, however, what we observe. Results generally seem to go in the opposite direction than hypothesized, with more educated individuals displaying fewer grievances. The only exception is satisfaction with (trust in) the state, where the coefficient for education is, although positive, statistically insignificant.<sup>5</sup>

Results on the 'skill' theory are much more clear-cut and robust. Individuals with more education consistently appear to display higher levels of political knowledge, and this applies both to self-reported levels of knowledge as well as objective knowledge. This holds true for both Egypt and Tunisia.

### *Potential bias from family background*

The previous correlations could be driven by family background, if children of higher socioeconomic status parents obtain more education, display higher political involvement and political knowledge, and report higher life satisfaction than those with lower socioeconomic status parents. In this subsection, we address this issue by controlling for family background, first by controlling for parental education and then by including family fixed effects.

Columns 2 and 3 (for Tunisia) and columns 5 and 6 (for Egypt) in Table 1, show the results. Adding parental controls has generally little effect on the coefficients. The introduction of family fixed effects has more impact, with some coefficients becoming small and losing statistical significance. Results for political participation remain fairly strong even accounting for family background. For voting, coefficients remain virtually unchanged; for participation in the revolution, significance levels are eventually lost, but this is mainly because of increasing standard errors. For political knowledge, coefficients also tend to remain large and statistically significant. The main impact of family background is seen in grievance indicators, where coefficients become small and statistically insignificant once we control for family characteristics.

Overall, our results suggest a positive effect of education on political participation and on political knowledge over and above the potential confounder of family background. The general conclusion on grievances also remains unchanged: it appears that education does not lead to less satisfaction even when family background is taken into account. Of course, we still cannot interpret our results causally. It could well be that other biases induced by personal attributes such as ability, ambition or motivation underlie the associations we observe. Nevertheless, we believe our analysis is an important step forward in that it rules out one of the most important potential confounders.

### *Non-linear effect of education on grievances*

The above results suggest that there is no clear monotonic relation between education and grievances. A relation could still exist, however, and not be monotonic. In particular, it may be that those with the most education have not been the ones suffering the most from the retrenchment of public sector jobs, and are thus not the ones holding the strongest grievances. There are reasons to believe that, at least for the case of Egypt, those with the highest

grievances could be secondary school graduates (most of whom would have pursued the vocational track). This education group appears to have lost the most, as they formerly had guaranteed access to public sector jobs but no longer do (Assaad, 1997; Assaad and Krafft, 2020). This is also the group for whom returns to education have dropped the most and are currently close to zero (Krafft, 2018). The situation is less clear for Tunisia, where public sector employment guarantees did not exist.

In order to address this potential non-linearity, we re-examine the grievance-related outcomes using as the explanatory variable a more refined measure of education, which breaks down schooling into primary or no formal education (the reference category), preparatory (lower secondary school, which never had public sector job guarantee), vocational secondary, general secondary, and university. We run the same analyses as before, with parental education controls, for both Egypt and Tunisia even if for Tunisia no specific pattern is anticipated.

The results are shown in Table A4 in the Online Appendix. Again, Table A4 does not display a very clear pattern. In particular, the coefficients for vocational secondary are generally positive, contrary to the idea that this group holds the highest grievances. The only exception is trust in the state in Tunisia, where the individuals with the least education tend to have the highest levels.

All in all, it does not appear that the absence of a correlation between education and grievances comes from ignoring the potentially non-linear nature of the relationship. Of course, this does not mean that more educated individuals, or those specifically with vocational secondary education are not the ones that have lost the most in terms of public sector employment opportunities. However, this does not appear to translate directly into satisfaction or attitudes towards the state, and this again puts into question the relevance of the grievance hypothesis for political mobilization.

### Mediation analysis

The above results show that education correlates with political knowledge but not with grievances, but this does not address the extent to which these variables mediate the effect of education on political participation. To assess this, Table 2 shows the results of the mediation analysis. Table 2 includes analyses for four outcome variables: voting in Tunisia, and voting, participation in the revolution, and support for the revolution in

**Table 2.** Proportion of the effect of education on political participation mediated by knowledge and satisfaction.

	Vote Tunisia	Vote Egypt	Participate in the revolution	Support the revolution
Knowledge index				
Proportion mediated	0.140	0.132	0.617	0.111
<i>p</i> value	0.004	0.000	0.028	0.002
Satisfaction index				
Proportion mediated	0.033	0.011	0.019	0.035
<i>p</i> value	0.128	0.000	0.282	0.002

Note: to estimate mediation, we use the procedure in Imai et al. (2011) as implemented in the R package Mediation.

Egypt. For each outcome, Table 2 shows the proportion of the total effect of education on the outcome that is mediated by either knowledge or grievances. The  $p$  value associated to the hypothesis that the mediated proportion is zero is also given.<sup>6</sup>

The main insight from Table 2 is that grievances do not appear to mediate the effect of education on political participation for any of the variables. The estimated mediated proportions are always very small. In contrast, the proportion mediated by knowledge variables is significant statistically and substantively. This is consistent with the results above, suggesting that part of the effect of education on political participation occurs via political knowledge but not via grievances. The mediation analysis shows that knowledge accounts for a modest proportion of the total effect for voting and for support for the revolution (around 11–14%), but for a large share of the total effect of education on participating in the revolution (around 62%).

### *Grievances as a result of interactions between education and income*

We consider here the alternative operationalization of the grievance theory focusing on interactions between education and income. As mentioned above, the grievance theory delivers implications for the effect of income for those with high education, and for the interaction between income and education. To address the effect of income for the highly educated in the presence of interaction terms, we center the education variable at 15 years of education. The grievance theory then implies: (a) a positive (negative) coefficient on income for satisfaction (political participation) outcomes; and (b) a positive (negative) interaction term between income and education for satisfaction (political participation) outcomes. We undertake the analysis separately for the whole sample as well as for men alone, because the low labor force participation rate of women implies that income may not be an accurate indicator of success/failure and frustration for this group.

Table A5 in the Online Appendix shows the results using satisfaction variables as outcomes. For each of the two countries, the first column shows results for the whole sample, and the second column only for men. The coefficient for the income variable in Table A5 shows that income is positively related to satisfaction among those with high education. This is consistent with the grievance hypothesis. However, the interaction term between education and income tends to be negative rather than positive (particularly in the male subsamples), although it is mostly statistically insignificant. This is at odds with the grievance theories. It implies that the satisfaction from obtaining a good job, and thus the pain of obtaining a bad one is weaker, instead of stronger, for those with high education.

Next, we consider the interaction of income and education for explaining political participation. Results of this exercise are shown in Table A6 in the Online Appendix. The grievance theory would imply a negative coefficient for the income variable as well as a negative interaction effect. The results in Table A6 show instead rather small coefficients, generally statistically insignificant, and as likely to be positive as to be negative. A notable exception is the case of self-reported participation in the revolution in Egypt. For this outcome, the direction of the effects is in line with the expectations from the grievance hypothesis: bad labor market outcomes are associated with a higher likelihood of participating in the revolution for those with high education (although the coefficient is not statistically significant), and this difference is larger than for those with low education. However, even in this case, results are not robust to other proxies of participation in the revolution. As mentioned above, a surprisingly small share of respondents admitted to

having participated in the revolution and for this reason it is important to check results also for questions considering participation of friends and support of the revolution. Coefficients when considering these alternative measures turn out to be positive (although again small and statistically insignificant).

Tables A7 and A8 in the Online Appendix report results from similar analyses using other measures of labor market success, employment, and log income. The same broad patterns apply using these alternative measures, although coefficients using log income tend to be smaller and almost always statistically insignificant.

### *The role of religiosity*

Our results up to here have been conducted for the whole youth population. However, the role of education for political participation could be markedly different for certain subgroups within the youth population. Here, we focus on a particularly prominent social and political cleavage in the MENA: religiosity (Wegner and Cavatorta, 2019). It is possible that education plays a different role for political participation among highly religious youth than among less religious youth.

We investigate this possibility by interacting education with religiosity in our regressions. This estimates the direct role of religiosity for grievances, knowledge, and political participation, as well as whether the effect of education on these variables differs between highly religious and less religious youth. Table A9 in the Online Appendix shows the results. The religiosity variable has been standardized (i.e., demeaned and divided by its standard deviation) for ease of interpretation.

Table A9 shows that religiosity generally has a positive effect on satisfaction, on political knowledge, and on political participation, both in Tunisia and in Egypt. Religiosity appears negatively correlated with participation in the revolution. This result is counter-intuitive, since the revolution brought to power an Islamist party. The reason for this is probably the measurement problems mentioned above, whereby respondents might have feared admitting they participated in (or even supported) the revolution. Supporting this view, we observe that religiosity is positively correlated with having friends who participated in the revolution. On the question of whether education matters differently for youth highly religious relative to youth less religious, results are less strong. Generally, the interaction between education and religiosity is small and statistically indistinguishable from zero: religiosity does not affect the role of education on political knowledge or political participation. The only exception is grievances in Egypt, where the interaction term is negative. From the size of the coefficients, it can be inferred that education is associated with more satisfaction for people with low religiosity. However, for highly religious Egyptian youth, education may have a small negative effect on satisfaction. This suggests that the grievance narrative may have been relevant for explaining the political behavior of highly religious youth in Egypt.

### **Concluding remarks**

In this analysis, we investigated two alternative theories linking education to youth political participation in the MENA countries: the ‘skill theory;’ and the ‘grievance theory.’ Does education encourage political participation by providing skills, or by generating unfulfilled aspirations that lead to grievances? Overall, our results point toward the skill theory rather

than the grievance theory. We find that education is linked to both objective and subjective political knowledge, even controlling for parental education controls or family fixed effects. In contrast, we find little support for the grievance theory. We do not find a positive correlation between education and different measures of grievances, suggesting that grievances do not mediate the effect of education on political participation. Moreover, we also do not find much support for the implications of the grievance hypothesis regarding the interaction between education and income. If at all, satisfaction of individuals with less education tends to be more, rather than less, sensitive to income than that of individuals with more education; and income does not seem to depress voting behavior. The only (albeit important) instance where results are consistent with the grievance hypothesis is when it comes to self-reported participation in the revolution. Even then, these results no longer hold when using other proxies for participation in the revolution (such as support for the revolution or participation of family and friends). We also find some indication that the grievance theory may be more relevant for some subgroups among youth than others; notably we find that for youth of high religiosity in Egypt education is (weakly) associated with less satisfaction.

Our finding that education does not increase grievances does not mean that low and decreasing economic returns to education in the Arab World should be ignored. What our results suggest is rather that the grievances of MENA youth with little education may require special attention: these grievances appear to be greater than commonly assumed and may easily remain unheard.

Our findings have potentially important implications for patterns of political participation and inequality in the MENA. If uneducated youth are less likely to participate in politics either by standard conventional (voting) or unconventional (protesting) means, different avenues are possible for them. One is further disengagement from politics and alienation from the democratic process, and accordingly lower support for democratic institutions. Another, complementary, avenue is that the uneducated youth might engage in more radicalized political organizations. For example, Merone (2015) suggests that one possible path for disenfranchised youth to address their political exclusion in Tunisia is engagement with Salafist movements.

The fact that the grievances of the uneducated may remain unheard by policy-makers has potentially strong implications for inequality in the region. In fact, a recent paper on inequality in the MENA terms the MENA the 'world's most unequal region' (Alvaredo et al., 2017). This is partly due to large income differences between the countries of the region, but also to very large within-country disparities. There is therefore the risk of a vicious circle of high inequality and political alienation of disadvantaged citizens that leaves their grievances unaddressed, and thus leads to further inequality and political alienation.

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## Notes

1. In most countries, authoritarianism prevailed such as, for example, in Egypt where the 2011/2012 parliamentary and presidential elections remained the only episode of democratic elections.
2. These data are available at <http://microdata.worldbank.org/index.php/catalog/2332>, and <http://microdata.worldbank.org/index.php/catalog/2333/>.
3. These data are available at [www.erfdataportal.com/](http://www.erfdataportal.com/).
4. These two approaches can generate sample selection problems. Because education can causally affect decisions to leave the parental household, parental and sibling presence in the household are endogenous. Restricting our sample on the basis of variables related to children remaining in their parental household might therefore render the education coefficients difficult to interpret. To assess this issue, Table A10 in the Online Appendix shows the basic results with the different samples implied by the different parental background controls, but without actually adding these controls to the regressions. The coefficients are quite similar across the different samples in most cases, implying that sample selection may not be so problematic in this case.
5. In unreported regressions, we also find that education also correlates positively with happiness in the 2009 Egypt survey. The 2009 Egypt survey was fielded before the revolutions. The positive correlation between education and happiness in 2009 suggests that results for the other years are not solely driven by the fact that grievances subsided after the revolutions.
6. We omit participation of friends in the revolution because, with parental education controls, the coefficient for education in Table 2 is not statistically significant, and all estimates of mediation proportion are also statistically insignificant.

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## Supplementary material

Supplementary material for this article is available online.

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