**ONLINE SUPPLEMENTARY MATERIAL**

**Appendix A**

**Data, sample details and trends in turnout**

***Data***

The data on turnout, victimization and the control variables for the analysis is based on administrative population registers maintained by Statistics Denmark, and are merged via (encrypted) social security numbers. The data is stored at Statistics Denmark and can only be accessed through Statistics Denmark by researchers affiliated with a Danish Research Institution. Further information about the population registers, including access, can be found at [http://www.dst.dk/en/TilSalg/­Forsknings­­­service.aspx](http://www.dst.dk/en/TilSalg/Forskningsservice.aspx) and in Pedersen (2011).

***Sample details***

The *Danish Turnout Project* has collected individual-level turnout data form each of the about 1,300 polling stations in Denmark and verified them for analysis since 2009. For the 2009 election, we have turnout data for all eligible voters living in 44 out of a total of 98 municipalities, while we have data for almost the entire population of eligible voters in 2013. See Section 6 in the supporting information for Dahlgaard (2018) for more information. Eligible voters at Danish municipality elections are adults (18+) residing in Denmark who are either Danish, EU, Icelandic or Norwegian citizens. Other nationals have to live three years in Denmark in order to become eligible.[[1]](#footnote-1)

Given our focus on the within-individual variation in turnout, we limit our sample to those individuals whose turnout we can observe in both 2009 and 2013; this effectively limits our sample to individuals who were eligible to vote in both 2009 and 2013 and who lived in one of 44 municipalities at the time of the 2009 election.[[2]](#footnote-2)

Furthermore, we exclude individuals that were victimized before the 2009 election period (from January 1st 2005 and onwards) to eliminate the confounding effects of prior victimization and to control for other selection effects. This also enable us to avoid conflating the effect of prior victimization with victimization occurring in our observation period.

The individual-level turnout data contains information on turnout and when the vote was cast for some of the voters; i.e. on election day or via early voting within one month prior to the election. In the case of early voting, the data does not consistently reveal the exact date. This implies that we consider the entire month leading up to an election as the election period and excludes all individuals who were victimized in this period.

To avoid conflating the effect of non-violent and violent victimization, we exclude victims of non-violent crimes when estimating the effect of victimization from violent crimes and victims of violent crimes when estimating the effect of victimization from non-violent crimes.

In our last model (Model 5), we compare individuals that were victims of violent crimes between the two elections to those individuals that only were victimized from violent crimes between the 2013 election and the 31st of December 2014, which excludes all individuals who were not victimized between 2005 and 2014 (or victimized from non-violent crimes in the same period). Table A1 provides an overview of the sample sizes for the estimated models.

Table A1: sample sizes for the estimated models

|  |  |
| --- | --- |
| **Description** | **N** |
| Eligible voters in the 2009 election | 4,191,725 |
|  - voters not living in one of the 44 municipalities at the start of the 2009 election period | 1,848,622 |
|  - 2009 eligible voters not eligible to vote in 2013 election (deceased, migrated) | 182,124 |
| = Voters with observed turnout in both 2009 and 2013 | 2,160,979 |
|  - Voters victimized at least once before 2009 election period (2005 to 2009) | 107,155 |
|  - Voters victimized in the early voting period in 2009 and/or 2013 | 4,480 |
|  - Voters with missing information on covariates in 2009 and/or 2013\* | 55,985 |
| **= Sample Size, Model 1**  | **1,993,359** |
|  - Voters who were victims of violent crimes 2009-2013  | 20,607 |
| **= Sample size, Model 2**  | **1,972,752** |
| Sample size, Model 1  | 1,993,359 |
|  - Voters who were victims of non-violent crimes 2009-2013 | 72,512 |
| **= Sample size, Model 3-4**  | **1,920,847** |
| - not victimized at all between January 2005 and December 2014 | 1,897,481 |
| **= Sample size, Model 5**  | **23,366** |

\*Approximately 90% of missing values is due to missing information about level of education. Level of education is missing for a fraction of older people and for a fraction of immigrants. Excluding education as a covariate in the model reported in the paper increases the sample with approximately 50.000 individuals but leaves the within-coefficients virtually unaffected.

***Trends in turnout 2009-2013***

Table A2 shows the turnout rate in 2009 and 2013 across individuals included in Models 1 through 5, respectively. Table A3 shows the individual-level transitions with respect to turnout in 2009 and 2013 for individuals included in Model 1.

Table A2: Turnout 2009 and 2013

|  |  |  |  |
| --- | --- | --- | --- |
|  | 2009 | 2013 | N |
| Individuals included in Model 1 | 66.9% | 74.2% | 1,993,359 |
| Individuals included in Model 2 | 67,1% | 74,4% | 1,972,752 |
| Individuals included in Model 3/4 | 67,1% | 74,3% | 1,920,847 |
| Individuals included in Model 5 | 47,9% | 58,0% | 23,366 |

Table A3: Individual-level changes in turnout

|  |  |  |
| --- | --- | --- |
|  |  | 2013 |
| 2009 |  | Voted | Did not vote |
| Voted | 59,0% | 7,9% |
| Did not vote | 15.2% | 17.9% |

The table is based on individuals included in Model 1

N=1,993,359

**Appendix B**

**Victimization data**

We have access to individual-level victimization data for the entire population for the period 2005 to 2014. The data is provided by Statistics Denmark, which obtains the data from the Danish Police. The data contains information about the identity, the type of offense, and the date of the incident for all alleged victims from certain types of crimes (see below). The data records incidents that were reported to the police (by the victim, by others or by the police). The data records all reports about alleged victims to crimes of the following types: assault, robbery, sexual offences, violations of restraining orders and certain types of larceny (fraud and theft, but not burglary) as well other crimes such libel, defamation, illegal discrimination, illegal surveillance, and identity theft.

To distinguish violent crimes from non-violent, we code assault, robbery, sexual offences, violations of restraining orders as violent crimes, larceny and the remaining offenses as non-violent crimes. Table B1 shows the number of victims based on the individuals included in Models 1 through 5, respectively.

Table B1

|  |  |  |
| --- | --- | --- |
| **Description** | **N** | **Share****of sample** |
| Individuals from Model 1 victimized from any crime (at least once) between the 2009 and 2013 election | 95,541 | 4.6% |
| Individuals from Model 2 victimized only from non-violent crime (at least once) between the 2009 and 2013 election | 70.934 | 3.6% |
| Individuals from Model 3-5 victimized only from violent crime (at least once) between the 2009 and 2013 election | 19.029 | 1.0% |
| Individuals from Model 5 not victimized from violent crime between the 2009 and 2013 election, but victimized between the 2013 election and the end of 2014 | 4.337 | 18.6% |

**Appendix C**

**Control variables**

Table C1 provides details about coding and descriptives for the control variables. All control variables are measured using official records main­tained by Statistics Denmark.

Table C1: Control variables

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | Description | Mean/Share | Standard deviation |
| *Time-variant controls* |  |  | Within individuals | Between individuals |
| Danish Citizen (yes) | Citizenship status at time of the election | 0.96 | 0.03 | 0.20 |
| Employment status | Main activity in year of election |  |  |  |
|  Unemployed |  | 0.09 | 0.16 | 0.24 |
|  Employed |  | 0.63 | 0.20 | 0.44 |
|  Retired |  | 0.25 | 0.13 | 0.41 |
|  Student |  | 0.03 | 0.11 | 0.14 |
| Income | Yearly income (including social transfers) in election year measured in million Danish kroner | 2.99⋅10-7 | 5.99⋅10-8 | 1.68⋅10-7 |
| Education | Years of full-time education completed at the end of the election year measured as the time required to obtain the highest level of education completed | 13.49 | 0.49 | 2.92 |
| Violent Victimization % | Share of municipality population victimized from violent crimes in election year | 3.82 | 0.41 | 0.87 |
| *Time-invariant controls* |  |  |  |  |
| Male (yes) | - | 0.50 | - | 0.50 |
| Age | Age in years halfway between elections (November 2011) | 46.61 | - | 17.33 |
| Danish Ancestry |  |  |  |  |
|  2nd generation or more | Individuals with at least one parent, who was born in Denmark and who holds Danish citizenship | 0.92 | - | 0.28 |
|  1st generation | Individuals with parents born outside of Denmark | 0.01 | - | 0.10 |
|  Immigrant | Individuals born outside of Denmark | 0.07 | - | 0.26 |

The table is based on individuals included in Model 1

N=1,993,359

**Appendix D**

**Full Results from Table 1**

 Table D1: Full Results from Table 1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model | 1 | 2 | 3 | 4 | 5 |
| VictimizationCounterfactual trend | BothNon-victims | Non-violentNon-victims | ViolentNon-victims | ViolentNon-victims | ViolentFuture victims |
| Victim | 0.005\* | -0.002 | 0.029\*\*\* | 0.029\*\*\* | 0.019\* |
|  -*within* | (2.56) | (-1.14) | (7.44) | (7.44) | (2.10) |
|  |  |  |  | -0.150\*\*\* | -0.005 |
|  -*between* |  |  |  | (-26.61) | (-0.40) |
|  |  |  |  |  |  |
| Danish Citizen *-within* | -0.026\*\*\*(-3.54) | -0.026\*\*\*(-3.48) | -0.026\*\*\*(-4.44) | -0.026\*\*\*(-3.44) | -0.035(-0.70) |
|  *-between* |  |  |  | 0.072\*\*\*(34.69) | 0.039\*\*(2.88) |
|  |  |  |  |  |  |
| Employment Status  | Reference = unemployed |
|  Employed *-within* | -0.007\*\*\*(-5.81) | -0.007\*\*\*(-5.73) | -0.008\*\*\*(-6.59) | -0.008\*\*\*(-6.59) | -0.013(-1.45) |
|  *-between* |  |  |  | 0.172\*\*\*(132.50) | 0.200\*\*\*(23.42) |
|  |  |  |  |  |  |
|  Retired *-within* | -0.011\*\*\*(-6.89) | -0.010\*\*\*(-6.68) | -0.011\*\*\*(-6.79) | -0.011\*\*\*(-6.79) | -0.032†(-1.82) |
|  *-between* |  |  |  | 0.073\*\*\*(49.32) | 0.031\*\*(2.62) |
|  |  |  |  |  |  |
|  Student *-within* | -0.002(-1.05) | -0.002(-1.03) | -0.000(-0.05) | -0.000(-0.05) | 0.004(0.28) |
|  *-between* |  |  |  | 0.224\*\*\*(94.93) | 0.285\*\*\*(19.16) |
|  |  |  |  |  |  |
| Income (mil. DKK) *-within* | 0.029\*\*\*(8.86) | 0.029\*\*\*(8.99) | 0.030\*\*\*(9.05) | 0.030\*\*\*(9.05) | -0.002\*(-0.05) |
|  *-between* |  |  |  | 0.002\*\*\*(11.69) | 0.024(1.10) |
|  |  |  |  |  |  |
| Education *-within* | 0.010\*\*\*(23.76) | 0.010\*\*\*(24.00) | 0.010\*\*\*(24.08) | 0.010\*\*\*(24.08) | 0.001(0.30) |
|  *-between* |  |  |  | 0.022\*\*\*(216.40) | 0.027\*\*\*(23.46) |
| Violent Victimization %(Municipality) -within | -0.012\*\*\*(-20.91) | -0.012\*\*\*(-20.86) | -0.012\*\*\*(-20.55) | -0.012\*\*\*(-20.55) | -0.008(-1.44) |
|  -between |  |  |  | -0.014\*\*\*(-46.73) | 0.002(0.51) |
|  |  |  |  |  |  |
| Male  -between |  |  |  | -0.031\*\*\*(-59.11) | -0.012\*(-2.25) |
|  |  |  |  |  |  |
| Age -between |  |  |  | 0.006\*\*\*(259.22) | 0.007\*\*\*(31.11) |
|  |  |  |  |  | *cont.* |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Table D1 cont.* |  |  |  |  |  |
| Model | 1 | 2 | 3 | 4 | 5 |
| VictimizationCounterfactual trend | BothNon-victims | Non-violentNon-victims | ViolentNon-victims | ViolentNon-victims | ViolentFuture victims |
| Danish Ancestry | Reference = 2nd generation or more |
|  First generation -between |  |  |  | -0.177\*\*\*(-109.79) | -0.139\*\*\*(-12.58) |
|  |  |  |  |  |  |
|  Immigrant -between |  |  |  | -0.177\*\*\*(-60.86) | -0.137\*\*\*(-9.05) |
|  |  |  |  |  |  |
| 2013 | 0.063\*\*\*(130.12) | 0.063\*\*\*(129.59) | 0.063\*\*\*(128.62) | 0.063\*\*\*(128.62) | 0.082\*\*\*(9.39) |
|  |  |  |  |  |  |
| Constant | 0.611\*\*\* | 0.610\*\*\* | 0.606\*\*\* | -0.058\*\*\* | 0.543\*\*\* |
|  | (76.80) | (65.83) | (64.02) | (-18.96) | (8.47) |
| R-squared -within | 0.024 | 0.024 | 0.024 | 0.024 | 0.037 |
| R-squared  -between |  |  |  | 0.132 | 0.028 |
| ICC (rho) | 0.566 | 0.565 | 0.567 | 0.396 | 0.550 |
| Nindividuals | 1,993,359 | 1,972,752 | 1,920,847 | 1,920,847 | 23,366 |

 t statistics in parentheses, two-sided test. † p < 0.10, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

**Appendix E**

**Robustness Checks**

Table E1: Robustness Checks, Model 3

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | E1.1Movers Excluded | E1.2Interactive Time Effects | E1.3Interactive Time EffectsWith municipality time trends | E1.4Without covariates |
|  |  | Baseline | Interactions | Baseline  | Interactions |  |
| Victim | 0.034\*\*\* | 0.018\*\*\* |  | 0.016\*\*\* | 0.018\*\*\* | 0.032\*\*\* |
| -*within* | (7.97) | (4.47) |  | (4.04) | (5.08) | (8.20) |
|  |  |  |  |  |  |  |
| Danish Citizen*-within* | -0.015†(-1.74) | -0.043\*\*\*(-5.69) | 0.035\*\*\*(18.57) | -0.043\*\*\*(-5.73) | 0.034\*\*\*(18.13) |  |
| Employment Status  | Reference = unemployed |
|  Employed *-within* | -0.012\*\*\*(-9.92) | -0.001(-0.82) | -0.005\*\*\*(-3.21) | -0.003†(-1.86) | -0.002(-1.15) |  |
|  Retired *-within* | -0.010\*\*\*(-5.97) | 0.065\*\*\*36.96 | -0.108\*\*\*(-65.43) | 0.064\*\*\*(36.18) | -0.105\*\*\*(-63.30) |  |
|  |  |  |  |  |  |  |
|  Student -*within* | 0.003(1.03) | 0.014\*\*\*(5.71) | -0.029\*\*\*-8.12 | 0.015\*\*\*(5.99) | -0.027\*\*\*(-7.54) |  |
| Income (mil. DKK)*-within* | 0.025\*\*\*(7.16) | 0.103\*\*\*(3.55) | -0.019\*\*\*(-7.04) | 0.013\*\*\*(3.61) | -0.023\*\*\*(-8.51) |  |
| Education*-within* | 0.013\*\*\*(24.94) | 0.003\*\*\*(7.25) | 0.003\*\*(2.37) | 0.003\*\*\*(6.46) | -0.000\*\*\*(-0.06) |  |
|  |  |  |  |  |  |  |
| Violent Victimization %(Municipality)*-within* | -0.002\*\*\*(-2.54) | -0.012\*\*\*(-19.22) | -0.001\*\*\*(-3.04) |  |  |  |
|  |  |  |  |  |  |  |
| 2013 | 0.060\*\*\* | 0.069\*\*\* | 0.061\*\*\* | 0.072\*\*\* |
|  | (110.17) | (22.74) | (22.78) | (211.14) |
|  |  |  |  |  |  |
| Constant | 0.546\*\*\* | 0.695\*\*\* | 0.629\*\*\* | 0.671\*\*\* |
|  | (57.76) | (70.49) | (63.61) | (3923.14) |
| Municipality fixed effects | No | No | Yes | No |
| R-squared(within) | 0.020 | 0.031 | 0.034 | 0.023 |
| ICC (rho) | 0.575 | 0.572 | 0.572 | 0.572 |
| Nindividuals | 1,691,780 | 1,920,847 | 1,920,847 | 1,920,847 |

t statistics in parentheses, two-sided test. † p < 0.10, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

Table E2: Robustness Checks, Model 5

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | E2.1Movers Excluded | E2.2Interactive Time Effects | E2.3Interactive Time EffectsWith municipality time trends | E2.4Without covariates |
|  |  | Baseline | Interactions | Baseline | Interactions |  |
| Victim | 0.026\*\* | 0.019\* |  | 0.017† |  | 0.019\* |
| -*within* | (2.61) | (2.11) |  | (1.88) |  | (2.11) |
|  |  |  |  |  |  |  |
| Danish Citizen*-within* | -0.025(-1.46) | -0.038(-0.76) | 0.056\*\*\*(4.11) | -0.028(-0.56) | 0.052\*\*\*(3.76) |  |
| Employment Status  | Reference = unemployed |
|  Employed *-within* | -0.024\*(-2.28) | -0.020†(-1.81) | -0.016(-1.33) | -0.022\*(-2.01) | 0.021†(1.72) |  |
|  Retired *-within* | -0.033†(-1.74) | 0.015(0.75) | -0.053\*\*\*(-3.64) | 0.010(0.49) | -0.047\*\*(-3.27) |  |
|  |  |  |  |  |  |  |
|  Student -*within* | 0.005(1.31) | 0.017(1.00) | -0.035-1.47 | 0.014(0.79) | -0.027(-1.12) |  |
| Income (mil. DKK)*-within* | 0.005(0.04) | 0.024(-0.67) | 0.017(0.57) | -0.024(-0.69) | 0.017(0.59) |  |
| Education*-within* | 0.002(0.06) | 0.001(0.17) | -0.001(-0.97) | 0.001(0.27) | -0.001(-0.88) |  |
|  |  |  |  |  |  |  |
| Violent Victimization %(Municipality)*-within* | 0.019\*(2.03) | -0.005(-0.91) | -0.007†(-1.75) |  |  |  |
|  |  |  |  |  |  |  |
| 2013 | 0.087\*\*\* | 0.071\* | 0.024 | 0.086\*\*\* |
|  | (8.61) | (2.48) | (1.05) | (10.54) |
|  |  |  |  |  |  |
| Constant | 0.461\*\*\* | 0.544\*\*\* | 0.500\*\*\* | 0.479\*\*\* |
|  | (5.84) | (8.03) | (7.51) | (272.71) |
| Municipality fixed effects | No | No | Yes | No |
| R-squared(within) | 0.034 | 0.037 | 0.046 | 0.024 |
| ICC (rho) | 0.568 | 0.550 | 0.554 | 0.547 |
| Nindividuals | 18,392 | 23,366 | 23,366 | 23,366 |

t statistics in parentheses, two-sided test. † p < 0.10, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

**References**

Dahlgaard, Jens Olav. 2018. "Trickle-Up Political Socialization: The Causal Effect on Turnout of Parenting a Newly Enfranchised Voter." American Political Science Review, 112(3): 698-705.

Pedersen, Carsten B. 2011. "The Danish civil registration system." Scandinavian Journal of Public Health, 39(7\_suppl): 22-25.

1. In 2009, 5,4% of the eligible voters were non-Danish citizens, see <https://valg.oim.dk/media/16130/saernummer-af-statistiske-efterretninger-om-kommunal-og-regionalvalget-2009.pdf>. [↑](#footnote-ref-1)
2. In analyses, reported in Model E1.1 and E2.1 in Appendix E below, we exclude those voters who moved between elections, which implies that we only analyze voters who lived in one of the 44 included municipalities in both 2009 and 2013. Reassuringly, the results are substantially similar to the results obtained with the full sample. [↑](#footnote-ref-2)