

SUPPLEMENTARY MATERIAL

DEMOCRACY AND MASS SKEPTICISM OF SCIENCE

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Online Appendix for *Democracy and Mass Skepticism of Science*

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A Summary Statistics

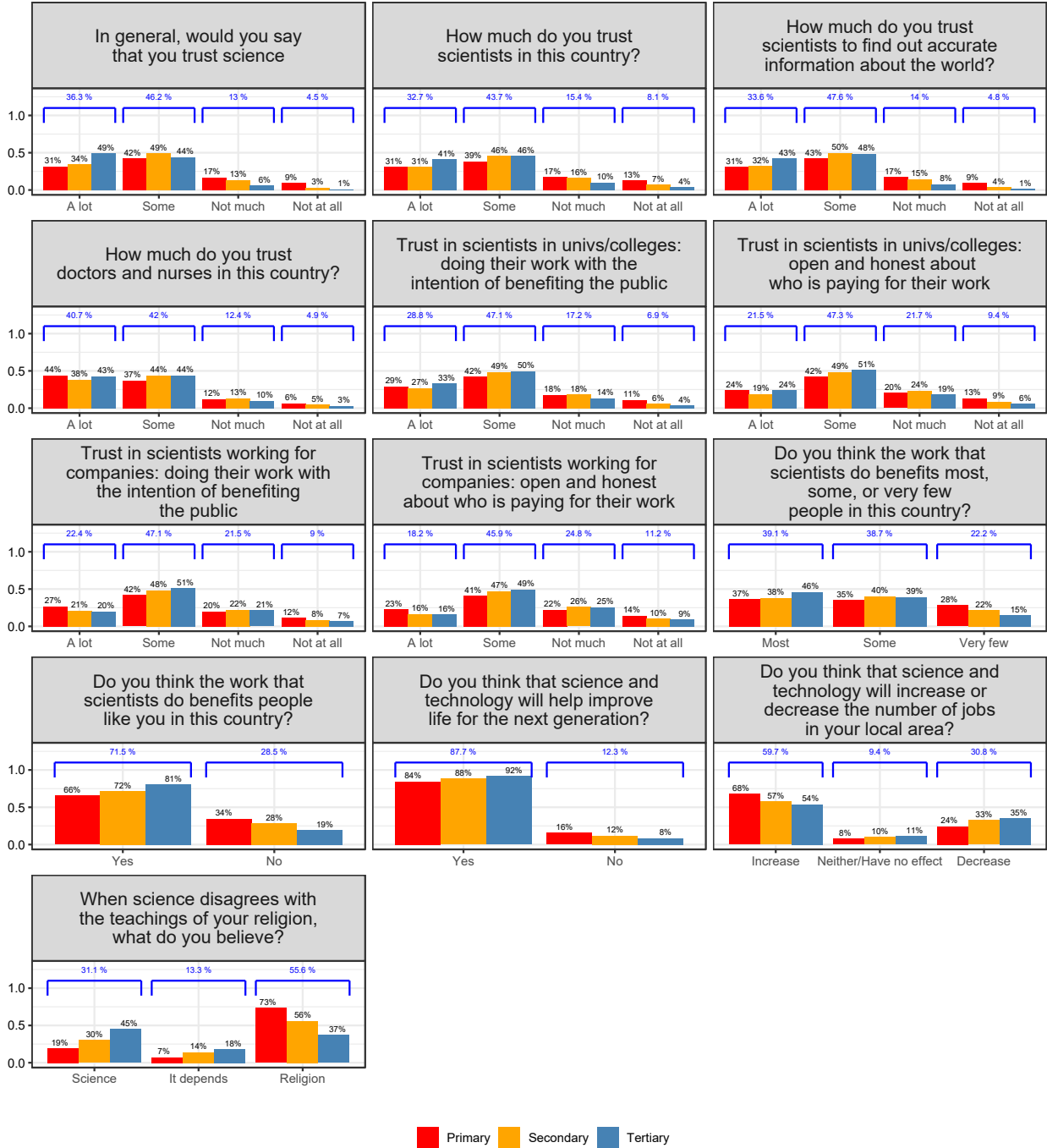
Table A.1: Summary Statistics for Survey Data

Variable name	Mean	SD	Min	Max	N
Trust in science (IRT)	-0.00018	0.92	-3.06	2.14	149014
Education	1.86	0.69	1	3	148258
Democracy (polity score \geq 6)	0.62	0.49	0	1	145507
Democracy (continuous polity score)	4.63	5.88	-10	10	145507
Democracy (V-Dem electoral democracy)	0.54	0.25	0.022	0.92	149014
Democracy (Freedom House)	-0.042	1.70	-3.09	2.42	146012
Lifetime exposure to democracy (binary polity, after 14)	0.56	0.43	0	1	145423
Lifetime exposure to democracy (continuous polity, after 14)	3.47	5.79	-10	10	145423
Lifetime exposure to democracy (V-Dem electoral democracy, after 14)	0.52	0.24	0.019	0.91	148295
Lifetime exposure to democracy (Freedom House, after 14)	2.12	0.73	1	3	148295
Personalist regime	0.16	0.37	0	1	141996
Party-based regime	0.16	0.37	0	1	141996
Military regime	0.014	0.12	0	1	141996
Birth year	1976.0	17.9	1919	2004	148295
Believe in religion	0.92	0.27	0	1	140924
% Christians	0.50	0.37	0.00023	0.99	146013
% Muslims	0.28	0.37	0	1.00	146013
Religious freedom	0.79	1.35	-3.53	2.71	149014
Repression of religion	0.75	1.25	-2.19	2.32	149014
Trust in government	2.54	1.06	1	4	129340
Female	0.53	0.50	0	1	149014
Currently employed	1.80	0.95	1	3	149012
Place of residence (1=rural, 2=urban)	1.41	0.49	1	2	148701
Income quintile (missing = 99)	5.11	13.5	1	99	149014
Log GDP per capita	8.65	1.45	5.68	11.6	145012
Log population	2.81	1.69	-1.09	7.25	144009
Log # of Nobel Prize winners per capita (science and medicine)	-2.20	1.69	-6.15	1.09	144009
Log # of QS500 universities per capita	-2.03	1.44	-5.25	1.09	144009

Table A.2: Summary Statistics for Constitutional Texts and State Honors

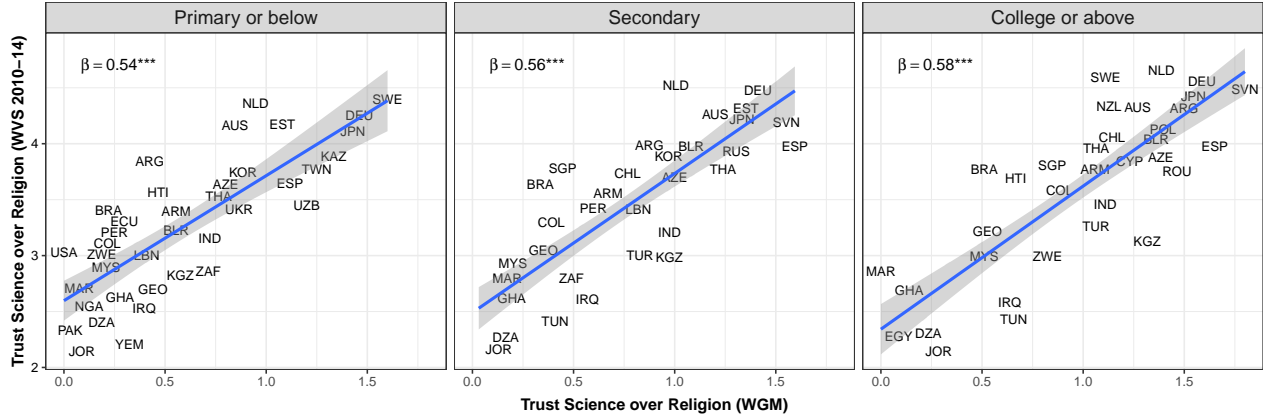
Variable name	Mean	SD	Min	Max	N
<i>Constitutional Texts</i>					
Constitutional reference to science per 1,000 words	0.12	0.16	0	1.02	192
Democracy (Polity \geq 6)	0.53	0.50	0	1	154
Log length of constitution	9.90	0.73	8.14	12.4	192
Democracy (continuous Polity)	3.68	6.17	-10	10	154
Electoral democracy (V-Dem)	0.51	0.26	0.022	0.92	172
Freedom House status	2.11	0.80	1	3	165
Year	2008.8	11.1	1946	2019	192
<i>State Honors and Decorations</i>					
Share of national honors to scientists	0.15	0.24	0	1	1392
Democracy (Polity \geq 6)	0.73	0.44	0	1	1304
Log total number of state honors granted	2.04	1.25	0.69	6.72	1392
Electoral democracy (V-Dem)	0.66	0.28	0.028	0.92	1360
Freedom House status	2.54	0.75	1	3	1107
Year	1997.8	14.2	1970	2019	1392

Figure A.1: Distribution of Science-Related Questions in the WGM



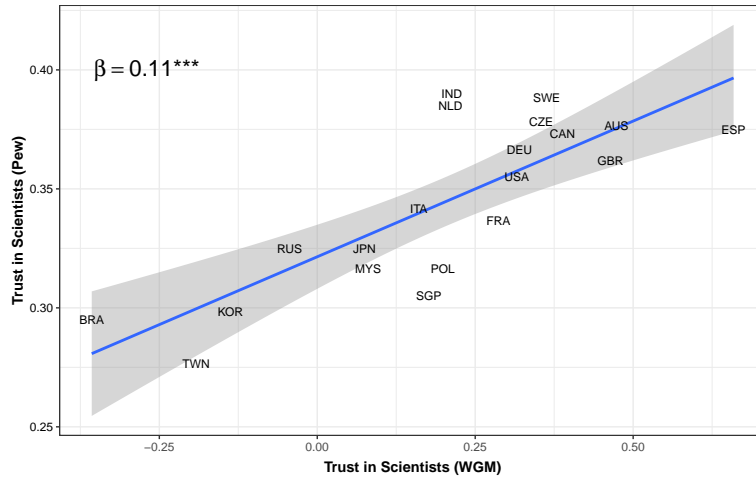
Note: This figure displays the distributions of responses to the science attitude questions in the WGM. The numerical figures printed on each bar represent the percentage of a given response (denoted by the x-axis) within an education group. The figures printed on top of the square bracket indicate the overall percentage of each response within the entire sample.

Figure A.2: Validation of Science Attitudes: WGM vs. WVS



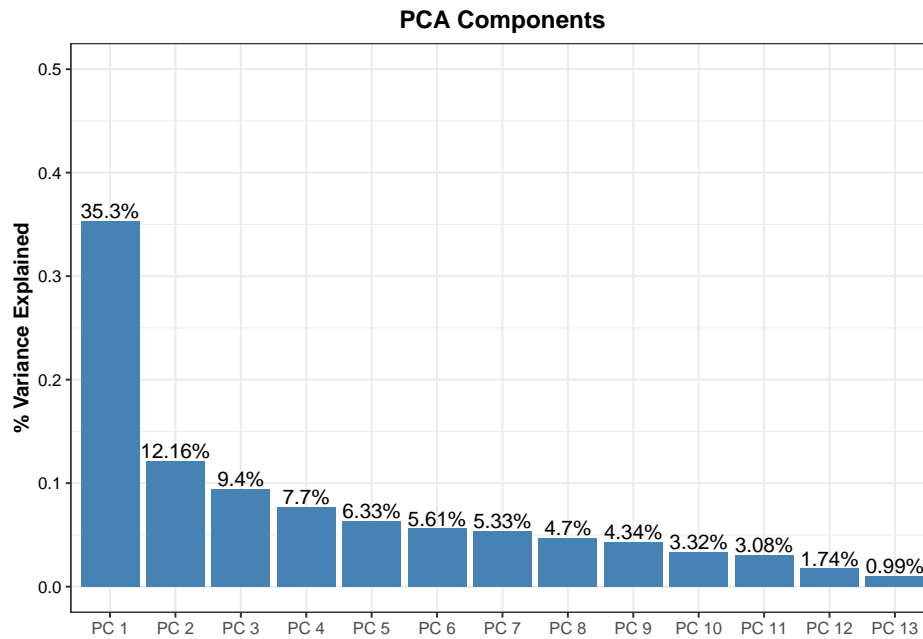
Note: This figure displays the correlation in aggregate responses to similarly worded questions between the WGM survey and the World Values Survey (WVS). Both the WGM and WVS questions ask about the relative importance of science over religion. Each panel represents a different education level and β is the estimated coefficient from a linear regression.

Figure A.3: Validation of Science Attitudes: WGM vs. Pew



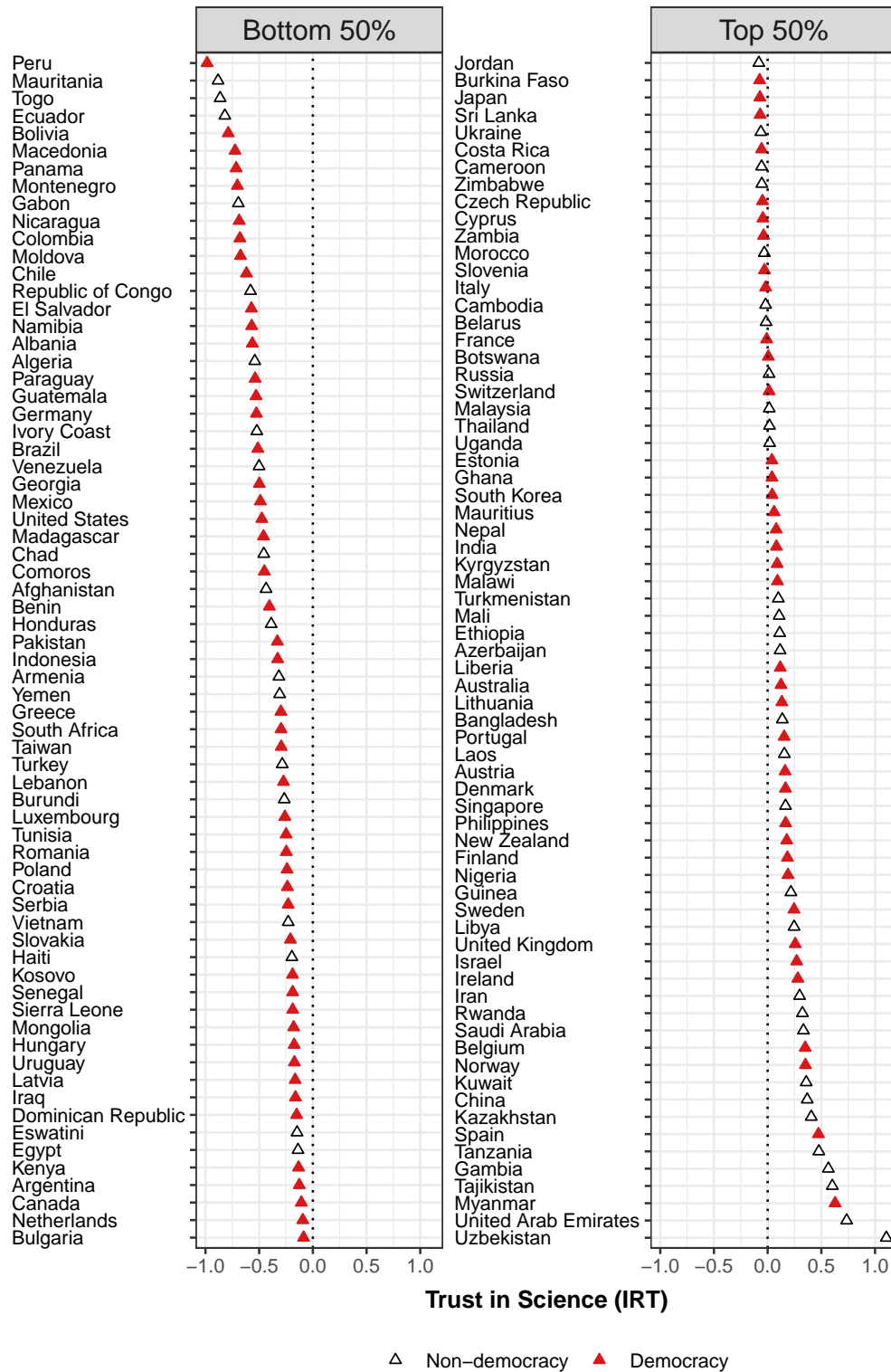
Note: This figure displays the correlation in aggregate responses to similarly worded questions between the WGM survey and a survey conducted by the Pew Research Center (Pew). Both the WGM and Pew questions ask about the public's trust in scientists. The data from the Pew survey can be accessed at shorturl.at/doIKT.

Figure A.4: Principal Component Analysis (PCA) on Science Attitude Questions



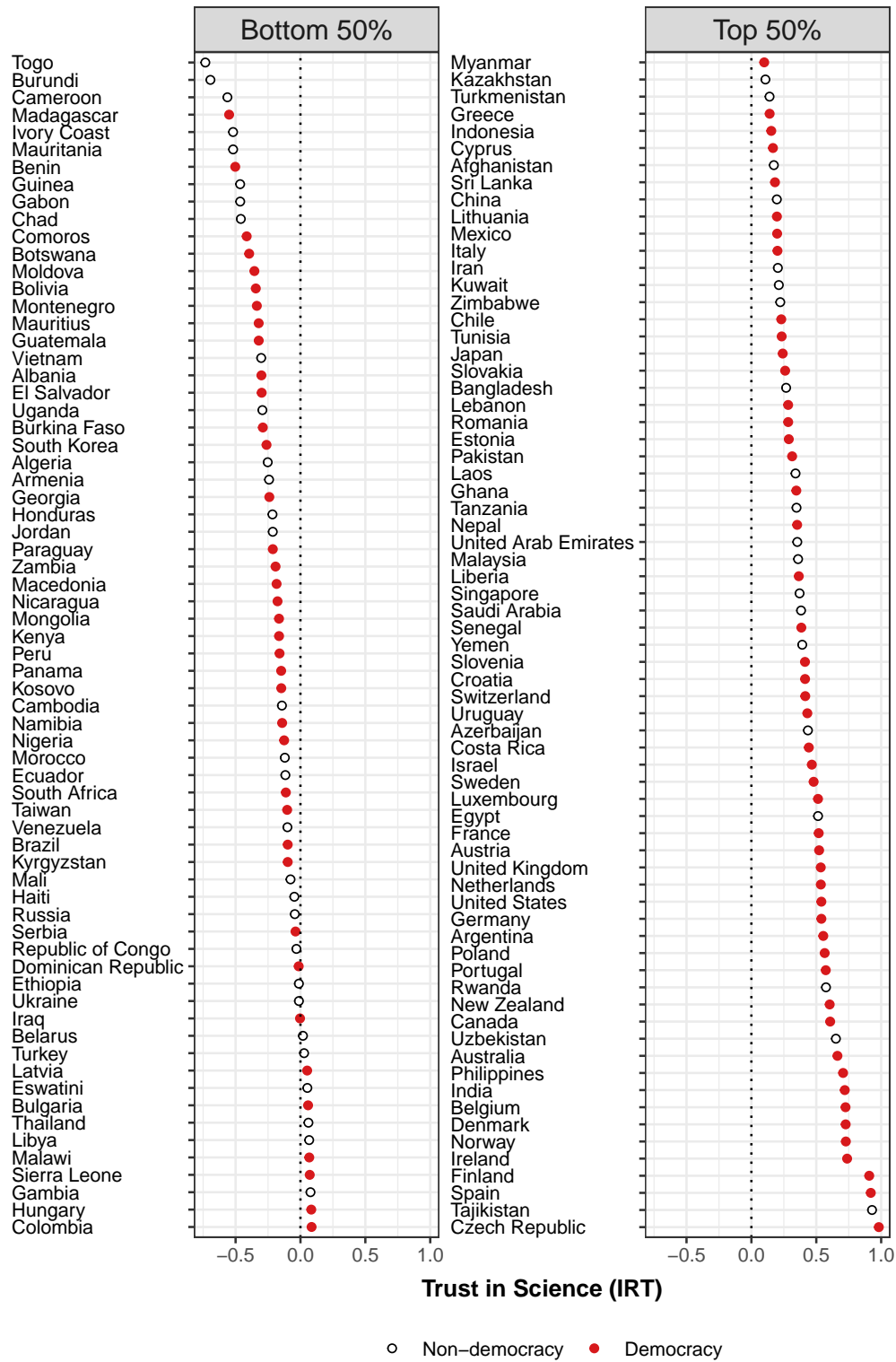
Note: This figure displays the results from applying PCA to the 13 science attitude questions. The vertical bars indicate the amount of variance explained by each of the PCA components. We note that the first component explains a disproportionately larger share of the variance than the rest of the components, suggesting that there is a strong latent dimension that drives the responses to all the questions.

Figure A.5: Full Visualization of Average Trust in Science by the Least Educated Group (Primary or Below)



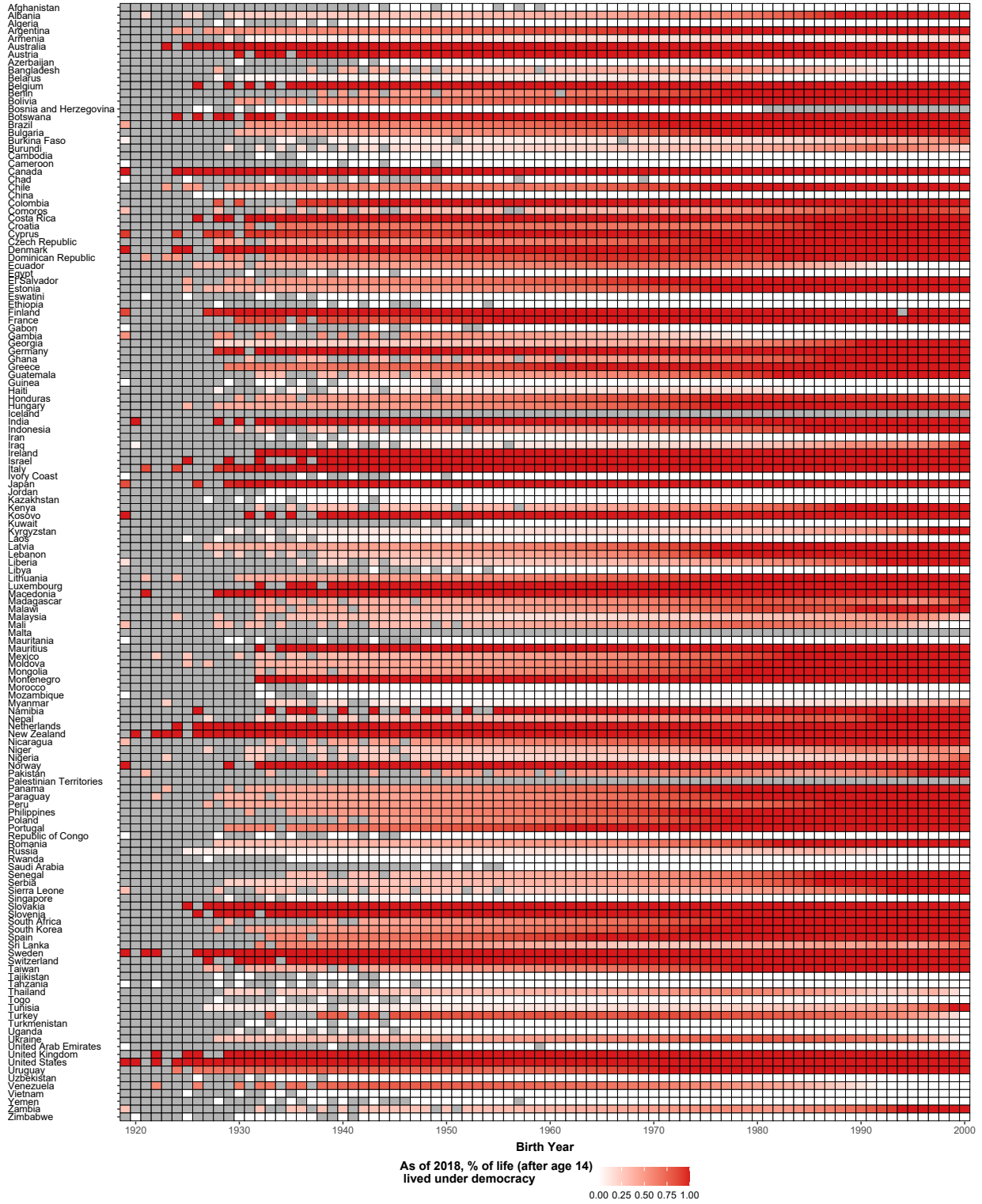
Note: This figure displays the average trust in science by the least educated group (primary or below) in all countries/regions covered in the WGM survey. Red color denotes democracies and white color denotes non-democracies.

Figure A.6: Full Visualization of Average Trust in Science by the Highly Educated Group (College or Above)



Note: This figure displays the average trust in science by the most educated group (college or above) for all countries/regions covered in the WGM survey. Red color denotes democracies and white color denotes non-democracies.

Figure A.7: Cohort-based Variation in Democratic Exposure: An Illustration



Note: This figure visualizes the cross-cohort variation in democratic exposure. The exposure variable is the share of life (after age 14) respondents from a given cohort have spent under a democracy as of 2018. Democracy is defined as a country with polity score at or above 6. Gray shades indicate birth cohorts with no respondents in the survey.

B Robustness Checks and Additional Results

Table A.3: Comparison of Estimates for Different Education Levels: Cross-Sectional Models

	DV = Trust in Science (IRT)					
	(1) Binary Polity	(2) Binary Polity	(3) Binary Polity	(4) Continuous Polity	(5) Electoral democracy (V-Dem)	(6) Freedom House rating
<i>Cross-sectional models</i>						
Primary - Secondary	-0.213** (0.069)	-0.154** (0.058)	-0.104+ (0.060)	-0.031 (0.035)	-0.049 (0.035)	-0.060+ (0.036)
Secondary - College	-0.128* (0.053)	-0.087* (0.042)	-0.088 (0.057)	-0.047+ (0.027)	-0.039 (0.029)	-0.054+ (0.029)
Primary - College	-0.341** (0.090)	-0.241** (0.075)	-0.192* (0.095)	-0.078 (0.047)	-0.088+ (0.050)	-0.114* (0.051)
Observations	144762	144159	139028	139028	141510	141510

Note: This table presents the comparison of estimates for the effect of democracy between different education levels. The comparison is based on estimates obtained in Table 1. Standard errors clustered at country level are reported in parentheses.

Table A.4: Comparison of Estimates for Different Education Levels: Cross-Cohort Models

	DV = Trust in Science (IRT)					
	(1) Binary democracy, age 14 to present	(2) Binary democracy, age 14 to present	(3) Binary democracy, age 14 to present	(4) Continuous democracy, age 14 to present	(5) Electoral democracy (V-Dem), age 14 to present	(6) Freedom House status, age 14 to present
<i>Cross-cohort models</i>						
Primary - Secondary	-0.057** (0.020)	-0.060** (0.019)	-0.037+ (0.020)	-0.048* (0.020)	-0.039+ (0.023)	-0.025 (0.024)
Secondary - College	-0.081** (0.017)	-0.080** (0.016)	-0.073** (0.020)	-0.071** (0.017)	-0.074** (0.019)	-0.067** (0.019)
Primary - College	-0.137** (0.030)	-0.140** (0.029)	-0.111** (0.030)	-0.119** (0.029)	-0.112** (0.032)	-0.093** (0.034)
Observations	144792	144792	139661	139661	141510	141510

Note: This table presents the comparison of estimates for the effect of democracy between different education levels. The comparison is based on estimates obtained in Table 2. Standard errors clustered at country level are reported in parentheses.

Table A.5: Robustness for Cross-Sectional Analysis: Using Alternative Measures of Democracy

	DV = Trust in Science (IRT)				
	(1)	(2)	(3)	(4)	(5)
	Binary Polity, 5-year average	Continuous Polity, 5-year average	Electoral democracy (V-Dem), 5-year average	Binary democracy (BMR)	Binary democracy (CGV)
<i>Effect of democracy on ...</i>					
Primary education or below	-0.146** (0.042)	-0.169** (0.045)	-0.139** (0.050)	-0.250** (0.079)	-0.301** (0.084)
Secondary education	-0.085* (0.038)	-0.116** (0.040)	-0.082+ (0.043)	-0.094 (0.075)	-0.140+ (0.081)
College education or above	-0.051 (0.044)	-0.071+ (0.040)	-0.035 (0.047)	-0.032 (0.084)	-0.090 (0.089)
Region and birth year FE	✓	✓	✓	✓	✓
Country-level controls × education	✓	✓	✓	✓	✓
Democracy × indiv. controls	✓	✓	✓	✓	✓
Adjusted R ²	0.09	0.09	0.09	0.09	0.09
Observations	141510	141510	141510	141510	141510

Note: This table presents the robustness results using alternative measures of democracy in the cross-sectional analyses. The first three columns use the 5-year average for various democracy measures. The fourth and fifth columns use binary democracy measures from Boix, Miller, and Rosato (2013) and Cheibub, Gandhi, and Vreeland (2009), respectively. The coefficient estimates for continuous variables (Columns 1–3) are standardized to facilitate interpretation. Country-level controls include *Log GDP per capita*, *Log population*, *Log number of Nobel Prize winners per capita (science and medicine)*, and *Log number of QS 500 universities per capita*. Individual-level controls include *Female*, *Employment*, *Urban residence*, and *Income*. Standard errors clustered at country level are reported in parentheses.

Table A.6: Cross-Cohort Analysis Using Alternative Democratic Exposure Measures

	DV = Trust in Science (IRT)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Binary Polity, age 11 to present	Binary Polity, age 6 to present	Continuous Polity, age 11 to present	Continuous Polity, age 6 to present	Electoral democracy (V-Dem), age 11 to present	Electoral democracy (V-Dem), age 6 to present	Freedom House status, age 11 to present	Freedom House status, age 6 to present
<i>Effect of lifetime exposure to democracy on ...</i>								
Primary school or below	-0.062* (0.029)	-0.042 (0.030)	-0.106** (0.030)	-0.096** (0.030)	-0.099** (0.034)	-0.079* (0.034)	-0.091* (0.037)	-0.071+ (0.039)
Secondary school	-0.027 (0.025)	-0.009 (0.026)	-0.060* (0.026)	-0.051+ (0.027)	-0.060+ (0.031)	-0.040 (0.032)	-0.067* (0.029)	-0.047 (0.033)
College or above	0.045 (0.031)	0.063* (0.032)	0.011 (0.030)	0.022 (0.030)	0.013 (0.037)	0.035 (0.038)	0.001 (0.035)	0.023 (0.039)
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
Birth year–education FE	✓	✓	✓	✓	✓	✓	✓	✓
Country-level controls × education	✓	✓	✓	✓	✓	✓	✓	✓
Democracy × indiv. controls	✓	✓	✓	✓	✓	✓	✓	✓
Adjusted R ²	0.15	0.15	0.15	0.15	0.16	0.16	0.16	0.16
Observations	139700	139786	139700	139786	141510	141510	141510	141510

Note: This table presents the results from cross-cohort analysis using alternative democratic exposure measures. Country-level controls include *Log GDP per capita*, *Log population*, *Log number of Nobel Prize winners per capita (science and medicine)*, and *Log number of QS 500 universities per capita*. Individual-level controls include *Female*, *Employment*, *Urban residence*, and *Income*. Standard errors clustered at country level are reported in parentheses.

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$ (two-tailed test)

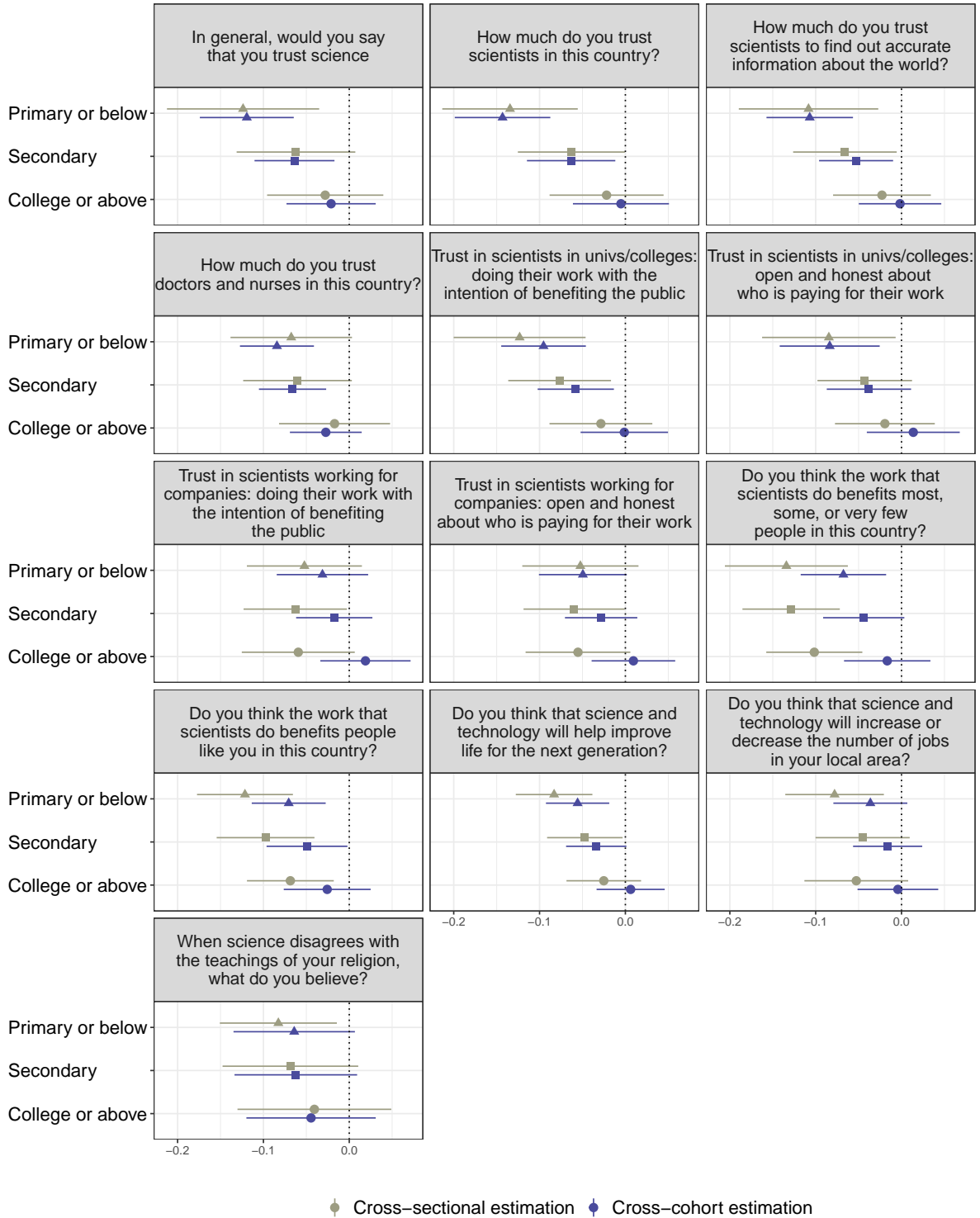
Table A.7: Cross-Cohort Analysis Using Parsimonious Models

	DV = Trust in Science (IRT)			
	(1) Binary democracy, age 14 to present	(2) Continuous Polity, age 14 to present	(3) Electoral democracy (V-Dem), age 14 to present	(4) Freedom House status, age 14 to present
<i>Effect of cumulative exposure to democracy on ...</i>				
Primary education or below	-0.054* (0.025)	-0.089** (0.028)	-0.094** (0.034)	-0.100** (0.033)
Secondary education	0.005 (0.023)	-0.022 (0.025)	-0.022 (0.031)	-0.039 (0.029)
College education or above	0.086** (0.029)	0.056* (0.028)	0.052 (0.035)	0.038 (0.032)
Country FE	✓	✓	✓	✓
Birth year FE	✓	✓	✓	✓
Observations	144792	144792	147655	147655

Note: This table presents the results from cross-cohort analysis using a parsimonious specification that only controls for country and birth year fixed effects. The independent variable is cumulative exposure to democracy during a respondent's lifetime (after age 14). The value of this variable is standardized to facilitate interpretation. Standard errors clustered at country level are reported in parentheses.

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$ (two-tailed test)

Figure A.8: Estimation Results for Individual Questions



Note: This figure displays the estimated effects of democracy on individual science attitude questions used in the construction of the IRT measure. The cross-sectional and cross-cohort models are based on Column 4 of Tables 1 and 2, respectively. The horizontal bars represent 95% confidence intervals.

Table A.8: Placebo Cross-Cohort Analysis

	DV = Trust in Science (IRT)		
	(1) Binary Polity	(2) Continuous Polity	(3) Electoral democracy (V-Dem)
Placebo: democratic exposure for age 7 to 13			
Primary education or below	0.004 (0.017)	-0.009 (0.018)	-0.001 (0.021)
Secondary education	0.010 (0.014)	-0.002 (0.016)	0.006 (0.018)
College education or above	0.064** (0.020)	0.053* (0.021)	0.078** (0.025)
Placebo: democratic exposure for age 0 to 6			
Primary education or below	0.000 (0.019)	-0.022 (0.020)	-0.018 (0.022)
Secondary education	0.014 (0.010)	0.007 (0.014)	0.009 (0.013)
College education or above	0.017 (0.019)	0.018 (0.020)	0.005 (0.022)
Placebo: democratic exposure 5 yrs before birth			
Primary education or below	0.021 (0.020)	0.011 (0.019)	0.013 (0.019)
Secondary education	0.010 (0.010)	0.014 (0.012)	0.012 (0.014)
College education or above	0.022 (0.021)	0.034+ (0.020)	0.020 (0.023)
Country FE	✓	✓	✓
Birth year–education FE	✓	✓	✓
Country-level controls × education	✓	✓	✓
Individual-level controls	✓	✓	✓
Observations	126828	126828	135114

Note: This table presents the results from the placebo democratic exposure variables. The variables are constructed based on democratic exposure during preschool years (age 0 to 6), early school years (age 7 to 13), and five years before one’s birth. Country-level controls include *Log GDP per capita*, *Log population*, *Log number of Nobel Prize winners per capita (science and medicine)*, and *Log number of QS 500 universities per capita*. Individual-level controls include *Female*, *Employment*, *Urban residence*, and *Income*. Standard errors clustered at country level are reported in parentheses.

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$ (two-tailed test)

Table A.9: Controlling for Left-Right Ideology

	DV = Trust in Science (IRT)			
	(1) Cross-sectional model	(2) Cross-sectional model	(3) Cross-cohort model	(4) Cross-cohort model
<i>Effect of current/cumulative level of democracy on ...</i>				
Primary education or below	-0.221** (0.077)	-0.220** (0.077)	-0.304** (0.087)	-0.305** (0.087)
Secondary education	-0.080 (0.081)	-0.080 (0.081)	-0.149* (0.068)	-0.149* (0.068)
College education or above	0.033 (0.112)	0.034 (0.111)	0.026 (0.074)	0.025 (0.074)
Self-placed ideology (group proxy)		0.009 (0.015)		-0.003 (0.005)
Region and birth year FE	✓	✓		
Country FE			✓	✓
Birth year–education FE			✓	✓
Country-level controls × education	✓	✓	✓	✓
Democracy × indiv. controls	✓	✓	✓	✓
Adjusted R ²	0.10	0.10	0.15	0.15
Observations	75210	75210	75829	75829

Note: This table presents the estimated effects of democracy on trust in science by education level. Columns 2 and 4 control for the difference in left-right ideological orientations across education groups. The left-right ideology variable is based on the self-placed left-right political ideology from the World Values Survey. Each respondent is matched with the average ideological placement (larger value = more right leaning) of WVS respondents from the same country, birth cohort, and education group. The cross-sectional and cross-cohort models are based on Column 4 of Tables 1 and 2, respectively. Standard errors clustered at country level are reported in parentheses.

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$ (two-tailed test)

Table A.10: Subsample Results

	DV = Trust in Science (IRT)			
	(1)	(2)	(3)	(4)
Cross-sectional models	Western countries	Non-Western countries	Excluding communist countries	Excluding countries with populist leaders
<i>Effect of democracy on</i>				
Primary education or below	-0.041 (0.029)	-0.171** (0.046)	-0.104* (0.048)	-0.164** (0.057)
Secondary education	-0.024 (0.027)	-0.127** (0.041)	-0.082* (0.040)	-0.122** (0.047)
College education or above	-0.039* (0.016)	-0.084+ (0.043)	-0.047 (0.035)	-0.096* (0.045)
Region and birth year FE	✓	✓	✓	✓
Country-level controls × education	✓	✓	✓	✓
Democracy × indiv. controls	✓	✓	✓	✓
Adjusted R ²	0.07	0.07	0.11	0.10
Observations	19292	122218	106977	123552
	DV = Trust in Science (IRT)			
	(1)	(2)	(3)	(4)
Cross-cohort models	Western countries	Non-Western countries	Excluding communist countries	Excluding countries with populist leaders
<i>Effect of cumulative exposure to democracy on</i>				
Primary education or below	0.053+ (0.030)	-0.081** (0.031)	-0.129** (0.037)	-0.091** (0.033)
Secondary education	0.021 (0.021)	-0.032 (0.027)	-0.106** (0.032)	-0.057* (0.028)
College or above	0.055 (0.038)	0.040 (0.031)	-0.056 (0.037)	0.001 (0.033)
Country FE	✓	✓	✓	✓
Birth year–education FE	✓	✓	✓	✓
Country-level controls × education	✓	✓	✓	✓
Democracy × indiv. controls	✓	✓	✓	✓
Adjusted R ²	0.08	0.13	0.15	0.16
Observations	18799	120862	105493	121703

Note: This table presents results from several subsample analyses. The first two columns present results for Western and non-Western countries, respectively. The third column presents results from excluding former communist countries and the fourth column excludes countries governed by populist leaders in 2017 and 2018. Western countries include Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Iceland, Italy, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, and United States. Communist countries include Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, China, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Laos, Latvia, Lithuania, Macedonia, Moldova, Mongolia, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, and Vietnam. Classification of populist leaders is drawn from Funke, Schularick, and Trebesch (2020). Specifications are based on Column 4 of Tables 1 and 2. Standard errors clustered at country level are reported in parentheses.

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$ (two-tailed test)

Table A.11: Comparing between Countries with Low and High Return to Education

	DV = Trust in Science (IRT)	
	(1) Low return to education countries (below mean)	(2) High return to education countries (above mean)
<i>Effect of cumulative exposure to democracy on ...</i>		
Primary education or below	-0.122** (0.039)	-0.082* (0.040)
Secondary education	-0.051+ (0.029)	-0.047 (0.038)
College education or above	0.045 (0.036)	-0.017 (0.053)
Country FE	✓	✓
Birth year–education FE	✓	✓
Country-level controls × education	✓	✓
Democracy × indiv. controls	✓	✓
Adjusted R ²	0.17	0.15
Observations	62590	68014

Note: This table presents the results from cross-cohort analysis separately for countries with high and low return to education. Country-level return to education is estimated by regressing respondents' income on educational attainment. The first column uses observations from countries where the estimated coefficient is lower than the sample mean, and the second column uses observations from countries above the sample mean. The independent variable is cumulative exposure to democracy during a respondent's lifetime (after age 14). The value of this variable is standardized to facilitate interpretation. Country-level controls include *Log GDP per capita*, *Log population*, *Log number of Nobel Prize winners per capita (science and medicine)*, and *Log number of QS 500 universities per capita*. Individual-level controls include *Female*, *Employment*, *Urban residence*, and *Income*. Standard errors clustered at country level are reported in parentheses.

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$ (two-tailed test)

Table A.12: Addressing the Issue of Preference Falsification: Current Democracies Only

	DV = Trust in Science (IRT)			
	(1) Binary democracy, age 14 to present	(2) Binary democracy, age 14 to present	(3) Continuous democracy, age 14 to present	(4) Electoral democracy (V-Dem), age 14 to present
<i>Effect of cumulative exposure to democracy on ...</i>				
Primary education or below	-0.076** (0.024)	-0.082* (0.034)	-0.088* (0.039)	-0.081+ (0.044)
Secondary education	-0.036* (0.018)	-0.065** (0.022)	-0.073** (0.025)	-0.109** (0.029)
College education or above	0.011 (0.022)	-0.019 (0.025)	-0.035 (0.027)	-0.075* (0.033)
Country and birth year–education FE	✓	✓	✓	✓
Country-level controls × education		✓	✓	✓
Democracy × indiv. controls		✓	✓	✓
Adjusted R ²	0.15	0.16	0.16	0.16
Observations	89544	87435	87435	87435

Note: This table presents the results from cross-cohort analysis focusing only on the sample of countries that are *currently* democracies (polity score ≥ 6). The independent variable is cumulative exposure to democracy during a respondent’s lifetime (after age 14). Country-level controls include *Log GDP per capita*, *Log population*, *Log number of Nobel Prize winners per capita (science and medicine)*, and *Log number of QS 500 universities per capita*. Individual-level controls include *Female*, *Employment*, *Urban residence*, and *Income*. Standard errors clustered at country level are reported in parentheses.

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$ (two-tailed test)

Table A.13: Analysis of Science Attitudes from the WVS

	The world is better off because of science and technology	Science and technology are making our lives healthier, easier, and more comfortable	We depend too much on science and not enough on faith	One of the bad effects of science is that it breaks down people’s ideas of right and wrong	Whenever science and religion conflict, religion is always right
	(1)	(2)	(3)	(4)	(5)
<i>Effect of democracy on ...</i>					
Primary education or below	-0.199* (0.084)	-0.109 (0.085)	0.251** (0.096)	0.220* (0.096)	0.121** (0.030)
Secondary education	-0.081 (0.076)	-0.082 (0.078)	0.273** (0.092)	0.263** (0.087)	0.010 (0.029)
College education or above	0.146+ (0.082)	0.065 (0.083)	-0.035 (0.098)	-0.115 (0.095)	-0.076* (0.031)
Country-region FE	✓	✓	✓	✓	✓
Birth year and survey wave FE	✓	✓	✓	✓	✓
Covariates	✓	✓	✓	✓	✓
Adjusted R ²	0.14	0.12	0.16	0.12	0.40
Observations	89038	88999	88295	87314	84567

Note: This table presents results from cross-cohort regressions using science-related questionnaire items in the sixth and seventh waves of the WVS. A more positive coefficient estimate means a more affirmative response to the statement printed at the top of each of column. The lifetime democratic exposure variable is computed based on the binary democracy measure (Polity ≥ 6). Covariates include *Age*, *Female*, *Employment status*, *Income*, and *Self-placed left-right*. Standard errors clustered at country level are reported in parentheses.

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$ (two-tailed test)

Table A.14: Democracy and Post-Materialist Values

	DV: post-materialist value index		
	(1)	(2)	(3)
Polity score (binary, age 14 to present)	0.190** (0.027)		
Polity score (continuous, age 14 to present)		0.013** (0.002)	
Electoral democracy (V-Dem, age 14 to present)			0.529** (0.057)
Country FE	✓	✓	✓
Birth year–education FE	✓	✓	✓
Survey wave FE	✓	✓	✓
Covariates	✓	✓	✓
Observations	217160	217160	217919

Note: This table presents the regression results on the relationship between democracy and individual-level post-materialist values. The dependent variable is the 12-item post-materialism index (Y001) from the WVS (the second to the seventh wave). The independent variable in the first column is the cumulative exposure to democracy using three different democracy measures. Country-level controls include *Log number of Nobel Prize winners per capita (science and medicine)* and *Log number of QS 500 universities per capita*. Individual-level controls include *Age*, *Female*, *Employment*, *Urban residence*, *Income*, and *Self-placed left-right*. Standard errors clustered at country level are reported in parentheses.

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$ (two-tailed test)

Table A.15: Cohort-Level Post-Materialist Values and Trust in Science

	DV = Trust in Science (IRT)			
	(1) Full sample	(2) Full sample	(3) Full sample	(4) Exclude populist leaders in power (2017–18)
<i>Effect of cohort-level post-materialism on ...</i>				
Primary education or below	-0.080** (0.025)	-0.073** (0.022)	-0.083* (0.034)	-0.077* (0.035)
Secondary education	-0.012 (0.013)	-0.002 (0.013)	-0.042+ (0.024)	-0.049+ (0.026)
College education or above	0.026 (0.021)	0.040+ (0.021)	-0.023 (0.028)	-0.018 (0.032)
Country FE	✓	✓	✓	✓
Birth year–education FE		✓	✓	✓
Country-level controls × education			✓	✓
Democracy × indiv. controls			✓	✓
Adjusted R ²	0.14	0.14	0.15	0.15
Observations	87757	87587	84257	68514

Note: This table presents the results from cross-sectional regressions of post-materialist values on trust in science. The post-materialism variable is based on the post-materialism index (12-item) from the WVS. Each respondent is matched with the average index value (larger value = greater post-materialist inclination) of WVS respondents from the same country and birth cohort. Column 4 excludes countries that had populist leaders in power between 2017 and 2018, using the classification of populist leaders from Funke, Schularick, and Trebesch (2020). Country-level controls include *Log number of Nobel Prize winners per capita (science and medicine)* and *Log number of QS 500 universities per capita*. Individual-level controls include *Female*, *Employment*, *Urban residence*, and *Income*. Standard errors clustered at country level are reported in parentheses. + $p < 0.1$, * $p < 0.05$, ** $p < 0.01$ (two-tailed test)

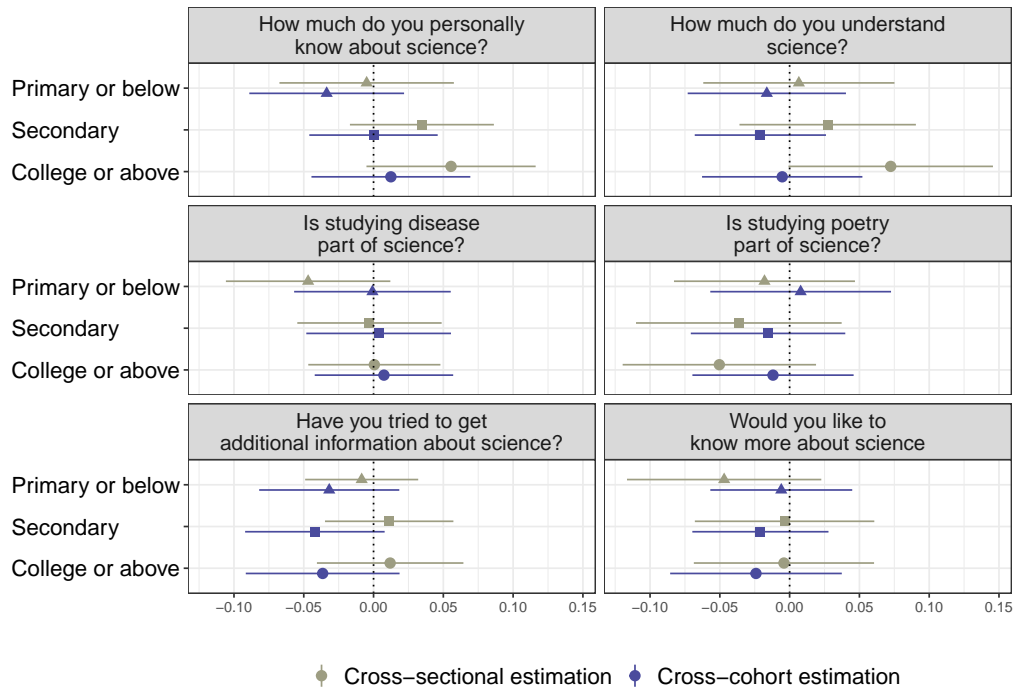
Table A.16: Using Interactions between Individual Religiosity and Aggregate Share of Religious Population as the Mediator

	Trust in Science (IRT)	
	(1)	(2)
Non-college \times democratic exposure (after age 14)	-0.169** (0.046)	-0.169** (0.046)
Believe in religion		-0.129 (0.084)
Believe in religion \times % of Christians		0.147 (0.109)
Believe in religion \times % of Muslims		0.543** (0.138)
Believe in religion \times % of Buddhists		0.434** (0.163)
Mediation effect as % of δ		-0.01
Country and birth year–education FE	✓	✓
Country-level controls \times education	✓	✓
Democracy \times indiv. controls	✓	✓
Adjusted R ²	0.16	0.16
Observations	129100	129100

Note: This table presents the results from a mediation analysis using the interaction between individual religiosity and the percentage of population for major religious denominations. The main effects of religious population share are absorbed by country fixed effects. The specification is otherwise the same as the cross-cohort models reported in Column 4 of Table 1. Standard errors clustered at country level are reported in parentheses.

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$ (two-tailed test)

Figure A.9: Estimation Results for Questions Related to Scientific Knowledge



Note: This figure displays the estimated effects of democracy on questions related to the possession of, and willingness to acquire, basic knowledge about science. The cross-sectional and cross-cohort models are based on Column 4 of Tables 1 and 2, respectively. Positive estimates indicate affirmative answers (on average) to the question printed at the top of each panel. The horizontal bars represent 95% confidence intervals.

Table A.17: Democracy and Student Performance in Science and Mathematics

	Science Performance			Math Performance		
	(1)	(2)	(3)	(4)	(5)	(6)
Democracy (Polity \geq 6)	11.910 (22.418)			12.414 (25.325)		
Democracy (continuous Polity)		1.824 (1.813)			1.945 (2.036)	
Electoral democracy (V-Dem)			35.662 (38.137)			31.333 (45.080)
Dependent variable mean	471.9	471.9	473.2	465.3	465.3	467.4
Control variables	✓	✓	✓	✓	✓	✓
Adjusted R ²	0.39	0.41	0.41	0.41	0.43	0.42
Observations	230	230	239	230	230	239

Note: This table presents results on the relationship between democracy and student performance in science and mathematics. Student performance data are from the Programme for International Student Assessment (PISA), an international research initiative that evaluates national educational systems by measuring 15-year-old students' scholastic performance on mathematics, science, and reading. The analysis uses data from four rounds of the PISA study (2006, 2009, 2012, and 2015). *Science Performance* measures students' ability to use scientific knowledge to identify questions, acquire new knowledge, explain scientific phenomena, and draw evidence-based conclusions about science-related issues. *Math Performance* measures mathematical literacy, which is the ability to employ mathematics in a variety of contexts to describe, predict, and explain phenomena. Control variables include *Log population*, *Log GDP per capita*, and year fixed effects. Standard errors clustered at country level are reported in parentheses.

⁺ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$ (two-tailed test)

Table A.18: Democracy and Performance in International Mathematical Olympiad

	% of Gold Medals in Team			% of All Medals in Team		
	(1)	(2)	(3)	(4)	(5)	(6)
Democracy (Polity \geq 6)	0.005 (0.015)			0.070 ⁺ (0.042)		
Democracy (continuous Polity)		0.000 (0.002)			0.004 (0.005)	
Electoral democracy index			0.021 (0.051)			0.223* (0.102)
Dependent variable mean	0.1	0.1	0.1	0.5	0.5	0.5
Control variables	✓	✓	✓	✓	✓	✓
Adjusted R ²	0.60	0.60	0.60	0.69	0.69	0.69
Observations	2431	2431	2518	2431	2431	2518

Note: This table presents results on the relationship between democracy and country performance in the International Mathematical Olympiad (IMO) between 1959 and 2020. Performance data are obtained from the IMO’s official website (<https://www.imo-official.org/results.aspx>). *% of Gold Medals in Team* measures the percentage of participants who won the gold medal in a country’s team, and *% of All Medals in Team* measures the percentage of all medalists (gold, silver, and bronze). Control variables include *Log population*, *Log GDP per capita*, and country and year fixed effects. Standard errors clustered at country level are reported in parentheses.

⁺ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$ (two-tailed test)

Table A.19: Mediation Analyses with Non-Political Trust

	Trust in Science (IRT)			
	(1)	(2)	(3)	(4)
No college \times democratic exposure	-0.301** (0.080)	-0.258** (0.075)	-0.292** (0.081)	-0.285** (0.080)
Mediator: trust in neighbors		0.287** (0.009)		
Mediator: trust in traditional healers				0.175** (0.012)
Mediation effect as % of δ		14.18		2.31
Country and birth year–education FE	✓	✓	✓	✓
Country-level controls \times education	✓	✓	✓	✓
Democracy \times indiv. controls	✓	✓	✓	✓
Adjusted R ²	0.16	0.23	0.16	0.19
Observations	137806	137806	131535	131535

Note: This table presents the results on the mediation effect of three non-political trust variables on the relationship between democracy and trust in science. The size of the mediation effect can be directly compared to Model 6 of Table 4, which uses an identical specification. Standard errors clustered at country level are reported in parentheses.

⁺ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$ (two-tailed test)

B.1 Examples of “Reference to Science” in Constitutions

Russia Shall ensure the implementation in the Russia Federation of a uniform State policy in the sphere of culture, science, education, health, social security and ecology (Article 114, 1b)

Singapore The persons to be nominated shall be persons who have rendered distinguished public service, or who have brought honour to the Republic, or who have distinguished themselves in the field of arts and letters, culture, the sciences, business, industry, the professions, social or community service or the labour movement (Fourth Schedule, 3.2).

China The state continuously raises labor productivity, improves economic results and develops the productive forces by enhancing the enthusiasm of the working people, raising the level of their technical skill, disseminating advanced science and technology, improving the systems of economic administration and enterprise operation and management, instituting the socialist system of responsibility in various forms and improving organization of work (Article 14).

B.2 Examples of National Honors

Table A.20: Examples of National Honors from Selected Countries

Award Name	Country	Award Name	Country
Friendship of People’s Order	Afghanistan	Order of the Nile	Egypt
Order of Glory	Afghanistan	Order of Ismail	Egypt
Order of the Sun and Freedom	Afghanistan	Order of the Republic	Egypt
Order of the Red Banner	Afghanistan	Order of Merit	Egypt
Hero of the Democratic Republic of Afghanistan	Afghanistan	Order of the Virtues	Egypt
Order of the Supreme Sun	Afghanistan	Presidential Medal of Freedom	United States
Friendship Award	China	Presidential Citizens Medal	United States
National Honorary Titles	China	Honorary Citizen of the United States	United States
Order of Friendship	China	Congressional Gold Medal	United States
Order of the Republic	China		

Table A.21: Science Honors and Trust in Science among the Less Educated

	DV: Average trust in science (primary education or below)		DV: Average trust in science (secondary education)	
	(1)	(2)	(3)	(4)
Share of honors to scientists (1990–2018)	0.435 ⁺ (0.235)	0.459* (0.222)	0.161 (0.133)	0.155 (0.138)
Total number of honors (in 1000s)	-0.016 (0.022)	-0.020 (0.037)	-0.002 (0.011)	-0.017 (0.023)
Log population	-0.018 (0.020)	-0.000 (0.020)	0.011 (0.011)	0.022 ⁺ (0.013)
Log GDP per capita	-0.068** (0.025)	0.019 (0.032)	-0.021 (0.015)	0.006 (0.020)
Average trust in science (college education or above)	0.690** (0.094)	0.575** (0.083)	0.792** (0.059)	0.709** (0.052)
Region FE		✓		✓
Adjusted R ²	0.36	0.59	0.75	0.80
Observations	110	109	110	109

Note: This table presents cross-sectional results on the relationship between the share of national honors to scientists and the average trust in science among the less educated. The dependent variable is calculated by averaging the level of trust in science by country for specific education groups. The share of honors to scientists are based on aggregate data between 1990 and 2018. Robust standard errors are reported in parentheses.

⁺ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$ (two-tailed test)

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