

## **Appendix**

Appendix A: Information about the survey.....	2
Appendix B: Information about the independent variables .....	4
Appendix C: Additional analyses.....	11

*Appendix A: Information about the survey*

*Table A1. Dates of survey waves*

	Netherlands	Denmark	Germany	Hungary	Spain	Czechia	France	Greece	Poland	Sweden
Wave 1	13 Sep – 2 Oct 2017	--	--	--	--	--	--	--	--	--
Wave 2	16–29 Jan 2018	--	--	--	--	--	--	--	--	--
Wave 3	12–24 Jun 2018	--	--	--	--	--	--	--	--	--
Wave 4	10–27 Dec 2018	7 Dec 2018 – 14 Jan 2019	7 Dec 2018 – 2 Jan 2019	7 Dec 2018 – 3 Jan 2019	7 Dec 2018 – 7 Jan 2019	--	--	--	--	--
Wave 5	5–18 Apr 2019	5–24 Apr 2019	5–22 Apr 2019	5–22 Apr 2019	5–22 Apr 2019	5–23 Apr 2019	5–24 Apr 2019	5–24 Apr 2019	5–24 Apr 2019	5–23 Apr 2019

*Table A2. N respondents per survey wave*

	Netherlands	Denmark	Germany	Hungary	Spain	Czechia	France	Greece	Poland	Sweden
Wave 1	3,026	--	--	--	--	--	--	--	--	--
Wave 2	2,648	--	--	--	--	--	--	--	--	--
Wave 3	2,236	--	--	--	--	--	--	--	--	--

Wave 4	1,942	2,678	2,895	2,746	2,867	--	--	--	--	--
Wave 5	1,637	1,631	1,749	1,289	1,579	1,507	1,984	2,083	2,253	1,315

**Appendix B: Information about the independent variables**

*Table A3.* Overview of waves considered for the independent variables in each country sample

	Netherlands	Denmark	Germany	Hungary	Spain	Czechia	France	Greece	Poland	Sweden
Age	w5	w4	w4	w4	w4	w5	w5	w5	w5	w5
Education	w1	w5	w5	w5	w5	w5	w5	w5	w5	w5
Female	w5	w4	w4	w4	w4	w5	w5	w5	w5	w5
Political knowledge	w1	w4	w4	w4	w4	w5	w5	w5	w5	w5
Internal political efficacy	w1	w4	w4	w4	w4	w5	w5	w5	w5	w5
PTVs	w4	w4	w4	w4	w4	w5	w5	w5	w5	w5
Political interest (EU)	w5	w5	w5	w5	w5	w5	w5	w5	w5	w5
News exposure	w5	w5	w5	w5	w5	w5	w5	w5	w5	w5
EU integration attitude	w4	w4	w4	w4	w4	w5	w5	w5	w5	w5
Turnout intention	w5	w5	w5	w5	w5	w5	w5	w5	w5	w5

*Table A4.* Number of values for PTVs per country (stacked data format)

	Netherlands	Denmark	Germany	Hungary	Spain	Czechia	France	Greece	Poland	Sweden
EPP (Weber)	1,637	1,600	1,680	1,210	1,469	1,507	1,984	2,083	2,253	1,315

PES (Timmermans)	1,637	1,600	1,680	1,210	1,469	1,507	1,984	2,083	2,253	1,315
RE (Verhofstadt)	1,637	1,600	1,680	1,210	1,469	1,507	1,984	0	0	1,315
RE (Vestager)	1,637	1,600	1,680	1,210	1,469	1,507	1,984	0	0	1,315
Greens (Eickhout)	1,637	1,600	1,680	1,210	1,469	1,507	1,984	0	0	1,315
Greens (Keller)	1,637	1,600	1,680	1,210	1,469	1,507	1,984	0	0	1,315
ECR (Zahradil)	1,637	1,600	0	0	1,469	1,507	0	2,083	2,253	1,315
Total	11,459	11,200	10,080	7,260	10,283	10,549	11,904	6,249	6,759	9,205

Table A5. Descriptive statistics of the independent variables

Variable	N	Mean	Std. Dev.	Min	Max
Average news exposure	119,189	3.788	0.908	1	7
Political knowledge	119,189	3.163	1.418	0	5
Internal political efficacy	119,189	4.302	1.406	1	7
Political interest (EU)	119,189	4.108	1.730	1	7
Turnout intention	119,189	5.565	1.986	1	7
EU integration attitude	119,189	4.279	1.721	1	7
PTV	94,948	4.110	3.164	1	11
Several dom. parties	119,189	0.490	0.500	0	1
Own candidate	119,189	0.083	0.276	0	1
Female respondent	119,189	0.502	0.500	0	1
Age	119,189	46.546	15.404	17	99
Education	119,189	4.467	1.814	1	7

Table A6. Items considered for stable political knowledge

Question wording	Answer options
Which party came out as the largest in the last national elections?	5 options in random order, don't know last
Who is the current minister of finance of [COUNTRY]?	5 options in random order, don't know last
How long is a government term in [COUNTRY]?	3, 4, 5, 6, 8, don't know
How many member states does the European Union have?	25, 26, 27, 28, 29, don't know
Who is currently the president of the European Commission?	Jean-Claude Juncker, Martin Schulz, Donald Tusk, José Manuel Barroso, Frans Timmermans (random order), don't know

Table A7. Factor analysis and reliability of internal and external political efficacy, based on sample of wave 5

	<b>Netherlands<sup>c</sup></b>			<b>Denmark<sup>d</sup></b>			<b>Germany<sup>d</sup></b>			<b>Hungary<sup>d</sup></b>		
	n	Explained variance (%)	Cronbach's alpha	n	Explained variance (%)	Cronbach's alpha	n	Explained variance (%)	Cronbach's alpha	n	Explained variance (%)	Cronbach's alpha
Internal <sup>a</sup>	1637	26.109	0.729	1631	33.903	0.888	1749	34.356	0.865	1289	28.613	0.741
External <sup>b</sup>	1637	47.277	0.907	1631	40.941	0.848	1749	40.589	0.852	1289	39.996	0.850
	<b>Spain<sup>d</sup></b>			<b>Czechia<sup>e</sup></b>			<b>France<sup>e</sup></b>			<b>Greece<sup>e</sup></b>		
	n	Explained variance (%)	Cronbach's alpha	n	Explained variance (%)	Cronbach's alpha	n	Explained variance (%)	Cronbach's alpha	n	Explained variance (%)	Cronbach's alpha
Internal <sup>a</sup>	1579	39.022	0.794	1507	34.531	0.775	1984	39.766	0.841	2083	28.470	0.666
External <sup>b</sup>	1579	31.857 <sup>f</sup>	0.762 <sup>f</sup>	1507	41.868 <sup>f</sup>	0.899 <sup>f</sup>	1984	31.564 <sup>f</sup>	0.720 <sup>f</sup>	2083	40.351 <sup>f</sup>	0.835 <sup>f</sup>
	<b>Poland<sup>e</sup></b>			<b>Sweden<sup>e</sup></b>								
	n	Explained variance (%)	Cronbach's alpha	n	Explained variance (%)	Cronbach's alpha						
Internal <sup>a</sup>	2253	31.857 <sup>g</sup>	0.785 <sup>g</sup>	1315	29.260	0.782						
External <sup>b</sup>	2253	47.330 <sup>f</sup>	0.843 <sup>f</sup>	1315	45.079	0.899						

Note: <sup>a</sup> Internal political efficacy comprises three items: 'In consider myself well-qualified to participate in politics', 'I feel that I have a pretty good understanding of the important political issues facing our country', 'I think that I am as well-informed about politics and government as most people' (7-point scale, 1= fully disagree, 7= fully agree); <sup>b</sup> External political efficacy comprises four items: 'People like me don't have any say about what the government does', 'I don't think public officials care much what

people like me think', 'Generally speaking, those we elect to public office lose touch with the people pretty quickly', 'Parties are only interested in people's votes but not in their opinions' (7-point scale, 1= fully disagree, 7= fully agree – recoded for analysis); <sup>c</sup> All items were asked in autumn 2017; <sup>d</sup> All items were asked in December 2018; <sup>e</sup> All items were asked in April 2019; <sup>f</sup> excludes item 'People like me don't have any say about what the government does'; <sup>g</sup> excludes item 'I think that I am as well-informed about politics and government as most people'.



Table A8. Domestic parties considered for PTVs

	<b>Netherlands</b>	<b>Denmark</b>	<b>Germany</b>
EPP (Weber)	CDA	C	CDU, CSU (Bavaria)
PES (Timmermans)	PvDA	A	SPD
RE (Verhofstadt & Vestager)	D66+VVD (mean)	B	FDP
Greens (Eickhout & Keller)	GroenLinks	SF	B'90/Die Grünen
ECR (Zahradil)	FvD	DF	---
	<b>Hungary</b>	<b>Spain</b>	<b>Czechia</b>
EPP (Weber)	Fidesz	PP	KDU+TOP09 (mean)
PES (Timmermans)	MSZP+PM (mean)	PSOE	CSSD
RE (Verhofstadt & Vestager)	Momentum	Cs	ANO 2011
Greens (Eickhout & Keller)	LMP	ERC	Pirates
ECR (Zahradil)	---	Vox	ODS
	<b>France</b>	<b>Greece</b>	<b>Poland</b>
EPP (Weber)	LR	ND	PO
PES (Timmermans)	PS	KINAL	SLD
RE (Verhofstadt & Vestager)	LREM	---	---
Greens (Eickhout & Keller)	EELV	---	---
ECR (Zahradil)	---	ANEL	PiS
	<b>Sweden</b>		
EPP (Weber)	M		
PES (Timmermans)	SAP		
RE (Verhofstadt & Vestager)	C		
Greens (Eickhout & Keller)	MP		
ECR (Zahradil)	SD		



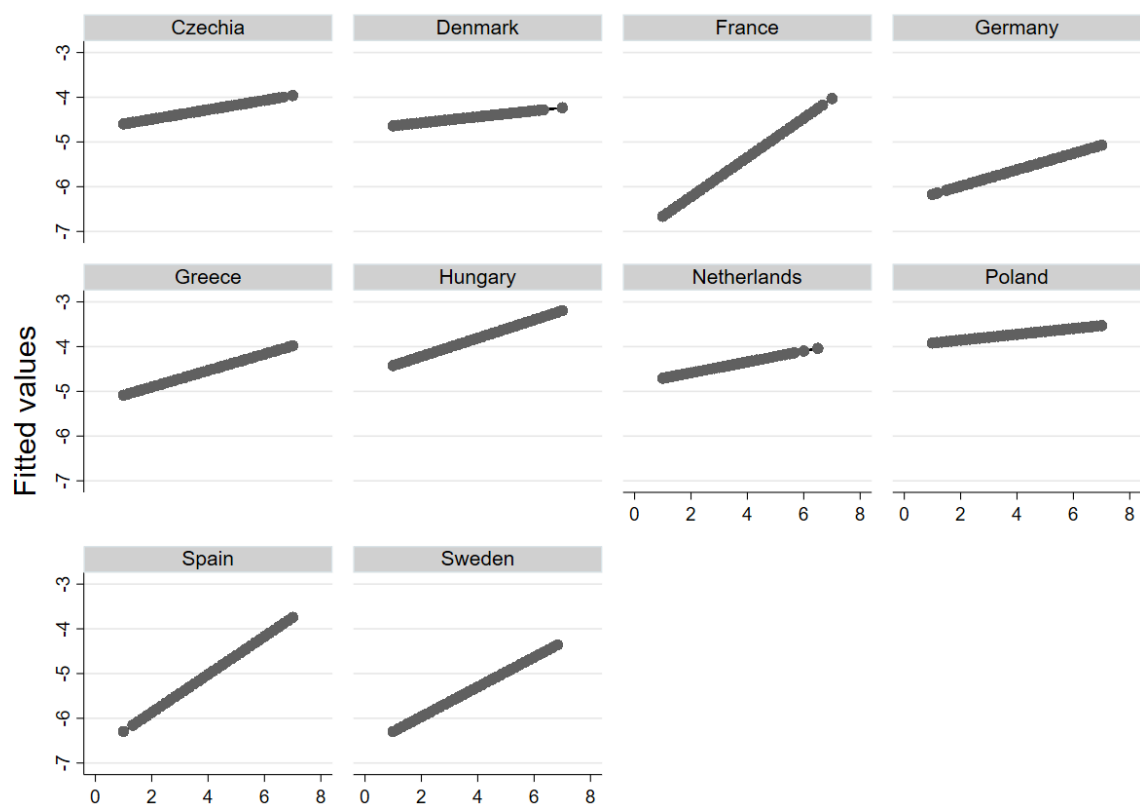
*Appendix C: Additional analyses*

Table A9. Multilevel logistic regressions, predicting candidate recognition.

	Model 1		Model 2		Model 3	
Average news exposure	0.213***	0.045	0.237***	0.013	0.241***	0.011
Political knowledge	0.174***	0.008	0.174***	0.008	0.157***	0.007
Internal political efficacy	0.123***	0.009	0.123***	0.009	0.117***	0.008
Political interest (EU)	0.266***	0.008	0.267***	0.008	0.273***	0.007
Turnout intention	0.0213***	0.006	0.0212***	0.006	0.0105**	0.005
EU integration attitude	0.0496***	0.006	0.0498***	0.006	0.0474***	0.005
Female respondent	-0.128***	0.020	-0.131***	0.020	-0.0915***	0.018
Age	0.00319***	0.001	0.00293***	0.001	-0.000307	0.001
Education	0.0464***	0.006	0.0470***	0.006	0.0381***	0.005
PTV	0.0225***	0.003	0.0230***	0.003	---	---
Several dom. parties	0.254***	0.029	0.257***	0.029	0.350***	0.021
Timmermans ( <i>ref.</i> Weber)	0.524***	0.028	0.523***	0.028	0.525***	0.027
Verhofstadt	-0.0286	0.034	-0.0307	0.034	-0.100***	0.029
Vestager	-0.207***	0.034	-0.209***	0.034	-0.313***	0.029
Eickhout	-2.096***	0.051	-2.090***	0.051	-1.771***	0.040
Keller	-1.653***	0.045	-1.641***	0.045	-1.352***	0.036
Zahradil	-1.128***	0.038	-1.139***	0.038	-1.116***	0.034
Own candidate	2.510***	0.033	3.547***	0.129	3.453***	0.123
Av. news exposure*own candidate	---	---	-0.270***	0.033	-0.272***	0.031
Constant	-5.494***	0.343	-5.568***	0.210	-5.218***	0.196
<i>Random effects, country level</i>						
Average news exposure	-1.985***	0.243	---	---	---	---
Variance component	0.0530	0.229	-0.488**	0.224	-0.546**	0.224
N	94948		94948		119189	
Log likelihood	-34781.8		-34796.9		-44195.8	
Wald $\chi^2$	11904.1		12565.5		15006.2	
Prob > $\chi^2$	<.001		<.001		<.001	

Note: All models show coefficients in first column and standard errors in second column, \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Figure A1. Fitted values for average news exposure, by country and including PTVs.



Note: Calculations based on Model 1, Table A9.

Table A10. Total number of candidates recognized in each country sample

Country	N	Min	Max	<i>M</i>	<i>SD</i>	<i>SE</i>	95% CI	
							Lower	upper
Czechia	1507	0	7	1.23 <sup>a</sup>	1.458	0.038	1.15	1.30
Denmark	1631	0	7	1.54 <sup>b</sup>	1.107	0.027	1.49	1.60
France	1984	0	7	0.57 <sup>c</sup>	1.270	0.029	0.52	0.63
Germany	1749	0	7	1.11 <sup>a</sup>	1.571	0.038	1.03	1.18
Greece	2083	0	7	1.20 <sup>a</sup>	1.612	0.035	1.13	1.27
Hungary	1289	0	7	1.94 <sup>d</sup>	1.707	0.048	1.85	2.04
Netherlands	1637	0	7	1.66 <sup>b</sup>	1.284	0.032	1.60	1.72
Poland	2253	0	7	1.92 <sup>d</sup>	1.735	0.037	1.85	1.99
Spain	1579	0	7	0.91 <sup>e</sup>	1.544	0.039	0.83	0.98

Sweden	1315	0	7	0.59 <sup>c</sup>	1.139	0.031	0.53	0.65
--------	------	---	---	-------------------	-------	-------	------	------

*Note:* Different superscripts denote that means significantly differ from one another

*Table A11.* Mean number of foreign candidates recognized in each country sample

Country	N	Min	Max	<i>M</i>	<i>SD</i>	<i>SE</i>	95% CI	
							Lower	upper
Czechia	1507	0	1	.1167 <sup>a</sup>	.20256	.00522	.1064	.1269
Denmark	1631	0	1	.1029 <sup>a</sup>	.17374	.00430	.0945	.1113
France	1984	0	1	.0817 <sup>b</sup>	.18141	.00407	.0737	.0897
Germany	1749	0	1	.1216 <sup>c</sup>	.21738	.00520	.1114	.1317
Greece	2083	0	1	.1715 <sup>d</sup>	.23028	.00505	.1616	.1814
Hungary	1289	0	1	.2777 <sup>e</sup>	.24382	.00679	.2644	.2911
Netherlands	1637	0	1	.1626 <sup>d</sup>	.18133	.00448	.1538	.1714
Poland	2253	0	1	.2741 <sup>e</sup>	.24791	.00522	.2639	.2844
Spain	1579	0	1	.1296 <sup>c</sup>	.22059	.00555	.1188	.1405
Sweden	1315	0	1	.0843 <sup>b</sup>	.16278	.00449	.0755	.0931

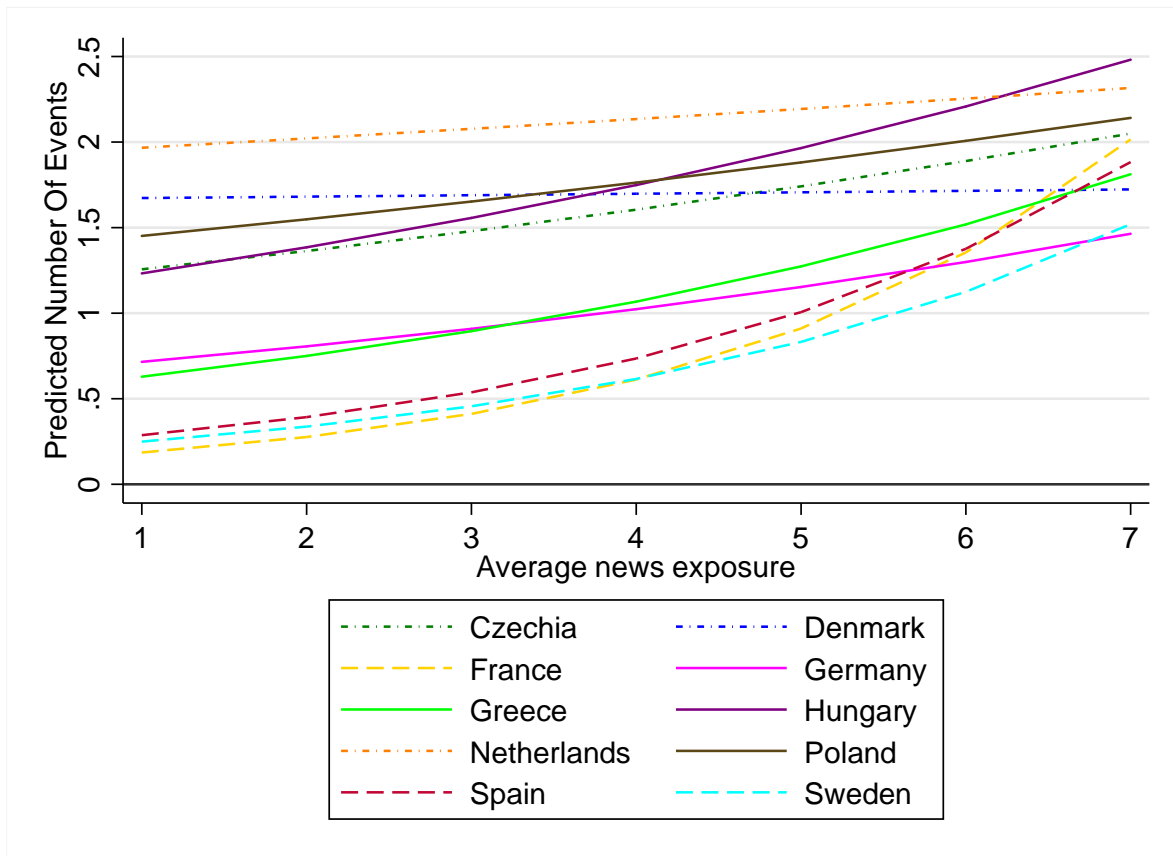
*Note:* Different superscripts denote that means significantly differ from one another

Table A12. Negative binomial regressions, predicting total number of recognized candidates.

	Model 1		Model 2	
Average news exposure	0.140***	0.012	0.0816**	0.037
Political knowledge	0.108***	0.008	0.110***	0.008
Internal political efficacy	0.0760***	0.008	0.0755***	0.008
Political interest (EU)	0.190***	0.007	0.189***	0.007
Turnout intention	0.0100*	0.006	0.00965*	0.006
EU integration attitude	0.0312***	0.005	0.0298***	0.005
Female respondent	-0.0659***	0.018	-0.0648***	0.018
Age	-0.000647	0.001	-0.000373	0.001
Education	0.0204***	0.005	0.0213***	0.005
Denmark (ref. Czechia)	0.0659*	0.035	0.363**	0.183
France	-0.953***	0.055	-2.227***	0.303
Germany	-0.464***	0.044	-0.601***	0.232
Greece	-0.429***	0.042	-0.787***	0.189
Hungary	0.0815**	0.038	-0.0539	0.174
Netherlands	0.292***	0.035	0.503***	0.182
Poland	0.0653*	0.036	0.161	0.175
Spain	-0.746***	0.050	-1.708***	0.248
Sweden	-0.974***	0.058	-1.836***	0.409
Av. news exposure*Denmark (ref. Czechia)			-0.0767	0.047
Av. news exposure*France			0.316***	0.071
Av. news exposure*Germany			0.0377	0.058
Av. news exposure*Greece			0.0947**	0.047
Av. news exposure*Hungary			0.0350	0.044
Av. news exposure*Netherlands			-0.0544	0.046
Av. news exposure*Poland			-0.0168	0.043
Av. news exposure*Spain			0.232***	0.058
Av. news exposure*Sweden			0.220**	0.101
Constant	-1.869***	0.072	-1.657***	0.153
Ln alpha	-1.218***	0.052	-1.256***	0.054
N	17027		17027	
Pseudo R <sup>2</sup>	0.098		0.100	
Log likelihood	-23938.3		-23872.0	
Wald $\chi^2$	5066.0		4922.5	
Prob > $\chi^2$	<.001		<.001	

Note: All models show coefficients in first column and standard errors (clustered by respondent ID) in second column, \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . An alternative measure of *Own Candidate*, that distinguishes between countries from which certain *Spitzenkandidaten* are from and those which did not provide their own *Spitzenkandidaten*, has been omitted due to multicollinearity issues (see do-file).

Figure A2. Marginal effects for average news exposure, by country, on total number of recognized candidates.



Note: Calculations based on Model 2, Table A12.