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APPENDIX 1

Number of Respondents and Schools per Country

|  |  |  |
| --- | --- | --- |
|  |  |  |
| **Country** | **Number of**  **schools** | **Number of respondents** |
| Belgium (Flanders) | 162 | 2,702 |
| Bulgaria | 147 | 2,935 |
| Chile | 178 | 4,986 |
| Colombia | 150 | 5,575 |
| Denmark | 185 | 5,985 |
| Germany (North | 64 | 1,387 |
| Rhine-Westphalia) |  |  |
| Dominican Republic | 141 | 3,882 |
| Estonia | 164 | 2,801 |
| Finland | 179 | 3,062 |
| Hong-Kong | 128 | 2,173 |
| Croatia | 177 | 3,799 |
| Italy | 170 | 3,203 |
| South Korea | 106 | 2,593 |
| Lithuania | 183 | 3,562 |
| Latvia | 148 | 3,174 |
| Mexico | 213 | 5,330 |
| Malta | 47 | 3,474 |
| Netherlands | 123 | 2,705 |
| Norway | 148 | 6,271 |
| Peru | 206 | 5,110 |
| Russia | 352 | 7,080 |
| Slovenia | 145 | 2,738 |
| Sweden | 155 | 2,900 |
| Total | 3,671 | 86,914 |

APPENDIX 2

Descriptive Statistics of Variables in the Analyses

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
|  | Mean | Standard  Deviation | Minimum  Value | Maximum  Value | N |
| Civic Duty | 0.82 | 0.38 | 0.00 | 1.00 | 85,005 |
| (0=not important at all or not very important;  1=quite important or very important) |  |  |  |  |  |
| Civics Courses | 0.00 | 1.00 | -5.74 | 3.77 | 86,818 |
| (Standardized values. Higher values indicate higher levels civic education through civics courses) |  |  |  |  |  |
| Active Learning Strategies | 0.00 | 1.00 | -2.92 | 5.96 | 86,816 |
| (Standardized values. Higher values indicate higher levels of civic education through active learning strategies) |  |  |  |  |  |
| Open Classroom Environment | 0.00 | 1.00 | -4.23 | 3.84 | 86,812 |
| (Standardized values. Higher values indicate higher levels of civic education through open classroom environment) |  |  |  |  |  |
| Political Interest: Parents | 0.27 | 0.44 | 0.00 | 1.00 | 84,569 |
| (0=not interested or a little interested;  1= somewhat interested or very interested) |  |  |  |  |  |
| Occupational status: Parents | 47.88 | 17.10 | 10.00 | 89.00 | 82,241 |
| (Higher values indicate higher occupational status.  Classification based on Ganzeboom et al. [1992]) |  |  |  |  |  |
| Gender | 0.50 | 0.50 | 0.00 | 1.00 | 86,828 |
| (0=male; 1= female) |  |  |  |  |  |

Unweighted pooled data from the 2016 International Civic and Citizenship Education Study (ICCS).

APPENDIX 3

Factor Loading and Uniqueness Value of Items Forming the Three Civic Education Indexes

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  | Factor Loading | Uniqueness Value |
| *Civics Courses:* |  |  |
| *(At school, to what extent have you learned about the following topics? Not at all; to a small extent; to a moderate extent; to a large extent)* |  |  |
| - How citizens can vote in local or national elections | 0.7028 | 0.5060 |
| - How laws are introduced and changed | 0.7391 | 0.4538 |
| - How to protect the environment | 0.5691 | 0.6761 |
| - How to contribute to solving problems in the local community | 0.7278 | 0.4703 |
| - How citizen rights are protected | 0.7747 | 0.3999 |
| - Political issues and events in other countries | 0.6482 | 0.5798 |
| - How the economy works | 0.6557 | 0.5700 |
| *Active Learning Strategies:* |  |  |
| *(At school, have you ever done any of the following activities? No, I have never done this; yes, I have done this but more than a year ago; yes, I have done this within the last twelve months)* |  |  |
| - Active participation in an organized debate | 0.5684 | 0.6769 |
| - Voting for class representative or school parliament | 0.5739 | 0.6706 |
| - Taking part in decision-making about how the school is run | 0.7096 | 0.4965 |
| - Taking part in discussions at a student assembly | 0.7095 | 0.4966 |
| - Becoming a candidate for class representative or school parliament | 0.6463 | 0.5823 |
| - Participating in an activity to make the school more environmentally friendly | 0.5305 | 0.7185 |
| *Openness Classroom Environment:* |  |  |
| *(When discussing political or social issues during regular lessons, how often do the following things happen? Never; rarely; sometimes; often)* |  |  |
| - Teachers encourage students to make up their own minds | 0.7115 | 0.4937 |
| - Teachers encourage students to express their opinions | 0.7510 | 0.4360 |
| - Students bring up current political events for discussion in class | 0.5978 | 0.6426 |
| - Students express opinions in class even when their opinions are different from most of the other students | 0.6760 | 0.5430 |
| - Teachers encourage students to discuss the issues with people having different opinions | 0.7314 | 0.4651 |
| - Teachers present several sides of the issues when explaining them in class | 0.7075 | 0.4994 |

APPENDIX 4

Distribution of the Three Civic Education Indexes



For a list of items, see Appendix 3. All indexes are standardized to a mean of 0, and a standard deviation of 1, for comparative purposes. They are also aggregated at the school-level to reduce the risk of over- (or under-) estimations of civic education exposure, and of reverse causation.

APPENDIX 5

Effect of Different Forms of Civic Education on Sense of Civic Duty to Vote, with Interactions of These Different Forms of Civic Education

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
|  | DV: Civic Duty | | | |
|  | Model 1 | Model 2 | Model 3 |
|  |  |  |  |
| Civics Courses | 0.222\*\*\* | 0.221\*\*\* | 0.222\*\*\* |
|  | (0.020) | (0.020) | (0.020) |
|  |  |  |  |
|  |  |  |  |
| Active Learning Strategies | 0.090\*\*\* | 0.090\*\*\* | 0.089\*\*\* |
|  | (0.017) | (0.017) | (0.017) |
|  |  |  |  |
| Open Classroom Environment | 0.139\*\*\* | 0.139\*\*\* | 0.142\*\*\* |
|  | (0.017) | (0.017) | (0.017) |
|  |  |  |  |
|  |  |  |  |
| Civics Courses\* | 0.010 |  |  |
| Active Learning Strategies | (0.012) |  |  |
|  |  |  |  |
|  |  |  |  |
| Active Learning Strategies\* |  | -0.011 |  |
| Open Classroom Environment |  | (0.012) |  |
|  |  |  |  |
| Active Learning Strategies\* |  |  | 0.025\* |
| Open Classroom Environment |  |  | (0.012) |
|  |  |  |  |
|  |  |  |  |
| Political Interest: Parents | 0.602\*\*\* | 0.602\*\*\* | 0.602\*\*\* |
|  | (0.025) | (0.025) | (0.025) |
|  |  |  |  |
|  |  |  |  |
| Occupational Status: Parents | 0.005\*\*\* | 0.005\*\*\* | 0.005\*\*\* |
|  | (0.001) | (0.001) | (0.001) |
|  |  |  |  |
|  |  |  |  |
| Female | 0.124\*\*\* | 0.123\*\*\* | 0.123\*\*\* |
|  | (0.020) | (0.020) | (0.020) |
|  |  |  |  |
|  |  |  |  |
| Constant | 1.579\*\*\* | 1.589\*\*\* | 1.580\*\*\* |
|  | (0.074) | (0.074) | (0.074) |
|  |  |  |  |
| Fixed Effects: Country | Yes | Yes | Yes |
| N | 79,885 | 79,885 | 79,885 |

Entries report log-odds and clustered-standard errors (in parentheses). Effects are estimated by means of multi-level logistic regressions, in which students are nested within schools. Civic duty is dichotomous: 0=voting is not important at all or not very important; 1=voting is quite important or very important. Higher values of the civic education indexes indicate higher levels of a form of civic education. \* *p* < 0.05, \*\* *p* < 0.01, \*\*\* *p* < 0.001.

APPENDIX 6

Effect of Democracy Level on Civic Duty

|  |  |
| --- | --- |
|  | DV: Civic Duty |
| Not Free | 0.398 |
|  | (0.646) |
|  |  |
| Partly Free | 0.455 |
|  | (0.575) |
|  |  |
| Constant | 1.156\* |
|  | (0.559) |
| N | 82,916 |

Entries report log-odds and clustered-standard errors (in parentheses). Effects are estimated by means of multi-level logistic regressions, in which students are nested within countries. Civic duty is dichotomous: 0=voting is not important at all or not very important; 1=voting is quite important or very important. “Free” represents the category of reference for my democracy measure, that comes from Freedom House. \* *p* < 0.05, \*\* *p* < 0.01, \*\*\* *p* < 0.001.

APPENDIX 7

Effect of Civic Duty on Vote Intention, Moderated by Democracy Level

|  |  |
| --- | --- |
|  | DV: Intention to Vote |
| Civic duty | 1.674\*\*\* |
|  | (0.076) |
|  |  |
| Civic Duty | 0.160 |
| \*Not Free | (0.096) |
|  |  |
| Civic Duty | -0.101 |
| \*Partly Free | (0.081) |
|  |  |
| Not Free | -0.222 |
|  | (0.476) |
|  |  |
| Partly Free | -0.248 |
|  | (0.423) |
|  |  |
| Constant | 0.910\* |
|  | (0.411) |
| N | 80,540 |

Entries report log-odds and clustered-standard errors (in parentheses). Effects are estimated by means of multi-level logistic regressions, in which students are nested within countries. Intention to vote is dichotomous: 0=I would certainly/probably not do this; 1=I would certainly/probably do this. Civic duty is dichotomous: 0=voting is not important at all or not very important; 1=voting is quite important or very important. “Free” represents the category of reference for my democracy measure, that comes from Freedom House. \* *p* < 0.05, \*\* *p* < 0.01, \*\*\* *p* < 0.001.

APPENDIX 8

Effect of Different Forms of Civic Education on Sense of Civic Duty to Vote, with at Least 26 (the Median Number of) Students per School

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
|  | DV: Civic Duty | | | |
|  | (1) | (2) | (3) | (4) |
| Civics Courses | 0.344\*\*\* |  |  | 0.214\*\*\* |
|  | (0.028) |  |  | (0.033) |
|  |  |  |  |  |
| Active Learning Strategies |  | 0.209\*\*\* |  | 0.073\* |
|  |  | (0.028) |  | (0.028) |
|  |  |  |  |  |
| Open Classroom Environment |  |  | 0.293\*\*\* | 0.174\*\*\* |
|  |  |  | (0.024) | (0.028) |
|  |  |  |  |  |
|  |  |  |  |  |
| Political Interest: Parents | 0.606\*\*\* | 0.608\*\*\* | 0.605\*\*\* | 0.599\*\*\* |
|  | (0.036) | (0.036) | (0.036) | (0.036) |
|  |  |  |  |  |
|  |  |  |  |  |
| Occupational Status: Parents | 0.007\*\*\* | 0.007\*\*\* | 0.006\*\*\* | 0.006\*\*\* |
|  | (0.001) | (0.001) | (0.001) | (0.001) |
|  |  |  |  |  |
|  |  |  |  |  |
| Female | 0.177\*\*\* | 0.173\*\*\* | 0.163\*\*\* | 0.165\*\*\* |
|  | (0.029) | (0.029) | (0.029) | (0.029) |
|  |  |  |  |  |
|  |  |  |  |  |
| Constant | 1.771\*\*\* | 1.790\*\*\* | 1.570\*\*\* | 1.812\*\*\* |
|  | (0.302) | (0.316) | (0.305) | (0.300) |
|  |  |  |  |  |
| Fixed Effects: Country | Yes | Yes | Yes | Yes |
| N | 40,703 | 40,703 | 40,703 | 40,703 |

Entries report log-odds and clustered-standard errors (in parentheses). Effects are estimated by means of multi-level logistic regressions, in which students are nested within schools. Civic duty is dichotomous: 0=voting is not important at all or not very important; 1=voting is quite important or very important. Higher values of the civic education indexes indicate higher levels of a form of civic education. \* *p* < 0.05, \*\* *p* < 0.01, \*\*\* *p* < 0.001.

APPENDIX 9

Number of Respondents per Province/Territory

|  |  |
| --- | --- |
|  |  |
| **Province/Territory** | **Number of Respondents** |
| Newfoundland | 82 |
| New Brunswick | 135 |
| Nova Scotia | 206 |
| Prince Edward Island | 26 |
| Quebec | 785 |
| Ontario | 1272 |
| Manitoba | 234 |
| Saskatchewan | 153 |
| Alberta | 667 |
| British Columbia | 781 |
| Nunavut | 13 |
| Northwest Territories | 27 |
| Yukon | 28 |
| Total | 4,409 |

Data from the 2011 and 2015 Canadian National Youth Survey.

APPENDIX 10

Descriptive Statistics of Variables in the NYS Analyses.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
|  | **Mean** | **Standard**  **Deviation** | **Minimum**  **Value** | **Maximum**  **Value** | **N** |
| Civic Duty | 0.73 | 0.44 | 0.00 | 1.00 | 4,259 |
| (0=disagree or strongly disagree that voting is a civic duty/voting is a choice;  1= agree or strongly agree that voting is a civic duty/voting is a civic duty) |  |  |  |  |  |
| Experience with Civics Courses | 0.66 | 0.47 | 0.00 | 1.00 | 4,236 |
| (0=no; 1=yes) |  |  |  |  |  |
| Discussion: Parents | 0.22 | 0.41 | 0.00 | 1.00 | 4,283 |
| (0=not often; 1=often) |  |  |  |  |  |
| Gender | 0.55 | 0.50 | 0.00 | 1.00 | 4,398 |
| (0=male; 1=female) |  |  |  |  |  |
| Age | 26.02 | 5.04 | 18.00 | 35.00 | 4,416 |
|  |  |  |  |  |  |
| Education | 0.68 | 0.47 | 0.00 | 1.00 | 4,376 |
| (0=less than tertiary; 1=tertiary) |  |  |  |  |  |
| Aboriginal Identity | 0.09 | 0.28 | 0.00 | 1.00 | 4,385 |
| (0=no; 1=yes) |  |  |  |  |  |

Unweighted pooled data from the 2011 and 2015 Canadian National Youth Survey.

APPENDIX 11

Effect of Different Forms of Civic Education on Sense of Civic Duty to Vote, with Interactions of These Different Forms of Civic Education and Parents’ Political Interest and Occupational Status

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |
|  | DV: Civic Duty | | | | | |
|  | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
| Civics Courses | 0.221\*\*\* | 0.220\*\*\* | 0.220\*\*\* | 0.272\*\*\* | 0.220\*\*\* | 0.220\*\*\* |
|  | (0.021) | (0.020) | (0.020) | (0.036) | (0.020) | (0.020) |
|  |  |  |  |  |  |  |
| Active Learning Strategies | 0.100\*\*\* | 0.108\*\*\* | 0.100\*\*\* | 0.099\*\*\* | 0.126\*\*\* | 0.100\*\*\* |
|  | (0.017) | (0.018) | (0.017) | (0.017) | (0.033) | (0.017) |
|  |  |  |  |  |  |  |
| Open Classroom Environment | 0.135\*\*\* | 0.135\*\*\* | 0.136\*\*\* | 0.135\*\*\* | 0.135\*\*\* | 0.116\*\* |
|  | (0.018) | (0.018) | (0.019) | (0.018) | (0.018) | (0.035) |
|  |  |  |  |  |  |  |
| Civics Courses\* | -0.007 |  |  |  |  |  |
| Political Interest: Parents | (0.026) |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Active Learning Strategies\* |  | -0.037 |  |  |  |  |
| Political Interest: Parents |  | (0.026) |  |  |  |  |
|  |  |  |  |  |  |  |
| Open Classroom Environment\* |  |  | -0.006 |  |  |  |
| Political Interest: Parents |  |  | (0.027) |  |  |  |
|  |  |  |  |  |  |  |
| Civics Courses\* |  |  |  | -0.001 |  |  |
| Occupational Status: Parents |  |  |  | (0.001) |  |  |
|  |  |  |  |  |  |  |
| Active Learning Strategies\* |  |  |  |  | -0.001 |  |
| Occupational Status: Parents |  |  |  |  | (0.001) |  |
|  |  |  |  |  |  |  |
| Open Classroom Environment\* |  |  |  |  |  | 0.000 |
| Occupational Status: Parents |  |  |  |  |  | (0.001) |
|  |  |  |  |  |  |  |
| Political Interest: Parents | 0.605\*\*\* | 0.603\*\*\* | 0.605\*\*\* | 0.605\*\*\* | 0.605\*\*\* | 0.605\*\*\* |
|  | (0.026) | (0.026) | (0.026) | (0.026) | (0.026) | (0.026) |
|  |  |  |  |  |  |  |
| Occupational Status: Parents | 0.006\*\*\* | 0.006\*\*\* | 0.006\*\*\* | 0.005\*\*\* | 0.005\*\*\* | 0.006\*\*\* |
|  | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
|  |  |  |  |  |  |  |
| Female | 0.124\*\*\* | 0.124\*\*\* | 0.124\*\*\* | 0.124\*\*\* | 0.124\*\*\* | 0.124\*\*\* |
|  | (0.020) | (0.020) | (0.020) | (0.020) | (0.020) | (0.020) |
|  |  |  |  |  |  |  |
| Constant | 1.598\*\*\* | 1.600\*\*\* | 1.597\*\*\* | 1.602\*\*\* | 1.600\*\*\* | 1.594\*\*\* |
|  | (0.075) | (0.075) | (0.074) | (0.074) | (0.075) | (0.075) |
|  |  |  |  |  |  |  |
| Fixed Effects: Country | Yes | Yes | Yes | Yes | Yes | Yes |
| *N* | 77982 | 77982 | 77982 | 77982 | 77982 | 77982 |

Entries report log-odds and clustered-standard errors (in parentheses). Effects are estimated by means of multi-level logistic regressions, in which students are nested within schools. Civic duty is dichotomous: 0=voting is not important at all or not very important; 1=voting is quite important or very important. Higher values of the civic education indexes indicate higher levels of a form of civic education. \* *p* < 0.05, \*\* *p* < 0.01, \*\*\* *p* < 0.001.

APPENDIX 12

Mean Levels of Civic Duty By School Type

|  |  |
| --- | --- |
| School Type | Mean Levels of Civic Duty |
| *Type I:* All three forms of civic education | .89 |
| *Type II:* Civics courses and active learning strategies | .82 |
| *Type III:* Civics courses and open classroom environment | .87 |
| *Type IV (baseline):* Civics courses only | .80 |

22, 11, 10, and 7 percent of the ICCS schools fall in each school type, respectively. The rest (50 percent) of the ICCS schools does not implement civics courses as a form of civic education.

APPENDIX 13

Correlation between Students’ and Directors’ Assessments of Voting in School



Students’ measure of vote for class representative or school parliament comes from the 2016 ICCS student sample. Directors’ measure of vote in school parliament elections comes from the 2016 ICCS director sample. To allow a student-director comparison, the students’ measure is dichotomized before the school-level aggregation: 0=I have done this but more than a year ago or no, I have never done this; 1=Yes, I have done this within the last twelve months. Fewer students reports voting as one moves from “nearly all/all” to “most of them”, and so on, denoting a consistency between students’ and directors’ measures.