



Do education and income affect support for democracy in Muslim countries? Evidence from the *Pew Global Attitudes Project*

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ARTICLE INFO

Article history:

Received 2 July 2008
Accepted 5 May 2009

JEL classification:

C25
I2
O53
Z12

Keywords:

Economic development
Educational economics
Human capital

ABSTRACT

Using micro-level public opinion data from the *Pew Global Attitudes Project* 2005, this study investigates the effect of educational attainment and income on support for democracy in five predominantly Muslim countries: Indonesia, Jordan, Lebanon, Pakistan, and Turkey. Holding all else constant and compared to not finishing primary education, this study finds that secondary education and higher education encourage support for democracy in Jordan, Lebanon and Pakistan. The results therefore suggest that support for democracy is a social benefit of education in Jordan, Lebanon, and Pakistan. Regarding income, the results indicate that relative to the poor, those belonging to middle-income groups are more supportive of democracy in Lebanon and Turkey. Curiously, there is no statistical relationship between belonging to the richest groups and supporting democracy.

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1. Introduction

It is widely argued that a democratic regime with regular and fair elections, as well as more civil rights and liberties is better than an authoritarian regime for social welfare and economic growth (Rodrik & Wacziarg, 2005; Sen, 1999). Whether or not a country embraces a democratic regime depends critically on the democratic attitudes of its people. Given the role of the education system in instilling democratic attitudes, it is not surprising that non-economists have extensively studied the effect of education on peoples' support for democracy (Aristotle, 1932; Chabbot & Ramirez, 2006; Cutright, 1969; Dewey, 1916; Ekehammar, Nilsson, & Sidanius, 1987; Evans & Rose, 2007; Farnen & Meloen, 2000; Inkeles & Smith, 1974; Kamens, 1988; Lipset, 1959; Meyer, 1977). Though there is debate on the precise ways that education affects democratic attitudes, the overall conclusion is that educational attain-

ment makes people more supportive of democracy, and encourages them to support democratic initiatives through financial contributions, dissent, protests, and votes.

Economists have only recently started examining the effect of education on support for democracy. A key contribution of economic research is the dual focus of education and income on democracy. Using cross-country panel data, Boba and Coviello (2007) and Glaeser, Ponzetto, and Shleifer (2007) find that education systematically predicts whether a country is a democracy or not. Acemoglu, Robinson, and Yared (2008) examine cross-country panel data and conclude that per-capita incomes have almost no effect on whether a country is a democracy. Ross (2006) uses cross-country data to show that democracies spend more on providing education and health to the middle income and rich rather than the poor while non-democracies have better records than democracies in providing for the poor; it can therefore be inferred that greater income decreases public support for democracy. In contrast, Barro (1999) and McMahon (1999) provide cross-country evidence suggesting that higher income encourages support for democracy.

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This study uses micro-level public opinion data to examine the effect of education and income on support for a democratic form of government in five predominantly Muslim developing countries: Indonesia, Jordan, Lebanon, Pakistan, and Turkey. The effect of education and income on support for democracy in Muslim countries has puzzled researchers. Barro (1999) and Ghalioun (2004), for example, suggest that the conventionally positive effect of education and income on democracy may not hold in predominantly Muslim countries. In an early study, Lerner (1958) concludes that the educated and wealthy among ordinary men and women in Arab Muslim countries have more at stake from political outcomes and are therefore willing to adopt extremist political attitudes. For several decades, the Lerner thesis remained unsubstantiated because of a lack of public opinion data from Arab and other Muslim countries.

The tragic events of 9/11 and the Iraq War galvanized efforts on gaining a better understanding of attitudes in Muslim countries. Using the same public opinion data and similar methodology as this study, Krueger (2007) finds that educational attainment and income encourage support for suicide bombing. In reviewing characteristics of Islamic fundamentalists, Goodwin (2006) documents that most fundamentalists are highly educated and come from wealthy backgrounds. Of course, extremist attitudes towards suicide bombing are not necessarily indicative of extremist attitudes towards democracy (such as support for an authoritarian leader), and unsubstantiated assertions can only perpetuate problematic stereotypes about ordinary men and women in Muslim countries. Nonetheless, in the post 9/11 environment, numerous observers and donors maintain reservations about international educational aid to Muslim countries out of concern that the aid is not improving attitudes towards democracy (Novelli & Robertson, 2007; Rizvi, 2003; United States Department of State, 2006).¹

This study makes four contributions. First, if we acknowledge the merits of democracy over alternative political regimes, then this study adds to the scant literature on the social benefits of education in developing countries (Lange & Topel, 2006; McMahan, 1999). Second, this study contributes to the limited micro-level research on education, income, and democracy in developing countries. As Acemoglu, Johnson, Robinson, and Yared (2005) and Acemoglu et al. (2008) note, the existing macro-level research on education, income, and democracy has not been complemented by micro-level research, particularly from Muslim countries. Third, this study's findings have implications pertaining to international relations, as Jamal and Tessler (2008) argue that micro-level research on polit-

ical attitudes in Muslim countries can lessen problematic stereotyping, in turn easing political tensions between Muslim and Western countries. Finally, this study offers some clues on whether international educational aid for Muslim countries is encouraging support for democracy.

2. Country backgrounds

The countries being considered in this study are from different regions of the world, including Southeast Asia (Indonesia), South Asia (Pakistan), the Middle East (Jordan and Lebanon), and Eurasia (Turkey). According to the *World Development Report 2008* (World Bank, 2007), the purchasing power parity adjusted annual per-capita incomes in 2005 are as follows (in alphabetical order): \$3950 in Indonesia; \$6210 in Jordan; \$5460 Lebanon; \$2500 in Pakistan, and \$9060 in Turkey. The populations of the five countries are predominantly Muslim but population shares of other faiths are sizeable in Lebanon (including Maronite Christianity and Druze—an offshoot of Islam) and Turkey; furthermore, Indonesia, Lebanon, Pakistan, and Turkey have significant followers of non-Sunni Islam, including Shia Islam and Sufism.

The Introduction mentioned that a democratic regime is characterized by regular and fair elections, and more civil rights and liberties. Though the precise meaning of a democracy is debated, there is consensus that democratic countries must have some elections, civil rights, and liberties. Since a large number of countries fit this broad definition of democracy, political scientists often categorize countries into one of four stages of the democratic transition (Epstein, Bates, Goldstone, Kristensen, & O'Halloran, 2006; Przeworski, Alvarez, Cheibub, & Limongi, 2000): from undemocratic stages (e.g. most Middle Eastern and North African countries), to early democracy stages (e.g. most East Asian countries), to partial democracy stages (e.g. most Eastern European, Central Asian, South Asian, and Sub-Saharan African countries), and finally to advanced and well-functioning democracy stages (e.g. North American, Western European, and Australian countries). Three of the countries being considered in this study are in the partial democracy stages (Indonesia, Lebanon, and Turkey), one is at an early democracy stage (Pakistan) because it wavers between democratic and military rule, and another is arguably undemocratic (Jordan) with both a monarchy and a weak parliament. The remainder of this section provides a brief description of the democratic experiences of the five countries until 2005 (the survey year).²

After gaining its independence from the Dutch in 1950, Indonesia emerged as a parliamentary democracy that supported freedom of expression, freedom of the press, a multiparty system, and reasonably free and fair elections. The struggles of uniting an enormous and ethnically diverse population, however, ensured the roll back of democracy and the emergence of two authoritarian presidents: communist sympathizer Sukarno (1945–1968) and pro-Western Soeharto (1969–94). Both were early democratic

¹ In particular, there is concern that international aid for education will be directed towards madrassas (that is, religious schools), which in turn will indoctrinate students with undemocratic values. Such concerns on the value of international aid remains, despite growing evidence showing that madrassas comprise of only a tiny share of educational institutions, and that most madrassas are pedagogically and theologically pluralist (Andrabi, Das, Khwaja, & Zajonc, 2006; Bergen & Pandey, 2006; Hefner & Zaman, 2007). There are also concerns that public schools indoctrinate students with undemocratic values (Lott, 1999).

² The primary source for country political backgrounds is *The Oxford Companion to Politics of the World* (Krieger, 2001).

regimes that restricted press freedom, party formation, and elections while maintaining some basic democratic elements. Soeharto's technocrats also engineered high economic growth until the Asian financial crisis of 1997. Since Soeharto's downfall, a multiparty system's transition to a partial democracy has been accompanied by demanding institutional reforms, economic instability, and tensions between various ethnic and religious groups.

Jordan gained independence from Great Britain in 1946, and has since been ruled by a monarchy. In some years, there have been bans on political parties, but in other years Jordan's monarchs have permitted a weak parliament. There have been several incidences of public discontent over relations with Israel (almost half of Jordan's population has Palestinian lineage), particularly the Jordan–Israel Peace Treaty of 1994. There have also been calls for democratization following the economic crises of the early-mid 1970s, late 1980s and early 1990s, which were exacerbated by oil price fluctuations and later by IMF-sponsored structural adjustment reforms. King Abdallah (1999–present) inherited the monarchy from King Hussein and has recommenced economic development initiatives, but overall Jordan continues to be undemocratic.

Lebanon has remained in the early or partial democratic stage for its entire history. After gaining independence from French colonial rule in 1943, Lebanon preserved its democratic system of confessionalism, such that parliamentary seats were awarded on the basis of religious affiliation. Colonial precedent was to award the most seats to Christians, and this arrangement remained during 1943–1975, much to the dissatisfaction of growing Muslim and Druze populations. Resentment over the lack of political representation and inadequate social services eventually led to a civil war in 1975. In 1989, the Taif Accords brokered by Saudi Arabia and the United States resulted in a constitutional amendment, affording the Christian population and the larger Muslim population equal parliamentary representation. The consequences of a long civil war, external influences (including Israel, Syria, and the Palestinian Liberation Organization), and subsequent democratically elected regimes of corrupt leaders ensured that there was no democratic advancement; indeed, Lebanon has frequently been on the verge of becoming a failed state. Arguably, the main concern among most observers is the militant group Hizbollah gaining political legitimacy through elections.³

Pakistan was formed as a democratic homeland for Muslims during the British partitioning of South Asia in 1947. For much of Pakistan's history, however, representative government has been suspended because of the military regimes of four generals; each military regime was arguably authoritarian with only minor democratic elements. In 1971, East Pakistan's objection to authoritarian tactics resulted in a civil war, which led to East Pakistan gaining independence and forming Bangladesh.

Plagued with rampant corruption and maladministration, Pakistan's political regimes have been unable to resolve the violent tensions between Shia and Sunni Muslims within Pakistan, and the ongoing skirmishes with India over Kashmir. Furthermore, Pakistan's different political regimes have done little to reduce poverty, illiteracy, and discrimination against females.

Turkey was formed in 1923 after World War I and the demise of the Ottoman Empire. The secularist party of Kemal Ataturk won the first election, disestablished Islam, and set up a single-party system. This single party state was successfully challenged by other groups after World War II. Frequent political instability caused three military interventions. Since the 1980s, Turkey has remained a partial democracy ruled by coalitions with varying degrees of political and social conservatism. Western observers frequently tout Turkey as an economic and political model for other predominantly Muslim countries (Ozkaleli & Ozkaleli, 2007).⁴

Overall, the experiences of the general public in the five countries are comparable to experience in other countries in other eras: there have been slow gains in social welfare and economic growth and much chaos (Friedman, 1999; Torsten & Tabellini, 2006). The empirical analyses in the next sections address the question of how ordinary men and women in the five countries feel about democracy, and the extent to which educational attainment and income matter.

3. Data and methodology

A key reason for the dearth of micro-level economic research from developing countries is the lack of person-level data on both political attitudes and income. Recently, the Pew Research Center (a non-partisan think-tank based in Washington, DC) began collecting public opinion data from developing countries, including a few predominantly Muslim countries. Several social scientists have used the Pew Research Center's *Pew Global Attitudes Project* (PGAP) data for examining micro-level political attitudes and cite its advantage in income data over the *World Values Survey*, another widely used survey in social science research (Krueger, 2007). The data for this study comes from the PGAP 2005, collected in the spring of 2005. PGAP 2005 contains data on approximately 1000 ordinary men and women (of age 18 or above) from Indonesia, Jordan, Lebanon, Pakistan, and Turkey. Efforts were made to ensure nationally representative samples, but the sample from Pakistan is disproportionately urban.

To measure a respondent's support for democracy, the following PGAP 2005 question is used:

Some feel that we should rely on a democratic form of government to solve our country's problems. Others feel that we should rely on a leader with a strong hand to solve our country's problems. Which comes closer to your opinion: (Option 1) Democratic form of

³ Hizbollah emerged in response to Israel's invasion of Lebanon in 1982, and strengthened its position as a political entity by providing various social services to the underprivileged.

⁴ Within Turkey, Muslims (who have been affected by secularists) and ethnic minorities (especially Armenians and Kurds, who have been persecuted in the past) may disagree with using Turkey as a model.

government; (Option 2) Strong leader; (Option 3) Don't know/Refused?

Respondents who support strong leaders such as authoritarian leaders or democratically elected autocrats will choose “strong leader”.⁵ Indonesian respondents, however, are likely to have had difficulty in answering the question because the lengthy regimes of Sukarno and Soeharto had elements of both a democratic form of government and a strong leader; the question may be clearer if respondents think of the Sukarno and Soeharto regimes as those of strong leaders, and recent regimes as democratic forms of government. Having a history of both strong leaders and democratic forms of government, respondents in Pakistan and Turkey are arguably in a better position to judge the merits and weaknesses of a democracy. In contrast, respondents in Jordan have only experienced strong leaders, while respondents in Lebanon have only experienced democratic forms of government.

Respondents are also asked about their highest level of education completed. In addition, respondents are asked to choose one of several household income ranges. For this study, a variable for per-capita income is generated by converting the mean value of the household monthly income interval from the PGAP 2005 survey to 2005 US Dollars (using the Central Intelligence Agency's *The World Factbook*) and then dividing it by the number of people in the household. This produces the per-capita monthly income of the respondent in 2005 US Dollars. To ease comparisons between countries, per-capita income quartiles are assigned within countries on the basis of within-country income distributions (as indicated by PGAP 2005).

The first few rows of Table 1 show overall attitudes towards democracy in the five countries. With the exception of Pakistan, almost 95 percent of respondents in each country expressed an opinion. Contrary to some views (e.g. Zakaria, 2003), there is considerable support for a democratic form of government rather than a strong leader: over half the respondents in Indonesia (56.2 percent), Jordan (54.7 percent), Lebanon (64.8 percent), and Turkey (66.3 percent) said that they supported a democracy. In contrast, there is low support for democracy in Pakistan (27.4 percent), arguably because General Pervez Musharraf's regime was perceived as successful at the time of the survey. Overall, these preliminary statistics suggest that respondents in countries that have had longer experiences with authoritarian leaders show less support for democracy.

Table 1 also presents the distribution of attitudes towards democracy by educational attainment. Among respondents with an opinion (i.e., “support democracy” or “strong leader”), the general pattern is that educational attainment is associated with slightly more support for democracy, especially if the respondent has completed primary education (compared to those with below primary education) or secondary education (compared to those with only primary education). In Turkey, however, there is

more support for democracy among those with secondary education than those with higher education.

The final columns in Table 1 show the distribution of attitudes by per-capita income quartile. Among those with an opinion, richer respondents (from per-capita income quartiles 3 and 4) are more supportive of democracy than poorer respondents (from per-capita income quartiles 1 and 2) in all five countries. There is no clear pattern, however, between per-capita income quartiles 1 and 2, or between income quartiles 3 and 4.

Table 1 also indicates differences among those who have an opinion (“support democracy” or “strong leader”) and those who do not (“don't know/didn't respond”). Educational attainment is associated with having an opinion on democracy in each of the countries, which is consistent with worldwide literature on determinants of political attitudes (Krueger, 2007). There is no clear pattern, however, between a respondent's per-capita income quartile and having an opinion. This finding is consistent with the conclusions of the classic study by Lerner (1958) of Arab political attitudes: the poor are too busy surviving to follow politics and are therefore more likely to be indifferent, while the rich are more likely to have political attitudes because they have sufficient time and are often involved in politics. Since this study's focus is on support and opposition for democracy, respondents who did not express an opinion are dropped from the remaining analyses.

Given the qualitative nature of public attitudes (“democratic form of government” or “leader with a strong hand”), a binomial probit model is adopted. For a respondent in any particular country, the model to explain support for democracy is given by:

$$P(\text{democracy} = 1|x) = \Phi(\beta_0 + \beta x)$$

where the dependent variable *democracy* is equal to 1 if the respondent supports democracy, and 0 if the respondent supports a leader with a strong hand. The explanatory variables are represented by x , and include categorical variables for educational attainment and per-capita income quartiles, as well as other control variables. β_0 represents the coefficient on the constant term, and β represent the coefficients for the educational attainment dummies, per-capita income quartile dummies, and other control variables.⁶

⁶ There is either a dummy variable approach or an index variable approach for considering the educational attainment and income quartile variables (p. 421, Long & Freese, 2006). Following a dummy variable approach involves using dummies indicating a respondent's highest level of educational attainment, and dummies indicating the per-capita income quartile. In contrast, an index approach involves an education index taking on a value between 1 and 4 (*educindex* = 1 if below primary education; =2 if primary education; =3 if secondary education; =4 if higher education), and income quartile index taking on a value between 1 and 4 (*incquartileindex* = 1 if income quartile 1; =2 if per-capita income quartile 2; =3 if per-capita income quartile 3; and =4 if per-capita income quartile 4). A likelihood-ratio test can explain whether a dummy variable approach adds more information to the model than an index variable approach. A significant test result indicates that there is evidence that the categories of educational attainment and income quartile are not evenly spaced, and so an index method is inappropriate. I find that that the likelihood test results are only statistically significant for Turkey, suggesting that a dummy variable approach is preferable for Turkey but may or may not be better for the other four countries. For the sake of consistency, I use a dummy variable approach for all countries.

⁵ It remains unclear, however, how respondents who prefer an autocratic or authoritarian leader within a relatively democratic form of government would answer the question.

Table 1
Attitudes towards democracy in the five Muslim countries, in percentages.

	Indonesia	Jordan	Lebanon	Pakistan	Turkey
Overall	56.2	54.7	64.8	27.4	66.3
Democracy	42.3	42.9	30.8	54.7	30.3
Strong leader	1.5	2.4	4.4	17.9	3.4
Do not know/refused	100%	100%	100%	100%	100%
By education					
Below primary education					
Democracy	47.7	48.7	49.6	22.3	56.8
Strong leader	48.7	48.4	42.2	51.5	31.1
Do not know/refused	3.6	2.9	8.2	26.2	12.1
	100%	100%	100%	100%	100%
Primary education					
Democracy	55.6	50.7	65.0	29.2	60.6
Strong leader	42.5	46.9	29.4	58.8	35.4
Do not know/refused	1.9	2.4	5.6	12.0	4.0
	100%	100%	100%	100%	100%
Secondary education					
Democracy	57.5	63.5	66.6	34.9	73.5
Strong leader	41.7	34.5	31.0	61.0	25.7
Do not know/refused	0.8	2.0	2.4	4.1	0.8
	100%	100%	100%	100%	100%
Higher education					
Democracy	67.4	64.1	74.6	48.6	66.3
Strong leader	32.0	34.6	23.0	49.6	29.6
Do not know/refused	0.6	1.3	2.4	1.8	4.1
	100%	100%	100%	100%	100%
By per-capita income quartile					
Income quartile 1, poorest					
Democracy	52.6	51.0	52.5	23.7	59.4
Strong leader	44.2	47.9	40.4	55.4	33.5
Do not know/refused	3.2	1.1	7.1	20.9	7.1
	100%	100%	100%	100%	100%
Income quartile 2, lower-middle income					
Democracy	58.3	52.9	64.4	27.3	59.1
Strong leader	41.2	44.6	31.4	50.0	37.9
Do not know/refused	0.5	2.5	4.2	22.7	2.4
	100%	100%	100%	100%	100%
Income quartile 3, upper-middle income					
Democracy	52.7	58.9	68.3	31.7	74.0
Strong leader	47.3	40.8	28.0	55.9	24.2
Do not know/refused	0.0	0.3	3.7	12.4	1.8
	100%	100%	100%	100%	100%
Income quartile 4, richest					
Democracy	62.6	56.3	72.7	27.8	74.1
Strong leader	36.3	40.8	24.4	57.1	24.9
Do not know/refused	1.1	2.9	2.9	15.1	1.0
	100%	100%	100%	100%	100%
N	1018	994	889	1067	903

Source: Pew Global Attitudes Project (PGAP), Spring 2005. Note: (i) Respondents are of age 18 or more. (ii) All samples, except Pakistan, are nationally representative; the Pakistan sample is disproportionately urban. (iii) Respondents are of age 18 or more. (iv) Totals may not add to 100% because of rounding.

The control variables are the respondent's gender dummy, age-cohort dummies, religion dummy, marital status dummy, number of children in the household, and regional dummies. These controls are consistent with social science research on the determinants of political

attitudes. Gender may matter because democracies are considerably better at improving women's rights than authoritarian regimes (Wejnert, 2005). The age of a respondent may also matter because the nature of civic education and political experiences vary with age-cohorts.

Table 2
Means and standard deviations (SD) for variables included in the analysis.

	Indonesia Mean (SD)	Jordan Mean (SD)	Lebanon Mean (SD)	Pakistan Mean (SD)	Turkey Mean (SD)
Dependent variable					
Democracy (dummy)	0.568 (0.496)	0.561 (0.497)	0.678 (0.468)	0.347 (0.476)	0.685 (0.465)
Explanatory variables					
Below primary education (dummy)	0.115 (0.319)	0.411 (0.492)	0.131 (0.337)	0.418 (0.494)	0.075 (0.263)
Primary education (dummy)	0.373 (0.484)	0.210 (0.408)	0.355 (0.479)	0.390 (0.488)	0.391 (0.488)
Secondary education (dummy)	0.468 (0.499)	0.299 (0.480)	0.374 (0.484)	0.107 (0.309)	0.429 (0.495)
Higher education (dummy)	0.045 (0.208)	0.079 (0.270)	0.140 (0.347)	0.085 (0.280)	0.105 (0.307)
Income quartile 1 (dummy)	0.341 (0.474)	0.268 (0.443)	0.284 (0.451)	0.271 (0.445)	0.249 (0.433)
Income quartile 2 (dummy)	0.167 (0.373)	0.241 (0.428)	0.224 (0.417)	0.247 (0.432)	0.260 (0.439)
Income quartile 3 (dummy)	0.240 (0.427)	0.232 (0.422)	0.254 (0.436)	0.226 (0.418)	0.256 (0.437)
Income quartile 4 (dummy)	0.252 (0.434)	0.259 (0.438)	0.239 (0.427)	0.256 (0.437)	0.235 (0.424)
Controls					
Male (dummy)	0.504 (0.500)	0.503 (0.500)	0.480 (0.500)	0.570 (0.495)	0.498 (0.500)
Age 18–29 (dummy)	0.296 (0.457)	0.371 (0.483)	0.354 (0.479)	0.370 (0.483)	0.426 (0.495)
Age 30–49 (dummy)	0.525 (0.500)	0.424 (0.494)	0.445 (0.497)	0.461 (0.499)	0.393 (0.489)
Age 50–64 (dummy)	0.157 (0.364)	0.200 (0.400)	0.198 (0.398)	0.125 (0.331)	0.122 (0.328)
Age 65 plus (dummy)	0.023 (0.149)	0.005 (0.072)	0.004 (0.059)	0.045 (0.207)	0.059 (0.235)
Muslim (dummy)	0.950 (0.218)	0.966 (0.181)	0.604 (0.489)	0.984 (0.145)	0.962 (0.191)
Married (dummy)	0.827 (0.379)	0.629 (0.483)	0.600 (0.490)	0.742 (0.438)	0.591 (0.492)
Number of children	1.690 (1.217)	1.532 (1.743)	1.024 (1.139)	3.378 (2.506)	0.952 (1.303)
N	976	970	850	890	867

Source: *Pew Global Attitudes Project (PGAP)*, Spring 2005. Notes: (i) SD stands for standard deviation. (ii) Respondents are of age 18 or more. (iii) All samples, except Pakistan, are nationally representative; the Pakistan sample is disproportionately urban. (iv) Democracy = 1 if respondent supports democracy, =0 if respondent instead prefers strong leader; below primary education = 1 if respondent has not completed primary education, =0 otherwise; primary education = 1 if respondent's highest level of education is primary education, =0 otherwise; secondary education = 1 if respondent's highest level of education is secondary education, =0 otherwise; higher education = 1 if respondent has completed higher education, =0 otherwise; male = 1 if respondent is male, =0 if female; age 18–29 = 1 if respondent is in the 18–29 age-group, =0 otherwise; age 30–49 = 1 if respondent is in the 30–49 age-group, =0 otherwise; age 50–64 = 1 if respondent is in the 50–64 age-group, =0 otherwise; age 65 plus = 1 if respondent is of age 65 or more, =0 otherwise; Muslim = 1 if respondent identifies self as Muslim, =0 otherwise; married = 1 if respondent is married, =0 otherwise; number of children is the number of children in the respondent's household.

The religion of a respondent may matter because some Muslims are concerned that democracy undermines Islamic values (Esposito & Mogahed, 2007; Tessler, 2003). Finally, a person's marital status and number of children are indicators that the family environment affects political attitudes. Some observers argue that having a family reduces democratic support because the values of a liberal democracy contradict family values (Zakaria, 1994); others believe that respondents with families are more supportive of a democracy because of the long-run benefits of a democracy (Beasley, 1953).

4. Results

Table 2 presents the summary statistics, with means and standard deviations of the dependent and explanatory variables used in the binomial probit regression analysis. The educational attainments of Pakistan's respondents are by far the lowest, with almost half of all respondents not having completed primary education. Turkey's educational attainment is the highest, with over half of all respondents having completed secondary or higher education. The educational attainment of Lebanon's respondents is lower than those of Turkey's but far greater than those of Indonesia, Jordan, and Pakistan.

Table 3 shows the results of the probit estimations. The reference categories for educational attainment and per-capita income quartile are "below primary" and "quartile

1" respectively, which are the lowest levels of education and per-capita income.

For Indonesia, none of the coefficients for educational attainment or income are statistically significant, thus indicating that education and income at all levels are weak predictors of attitudes towards democracy. As discussed earlier, one reason for the lack of any results may be respondent confusion about whether Sukarno and Soeharto regimes were democratic or those of a strong leader.

In Jordan, the coefficients for secondary education and higher education dummies are statistically significant and both have a marginal effect of 0.20. This indicates that, holding all else constant, those with secondary and higher education have a 0.20 larger probability of supporting democracy than those with below primary education. The results also imply that there is no difference in support for democracy between those with only a secondary education and those who have higher education in Jordan.

The coefficients for primary education, secondary education, and higher education dummy variables are all statistically significant in Lebanon. Holding all other characteristics constant, respondents with primary education have a 0.12 greater probability of supporting democracy than those who have not completed primary education. Respondents with secondary education have a 0.11 larger probability of supporting democracy, and those with higher education have a 0.16 greater probability of supporting democracy than those without primary education.

Table 3
Binomial probit regression results of supporting democracy in the five Muslim countries.

	Indonesia		Jordan		Lebanon		Pakistan		Turkey	
	Coeff. (SE)	Marg. effect	Coeff. (SE)	Marg. effect	Coeff. (SE)	Marg. effect	Coeff. (SE)	Marg. effect	Coeff. (SE)	Marg. effect
Primary education	0.153 (0.138)	0.060	0.161 (0.121)	0.063	0.348** (0.156)	0.119	0.086 (0.106)	0.032	0.067 (0.187)	0.023
Secondary education	0.213 (0.142)	0.083	0.518** (0.128)	0.198	0.314** (0.162)	0.108	0.387** (0.160)	0.149	0.314 (0.200)	0.109
Higher education	0.267 (0.242)	0.102	0.541** (0.186)	0.198	0.523** (0.202)	0.163	0.380** (0.174)	0.146	0.101 (0.239)	0.035
Income quartile 2	0.193 (0.125)	0.075	−0.038 (0.128)	−0.015	0.151 (0.133)	0.052	0.089 (0.125)	0.033	−0.084 (0.129)	−0.030
Income quartile 3	−0.003 (0.115)	−0.001	0.021 (0.143)	0.008	0.229** (0.136)	0.078	0.021 (0.139)	0.008	0.308** (0.149)	0.104
Income quartile 4	0.154 (0.126)	0.060	−0.122 (0.163)	−0.048	0.230 (0.174)	0.078	−0.045 (0.157)	−0.017	0.273 (0.176)	0.093
Controls										
Male	0.125 (0.083)	0.049	0.068 (0.082)	0.027	−0.005 (0.093)	−0.002	0.075 (0.092)	0.027	−0.061 (0.093)	−0.021
Age 18–29	−0.144 (0.291)	−0.057	−1.060* (0.645)	−0.404	−0.311 (0.783)	−0.111	−0.102 (0.230)	−0.037	−0.500** (0.222)	−0.178
Age 30–49	−0.126 (0.283)	−0.050	−0.775 (0.642)	−0.300	−0.094 (0.777)	0.033	−0.042 (0.224)	−0.015	−0.450** (0.221)	−0.161
Age 50–64	−0.122 (0.296)	−0.048	−0.633 (0.642)	−0.248	−0.300 (0.777)	−0.110	−0.005 (0.246)	−0.002	−0.198 (0.235)	−0.072
Muslim	−0.290 (0.201)	−0.110	−0.115 (0.238)	−0.045	−0.764** (0.103)	−0.253	0.503 (0.418)	0.162	−0.096 (0.238)	−0.033
Married	−0.044 (0.123)	−0.017	−0.267** (0.126)	−0.104	−0.090 (0.118)	−0.031	0.029 (0.122)	0.010	−0.157 (0.128)	−0.055
Number of children	0.032 (0.037)	0.012	−0.030 (0.067)	−0.012	−0.002 (0.046)	−0.001	−0.009 (0.021)	−0.003	0.079 (0.048)	0.028
Regional controls	Yes		Yes		Yes		Yes		Yes	
Constant	0.310 (0.404)		1.148 (0.702)		1.067 (0.790)		−1.312** (0.496)		0.846 (0.341)	
Pseudo R2	0.011		0.025		0.078		0.023		0.030	
N	976		970		850		890		867	

Source: Pew Global Attitudes Project (PGAP), Spring 2005. Respondents are of age 18 or more. Notes: (i) Respondents are of age 18 or more. (ii) All samples, except Pakistan, are nationally representative; the Pakistan sample is disproportionately urban. (iii) SE stands for robust standard error. (iv) One-unit changes are calculated by increasing indicated variable by unit while holding all other variables at their actual values. (v) Below primary education, income quartile 1, and age 65 plus are the omitted categories. (vi) **denotes statistical significance at the 99% level of confidence, and *denotes statistical significance at the 95% level of confidence.

This indicates that those with higher education are the strongest supporters of democracy in Lebanon. Regarding income, respondents belonging to the third per-capita income quartile have a 0.08 greater probability of supporting democracy than respondents belonging to the poorest income quartile, holding all else constant. This suggests that upper-middle income respondents in Lebanon are more likely to support democracy than the poorest respondents, but the effect of being among the richest is ambiguous.

In Pakistan, the coefficients for secondary education and higher education dummy variables are statistically significant. Holding all else constant and compared to those without primary education, respondents with secondary education have a 0.15 larger probability of supporting democracy. Respondents with higher education also have a 0.15 greater probability, suggesting that there is no difference in support for democracy between respondents with secondary education and those with higher education. None of the coefficients for income quartile dummies are statistically significant. The results suggest that in Pakistan, higher education and per-capita income are weak predictors of attitudes towards democracy.

In Turkey, none of the education dummy coefficients are statistically significant. According to the PGAP 2005, therefore, educational attainment does not predict attitudes towards democracy in Turkey. Holding all else constant and compared to the first per-capita income quartile respondents, those from the third income quartile have a 0.10 greater probability of supporting democracy. This indicates that upper-middle income respondents are more supportive of democracy than the poorest respondents. There is no statistical evidence that belonging to the richest income group affects support for democracy in Turkey.

Because of the potential correlation between education and income, two separate estimations were conducted as robustness checks: one without income quartile variables, and another without educational attainment dummies. The results are consistent with the previous analysis and are therefore not included.

Though this study has focused on education and income, there are other possible factors that can encourage support for democracy in each of the five countries such as the decline of state-controlled media, growing numbers of local pro-democracy groups, and changing perceptions that democracy does not undermine Islamic values (Esposito & Mogahed, 2007; Ibrahim, 2006). Arguably, these factors may yield an environment that is conducive to greater education and income, and subsequently more support for democracy. The unavailability of data on these factors suggests that, like the majority of social science research on the determinants of political attitudes reviewed earlier (e.g. Evans & Rose, 2007; Jamal & Tessler, 2008; Krueger, 2007; Tessler & Robbins, 2007), the coefficients in this study are biased. Consequently, this study offers suggestive evidence but not necessarily definitive proof on the causal effects of educational attainment and income on attitudes towards democracy in the five countries.

5. Discussion and conclusions

This study examined the effect of education and income on support for a democratic form of government (versus a leader with a strong hand) among ordinary men and women in five predominantly Muslim countries: Indonesia, Jordan, Lebanon, Pakistan, and Turkey. Holding all else constant and compared to not finishing primary education, this study finds statistical evidence that primary education encourages support for democracy in Lebanon, and that secondary education and higher education encourage support for democracy in Jordan, Lebanon and Pakistan. Regarding income, the results indicate that relative to the poor, those belonging to middle-income and upper-middle-income groups are more supportive of democracy in Lebanon and Turkey. Curiously, there is almost no statistical relationship between belonging to the richest groups and having an attitude towards democracy in the five countries. Therefore, this study cannot confirm or reject concerns that the richest members of society oppose democracy (Lerner, 1958).

The results suggest that support for democracy is a social benefit of education in Jordan, Lebanon, and Pakistan. These micro-level results obtained are also consistent with the non-economic and macro-level economic research on educational attainment increasing support for democracy. Like the research on income and support for democracy elsewhere, there is some evidence that belonging to a middle-income group encourages support for democracy. Thus, the findings from some of the Muslim countries considered here are comparable to non-Muslim countries, despite the suspicions of some observers (e.g. Barro, 1999). From a policy perspective, this study shows that contrary to the prevailing stereotype, a sizeable share of ordinary men and women in the five countries prefer a democratic form of government. Furthermore, this study's results suggest that international aid towards primary and secondary education can increase support for democracy.

There are several avenues for future research to better understand the extent to which education and income matter and how it can matter more for advancing democracy. Qualitative and quantitative research on the content of education at various schools, colleges, and universities can provide a clearer sense of the roles of educational institutions in promoting democracy. For example, what is the nature of civic and democratic education in schools? The *Civic Education Survey* (a survey of ninth graders and their teachers, conducted by the International Association for the Evaluation of Educational Achievement) is a sound model for the kind of the survey necessary for making causal inferences; at present, there are no such surveys in predominantly Muslim countries. The robustness of this study's results can also be checked with alternative data sources. Currently, several public opinion data collection efforts are underway in the Muslim world, including *The Arab Barometer* and *The Asian Barometer* (both collected by an international consortium of universities and research centers) and the *Poll of the Muslim World* (collected by Gallup). Since these surveys contain different samples and questions on attitudes towards democracy, there are opportunities to gain a more complete understanding of

the relationship between educational attainment, income, and attitudes towards democracy in Indonesia, Jordan, Lebanon, Pakistan, Turkey, and other predominantly Muslim countries.

Acknowledgements

I am very grateful to Eric Eide, an anonymous referee, Robert Arnove, Jacob Bower-Bir, and Art Goldsmith for detailed comments on earlier drafts. Suggestions from Jack Martin, Elinor Ostrom, Robert Toutkoushian and seminar participants at Indiana University and the 2009 Comparative and International Education Society meetings in Charleston, SC are also appreciated. Finally, I am indebted to Henry Levin, Martha McCarthy, Walter McMahon, Mark Rosenzweig, Mark Tessler, and Miguel Urquiola for encouragement. This paper was generously funded by a Proffitt Grant from the School of Education at Indiana University. All views and errors are mine.

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