

European solidarity in times of crisis: The role of information and media use

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Appendix A. Information about the survey

Table A1. Survey characteristics

	Wave 1	Wave 2	Wave 3	Wave 4
Fieldwork	April 10 – April 16, 2020	April 30 – May 11, 2020	May 25 – June 3, 2020	June 29 – July 7, 2020
<i>N</i>	1742	1423	1255	1094
Gender (male)	49.1%	49.2%	49.2%	50.7%
<i>Age</i>				
18-39 years	31.5%	29.9%	31%	29.5%
40-64 years	44.3%	44.2%	42.7%	42.8%
65+ years	24.2%	25.9%	26.3%	27.7%
<i>Education</i>				
Low	22.3%	23%	22.8%	23%
Medium	39.6%	39.7%	39.5%	39.5%
High	38.1%	37.2%	37.7%	37.5%

Appendix B. Translations of relevant survey questions

Table A2. Question text

Solidarity perceptions	<p>To what extent do you agree with the following statements? EU Member States should...</p> <ul style="list-style-type: none"> a) help other Member States with economic problems. <i>[fiscal solidarity]</i> b) assist other Member States in need of face masks, medical devices or other medical assistance. <i>[medical solidarity]</i> c) reopen their borders as quickly as possible for other Member States and their citizens. <i>[border solidarity]</i> <p><i>[random order; scale 1 - Totally disagree to 7 - totally agree]</i></p>
TV news show use	<p>When you think about the past week, how many times have you watched the following television programmes?</p> <ul style="list-style-type: none"> a) RTL Nieuws 19.30h b) NOS Journaal 20.00 c) Nieuwsuur d) Een Vandaag <p><i>[random order; scale 0 days – 7 days; index]</i></p>
Political talk show use	<p>When you think about the past week, how many times have you watched the following television programmes?</p> <ul style="list-style-type: none"> a) M b) Jinek/Beau c) Op1 <p><i>[random order; scale 0 days – 7 days; index; note: ‘Jinek’ was replaced by ‘Beau’ in the third wave due to an adjustment in the program]</i></p>
Newspaper use	<p>When you think about the past week, how many times have you read the following newspapers and magazines offline or online or have you listened to the news on the radio?</p> <ul style="list-style-type: none"> a) De Telegraaf b) NRC Handelsblad c) Algemeen Dagblad d) Trouw e) De Volkskrant f) Financieel Dagblad <p><i>[random order; scale 0 days – 7 days; index]</i></p>
Online news use	<p>When you think about the past week, how many times have you used the following websites or apps?</p> <ul style="list-style-type: none"> a) nos.nl b) rtlnieuws.nl c) nu.nl <p><i>[random order; scale 0 days – 7 days; index]</i></p>

Social media use	<p>When you think about the past week, how many times have you used the following websites or apps?</p> <ul style="list-style-type: none"> a) Facebook b) Twitter c) Instagram <p><i>[random order; scale 0 days – 7 days; index]</i></p>
Trust	<p>The following question is about trust. Please indicate on a scale from 1 to 7, with 1 meaning you have no trust and 7 meaning you have a lot of trust, how much trust you have in...:</p> <ul style="list-style-type: none"> a) The Dutch government b) RIVM: Rijksinstituut voor Volksgezondheid en Milieu c) News media d) Social media e) Medical specialists f) The European Union <p><i>[random order; scale 1 - No trust at all to 7 A lot of trust; 8 don't know]</i></p>
Economic prospect	<p>What do you think the general economic situation in the Netherlands will be like in 12 months' time? Will it get better, get worse, or stay the same?</p> <p><i>[scale -5 much worse... 0 stay the same... +5 much better]</i></p>
Sociodemographic background variables [provided by POLLSTER]	<p>What is your gender?</p> <ul style="list-style-type: none"> a) Male b) Female <p>On which day were you born? <i>[recoded as age groups 18-39; 40-64; 65+]</i></p> <p>What is the highest level of education that you obtained?</p> <ol style="list-style-type: none"> 1. No education / primary education / integration course / Dutch language course 2. LBO / VBO / VMBO (senior or vocational training) / MBO 1 (assistant training) 3. MAVO / HAVO or VWO (first three years) / ULO / MULO / VMBO (theoretical or mixed track) / secondary special education 4. MBO 2, 3, 4 (basic vocational, professional, middle management or specialist training) or MBO old structure (before 1998) 5. HAVO or VWO (transferred to 4th class) / HBS / MMS / HBO propaedeutic year or WO propaedeutic year 6. HBO (except HBO master) / WO candidate or WO bachelor 7. WO doctoral or WO master or HBO master / postgraduate education
Left-right political orientation [W1]	<p>The following question is about your political preference. You are not obliged to answer. By responding, you expressly authorize us to use this data only for research purposes. The data will be treated with the utmost confidentiality and will not be passed on to third parties. Have you voted, and if so, for which party, in the March 2017 elections to the House of Representatives?</p> <p>Answer options include extensive list of participating parties in Dutch elections for the Tweede Kamer 2017 (House of representatives), plus options for “other” and non-voting.</p> <p><i>[recoded following the data from the 2019 Chapel Hill Expert survey to represent (linear) left-right political orientation; values ranging from 1.38 (Socialistische Partij) – very left, to 9.54 (Forum voor Democratie) – very right; due to the relatively large amount of ‘other’ and particularly non-voters (almost 20% in total)]</i></p>

<p><i>and to avoid the loss of them in terms of missing cases, we imputed the respective left-right voting values based on gender, education and age. In order to control for the uncertainty in the imputed values, we use the method of multiple imputation (10 rounds of imputation using the <code>mi impute mvn</code> command in Stata). Following on that, we put all conducted regression models in the <code>mi estimate</code> logic, which essentially runs 10 different models, one for each of the imputed values/datasets. Stata then combines all the estimates (coefficients and standard errors) across the 10 imputed datasets.]</i></p>
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Appendix C. Information about analyses related to the information context

Table A3. Search strings

Concept	Search strings
Medical solidarity	((“Nederlandse patiënten” OR “Nederlandse IC-patiënten” OR “Nederlandse coronapatiënten”) AND (buitenland OR duitsland)) OR (“Europese coronapatiënten” AND Duitsland) OR (“medische hulpmiddelen” AND (solidariteit OR solidarisch) AND (EU OR Europa OR Europees))
Fiscal solidarity	Coronabonds OR Eurobonds OR herstelplan OR coronasteunplan OR steunplan
Border solidarity	"Europese grenzen" OR binnengrenzen

Table A4. List of newspapers, using the newspaper archive NexisUni

de Volkskrant, de Telegraaf, NRC Handelsblad, Trouw, Algemeen Dagblad, NRC.Next, Het Financieele Dagblad, Reformatorisch Dagblad, and Nederlands Dagblad

Table A5. Time periods

Wave	Dates of search period
1	10 March – 10 April 2020
2	11 April – 30 April 2020
3	1 May – 25 May 2020
4	26 May – 29 June 2020

Appendix D. Additional analyses

Table A6. Robustness checks with random-effects panel model and pooled OLS model using clustered standard errors for respondents (with wave dummies)

	(1)		(2)		(3)	
	Fiscal solidarity		Medical solidarity		Border solidarity	
	Panel RE	OLS cluster	Panel RE	OLS cluster	Panel RE	OLS cluster
<i>Media usage</i>						
News show	0.019 (0.035)	-0.049 (0.047)	-0.017 (0.034)	-0.047 (0.042)	-0.053 (0.042)	-0.048 (0.049)
Talk show	0.033 (0.033)	0.072 ⁺ (0.041)	0.059 ⁺ (0.032)	0.057 (0.036)	0.068 ⁺ (0.040)	0.096* (0.042)
Newspaper	0.057* (0.029)	0.068 ⁺ (0.036)	0.033 (0.028)	0.048 (0.031)	-0.007 (0.035)	-0.010 (0.042)
Online	-0.020 (0.030)	-0.013 (0.037)	0.055 ⁺ (0.029)	0.070* (0.031)	-0.026 (0.036)	-0.001 (0.039)
Social media	-0.062 ⁺ (0.034)	-0.062 ⁺ (0.036)	-0.020 (0.032)	-0.026 (0.031)	-0.004 (0.039)	0.003 (0.040)
<i>Trust in</i>						
News media	0.038 (0.029)	0.023 (0.045)	0.031 (0.030)	0.042 (0.039)	0.088* (0.037)	0.111* (0.046)
Social media	-0.071** (0.027)	-0.108** (0.037)	-0.098** (0.027)	-0.106** (0.033)	0.015 (0.034)	-0.015 (0.040)
RIVM	0.089* (0.038)	0.116 ⁺ (0.060)	0.085* (0.038)	0.073 (0.053)	-0.042 (0.048)	-0.008 (0.061)
Medical experts	0.015 (0.027)	0.021 (0.043)	0.125** (0.028)	0.193** (0.041)	-0.040 (0.035)	-0.118* (0.048)
Dutch government	0.022 (0.037)	-0.014 (0.058)	0.091* (0.037)	0.071 (0.052)	0.016 (0.047)	-0.063 (0.062)
EU	0.401** (0.033)	0.674** (0.048)	0.096** (0.033)	0.159** (0.045)	0.215** (0.041)	0.330** (0.050)
Left-right voting	-0.233** (0.036)	-0.314** (0.038)	-0.191** (0.040)	-0.238** (0.036)	-0.126** (0.046)	-0.139** (0.045)
Economic prospects NL	-0.051* (0.022)	-0.061 ⁺ (0.033)	-0.074** (0.023)	-0.107** (0.031)	0.010 (0.029)	0.007 (0.037)
Female	-0.079 (0.077)	-0.184* (0.077)	-0.156* (0.068)	-0.178** (0.066)	-0.389** (0.082)	-0.411** (0.080)
<i>Age groups (ref. 18-39)</i>						
40-64	0.097 (0.094)	0.146 (0.093)	-0.012 (0.084)	-0.008 (0.084)	0.073 (0.101)	0.085 (0.106)
65+	0.180 (0.118)	0.226 ⁺ (0.121)	0.104 (0.106)	0.127 (0.108)	0.282* (0.129)	0.294* (0.129)
Education	0.176** (0.040)	0.097* (0.043)	0.071* (0.036)	0.041 (0.037)	0.206** (0.043)	0.179** (0.045)
wave=2		-0.006 (0.048)		-0.089 ⁺ (0.052)		0.524** (0.060)
wave=3		-0.066 (0.050)		-0.270** (0.052)		0.768** (0.063)
wave=4		-0.006 (0.050)		-0.270** (0.050)		0.815** (0.061)
Constant	3.947** (0.082)	3.976** (0.089)	5.355** (0.073)	5.520** (0.083)	3.560** (0.088)	3.041** (0.098)
Observations	3931	3931	3931	3931	3931	3931
R ²	0.275	0.265	0.143	0.134	0.106	0.069

Standard errors in parentheses
⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A7. Robustness checks with detailed media measures on outlet level

	(1)		(2)		(3)	
	Fiscal solidarity		Medical solidarity		Border solidarity	
	within	between	within	between	within	between
<i>TV usage</i>						
NOS Journaal	0.052 (0.043)	-0.155** (0.051)	0.018 (0.048)	-0.061 (0.047)	-0.056 (0.061)	-0.030 (0.056)
RTL Nieuws	0.069 ⁺ (0.041)	-0.028 (0.048)	0.087 ⁺ (0.045)	-0.047 (0.044)	0.051 (0.058)	-0.094 ⁺ (0.053)
<i>Talkshow usage</i>						
M	-0.005 (0.036)	0.093 ⁺ (0.050)	0.096* (0.040)	-0.000 (0.045)	0.014 (0.051)	0.065 (0.054)
Jinek/Beau	-0.016 (0.033)	0.016 (0.050)	-0.031 (0.036)	-0.013 (0.045)	-0.023 (0.046)	0.041 (0.054)
OP1	-0.009 (0.045)	0.092 ⁺ (0.052)	-0.003 (0.050)	0.089 ⁺ (0.048)	0.043 (0.063)	0.039 (0.057)
<i>Newspaper usage</i>						
De Volkskrant	0.045 (0.055)	0.081* (0.040)	0.035 (0.060)	0.010 (0.036)	0.045 (0.076)	0.074 ⁺ (0.044)
NRC Handelsblad	0.018 (0.049)	0.109** (0.040)	-0.008 (0.054)	0.102** (0.036)	0.111 (0.069)	0.059 (0.044)
Algemeen Dagblad	-0.026 (0.046)	0.022 (0.040)	-0.089 ⁺ (0.051)	-0.014 (0.036)	-0.083 (0.065)	-0.075 ⁺ (0.044)
De Telegraaf	0.167** (0.058)	-0.083* (0.042)	0.118 ⁺ (0.063)	-0.047 (0.038)	-0.004 (0.080)	-0.035 (0.046)
<i>Online news usage</i>						
nos.nl	0.008 (0.045)	0.048 (0.041)	-0.008 (0.049)	0.056 (0.038)	-0.137* (0.063)	0.070 (0.045)
rtnieuws.nl	-0.038 (0.036)	-0.019 (0.045)	-0.051 (0.039)	0.034 (0.041)	0.000 (0.050)	0.018 (0.050)
nu.nl	-0.038 (0.051)	-0.066 ⁺ (0.040)	0.038 (0.055)	0.009 (0.036)	0.023 (0.070)	-0.079 ⁺ (0.044)
<i>Social media usage</i>						
Facebook	-0.037 (0.060)	-0.007 (0.041)	-0.077 (0.065)	-0.026 (0.037)	-0.034 (0.083)	0.044 (0.045)
Twitter	0.123* (0.059)	-0.018 (0.040)	0.007 (0.064)	-0.007 (0.036)	-0.043 (0.082)	0.017 (0.043)
Instagram	-0.080 (0.064)	-0.054 (0.043)	0.083 (0.070)	0.014 (0.039)	0.119 (0.089)	-0.003 (0.047)
<i>Trust measures</i>	✓	✓	✓	✓	✓	✓
<i>Economic prospect</i>	✓	✓	✓	✓	✓	✓
<i>Left-right</i>		✓		✓		✓
<i>Sociodemographics</i>		✓		✓		✓
Constant	3.996** (0.016)	3.952** (0.086)	5.312** (0.017)	5.370** (0.078)	3.492** (0.022)	3.549** (0.093)
Observations	3931	3931	3931	3931	3931	3931
R ²	0.015	0.397	0.015	0.228	0.008	0.156

Standard errors in parentheses

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$