

Online Supplementary Materials - Appendix A

According to Tables A1 and A2, about a quarter of the respondents lived alone, and half of the households were composed of two persons. In terms of health status, the prevalence of lung diseases, such as chronic bronchitis or emphysema, which are particularly relevant in the context of COVID-19, was around 9%. A very large proportion of the respondents suffered from hypertension and high cholesterol, which are two important risk factors for COVID-19 events. Nearly 10% of people reported the presence of other affective or emotional diseases. More than three quarters of the respondents were retired, whereas only 13% were still working; most households (79.6%) owned their house. In the two years before the outbreak, a small proportion of the respondents experienced stressful events, such as losing their spouses (2%), retiring (3.9%) or being diagnosed with severe chronic diseases (around 2.5%).

Table A3 shows the main characteristics of the sample during the outbreak. A large proportion of respondents (28.8%) had either no or less than once a week contact in person with their children, parents or friends; this proportion was much lower for electronic contacts (about 5.2% of the respondents). Almost 8% of the respondents said that someone close to them had tested positive for COVID-19. During the outbreak, 28.8% of the respondents reported receiving help from people outside their household, and this finding increased linearly with age (60% amongst people aged 85 or over). About 10% of the respondents experienced a major illness or health condition during the outbreak period. In our sample, more than three quarters had already retired from work, and a remarkable proportion of the interviewees (4%) lost their jobs during the first COVID-19 wave.

Table A1: Main characteristics at the beginning of the first wave of the COVID-19 outbreak of the final sample (37,475 units) - Dummy variables

	Observed data		Missing data	
	<i>n</i>	% ^a	<i>n</i>	% ^b
<i>Health status</i>				
Body Mass Index			12,671	33.8
Normal weight or underweighted	8,753	35,3		
Overweighted	10,262	41.4		
Obese	5,789	23,3		
At least one ADL limitation	2,928	11.5	12,105	32.3
At least one IADL limitation	4,947	19.5	12,105	32.3
Ever diagnosed chronic lung diseases	2,363	9,1	11,391	30.4
Ever diagnosed diabetes	5,548	20.4	10,329	27.6
Ever diagnosed hypertension	16,536	55.1	12,105	32.3
Ever diagnosed cholesterol	10,003	35.2	9,013	24.1
Ever diagnosed Alzheimer's disease	686	2.7	11,916	31.8
Ever diagnosed other affective diseases	2,535	9.6	11,166	29.8
Ever diagnosed rheumatoid arthritis	3,751	14.0	10,733	28.6
Ever diagnosed osteoarthritis	7,928	28.4	9,602	25.6
<i>Social conditions</i>				
Living with a partner	25,577	68.3	0	0.0
<i>Economic conditions</i>				
Job status			5,064	13.5
Employee	3,528	10.9		
Self-employed	756	2.3		
Retired	24,887	76.8		
Other (unemployed, permanently sick,...)	1,232	3.8		
Homemaker	2,008	6.2		
House ownership			12,669	33.8
Owner/Member of a cooperative	19,744	79.6		
Tenant/Subtenant	3,313	13.4		
Rent free	1,749	7.0		
<i>Events in the 2 years before starting COVID-19 outbreak</i>				
Become widow/er	514	2.0	12,105	32.3
Retired	1,249	3.9	5,054	13.5
Had a heart attack or stroke	684	2.7	12,105	32.3
Diagnosed a cancer	604	2.4	12,105	32.3

^a Calculated with respect to the total observed data in the corresponding variable

^b Calculated with respect to the size of the final sample (37,475 units)

Notes: ADL = Activity of Daily Living; IADL = Instrumental Activity of Daily Living

Table A2: Main characteristics at the beginning of the first wave of the COVID-19 outbreak of the final sample (37,475 units) - Continuous variables

	Observed data				Missing data	
	Mean ^a	S.D.	Min	Max	<i>n</i>	% ^b
	<i>Cognitive abilities</i>					
Fluency test score	20.85	7.58	1	60	12,645	33.7
	<i>Social conditions</i>					
Household size	2.01	0.92	1	12	0	0.0
Number of living children	2.02	1.30	0	13	11,064	29.5

^a Calculated with respect to the total observed data in the corresponding variable

^b Calculated with respect to the size of the final sample (37,475 units)

Table A3: Main characteristics during the first wave of the COVID-19 outbreak of the final sample (37,475 units) - No missing data

	<i>n</i>	%
Anyone in the hh tested positive for COVID-19	3,155	8.4
Anyone in the hh tested negative for COVID-19	8,217	21.9
Anyone in the hh hospitalised because infection	1,578	4.2
Anyone in the hh died because infection	1,180	3.2
Never/rarely personal contacts with people	10,808	28.8
Never/rarely electronic contacts with people	1,962	5.2
Helped others outside home	5,728	15.3
Were helped by others outside home	10,780	28.8
Received additional financial support	3,518	9.4
Become unemployed/were laid off	1,493	4.0
Never left home since the outbreak begin	6,408	17.1
Diagnosed with major illness since wave 8 interview	4,063	10.8

Note: hh = household

Table A4: Estimates of Models I and II on the probability of reporting to be sadder/more depressed during the first wave of the COVID-19 pandemic than before the outbreak: Average Marginal Effects (AMEs) and their confidence intervals (CI) at the 95% level in multiple imputed dataset

Variable	Model I			Model II		
	Males (15,538 units) AME CI 95%	Females (21,937 units) AME CI 95%		Males (15,538 units) AME CI 95%	Females (21,937 units) AME CI 95%	
<i>Age (at 2020)</i>						
< 60	ref.	ref.		ref.	ref.	
60-64	-0.002 [-0.022 0.019]	0.007 [-0.013 0.026]		-0.007 [-0.030 0.017]	-0.004 [-0.026 0.017]	
65-69	-0.008 [-0.028 0.012]	0.004 [-0.015 0.023]		-0.017 [-0.043 0.009]	-0.014 [-0.038 0.011]	
70-74	0.001 [-0.020 0.020]	0.019 [-0.001 0.038]		-0.011 [-0.038 0.016]	-0.004 [-0.031 0.022]	
75-79	-0.002 [-0.023 0.019]	0.019 [-0.001 0.040]		-0.017 [-0.045 0.011]	-0.010 [-0.038 0.018]	
80-84	0.043 [0.020 0.067]	0.034 [0.012 0.056]		0.020 [-0.010 0.051]	-0.001 [-0.031 0.029]	
> 84	0.025 [0.000 0.050]	0.012 [-0.011 0.034]		-0.005 [-0.036 0.026]	-0.031 [-0.062 0.000]	
<i>Education</i>						
Low	ref.	ref.		ref.	ref.	
Middle	-0.019 [-0.032 -0.005]	-0.014 [-0.027 -0.001]		-0.015 [-0.028 -0.001]	-0.008 [-0.022 0.005]	
High	-0.021 [-0.034 -0.007]	-0.019 [-0.033 -0.004]		-0.013 [-0.026 0.001]	-0.009 [-0.025 0.007]	
<i>Depression categories (at 2015)</i>						
Very low risk of depression	ref.	ref.		ref.	ref.	
Low risk of depression	0.030 [0.001 0.060]	0.061 [0.020 0.102]		0.027 [-0.002 0.057]	0.053 [0.012 0.094]	
Middle risk of depression	0.054 [0.038 0.070]	0.079 [0.066 0.093]		0.050 [0.034 0.066]	0.075 [0.061 0.089]	
High risk of depression	0.054 [0.041 0.065]	0.102 [0.090 0.115]		0.043 [0.032 0.055]	0.089 [0.077 0.102]	
Depressed	0.080 [0.043 0.117]	0.123 [0.087 0.159]		0.067 [0.031 0.104]	0.107 [0.072 0.143]	
Severely depressed	0.183 [0.132 0.233]	0.198 [0.165 0.232]		0.146 [0.099 0.194]	0.162 [0.129 0.196]	
Extremely depressed	0.145 [0.035 0.256]	0.207 [0.133 0.281]		0.094 [-0.001 0.189]	0.169 [0.096 0.241]	
Become widow/er (closed to outbreak)	-	-		0.010 [-0.032 0.053]	0.011 [-0.022 0.044]	
Retired (closed to outbreak)	-	-		0.005 [-0.030 0.041]	0.012 [-0.021 0.046]	
Had a heart attack/stroke (closed to outbreak)	-	-		0.022 [-0.006 0.049]	-0.004 [-0.046 0.038]	
Diagnosed a cancer (closed to outbreak)	-	-		0.010 [-0.025 0.046]	0.032 [-0.013 0.076]	
Ever diagnosed chronic lung disease	-	-		0.009 [-0.010 0.029]	0.013 [-0.009 0.033]	
Ever diagnosed diabetes	-	-		-0.003 [-0.015 0.010]	0.000 [-0.009 0.034]	
Ever diagnosed hypertension	-	-		0.001 [-0.010 0.012]	0.012 [0.000 0.024]	
Ever diagnosed cholesterol	-	-		-0.005 [-0.018 0.008]	0.001 [-0.016 0.018]	
Ever diagnosed Alzheimer's disease	-	-		-0.020 [-0.056 0.016]	-0.034 [-0.068 0.000]	
Ever diagnosed other affective diseases	-	-		0.042 [0.019 0.065]	0.053 [0.035 0.071]	
Ever diagnosed rheumatoid arthritis	-	-		-0.004 [-0.021 0.012]	0.009 [-0.008 0.025]	
Ever diagnosed osteoarthritis	-	-		0.024 [0.009 0.040]	0.018 [0.004 0.031]	

Table A4 (cont.)

Variable	Model I		Model II	
	Males (15,538 units) AME	Females (21,937 units) AME CI 95%	Males (15,538 units) AME CI 95%	Females (21,937 units) AME CI 95%
At least one ADL limitation	-	-	0.000 [-0.022 0.021]	0.005 [-0.014 0.024]
At least one IADL limitation	-	-	0.031 [0.012 0.051]	0.021 [-0.007 0.047]
<i>Body Mass Index</i>				
Normal weight/underweighted	-	-	ref.	ref.
Being overweight	-	-	-0.005 [-0.017 0.007]	-0.002 [-0.017 0.013]
Being obese	-	-	0.001 [-0.013 0.016]	-0.013 [-0.028 0.001]
Fluency test score	-	-	0.000 [-0.001 0.001]	-0.001 [-0.002 0.000]
Household size	-	-	-0.007 [-0.014 0.000]	-0.020 [-0.027 -0.012]
Living with a partner	-	-	0.000 [-0.019 0.011]	0.010 [-0.004 0.024]
<i>Number of living children</i>				
None	-	-	ref.	ref.
One	-	-	0.021 [0.000 0.043]	0.026 [0.006 0.047]
More than one	-	-	0.019 [0.001 0.038]	0.022 [0.004 0.039]
<i>Job status</i>				
Employee	-	-	ref.	ref.
Self-employed	-	-	0.019 [-0.018 0.055]	-0.033 [-0.091 0.026]
Retired	-	-	0.012 [-0.013 0.038]	0.002 [-0.025 0.030]
Other (unemployed, permanently sick,...)	-	-	0.021 [-0.011 0.053]	0.005 [-0.027 0.036]
Homemaker	-	-	0.027 [-0.089 0.144]	0.002 [-0.031 0.035]
<i>House ownership</i>				
Owner/Member of a cooperative	-	-	ref.	ref.
Tenant/Subtenant	-	-	0.021 [0.001 0.042]	0.027 [0.008 0.046]
Rent free	-	-	0.007 [-0.016 0.030]	0.014 [-0.012 0.040]

Notes: ADL = Activity of Daily Living; IADL = Instrumental Activity of Daily Living.

Table A5: Weighted Model III estimates on the probability of reporting to be sadder/more depressed during the first wave of the COVID-19 pandemic than before the outbreak: Average Marginal Effects (AMEs) and their confidence intervals (CI) at the 95% level

Variable	Excluding any item non-responses Males (9,960 units)		Including the first round of imputations Males (15,538 units)		Females (21,937 units)	
	AME	CI 95%	AME	CI 95%	AME	CI 95%
<i>Age (at 2020)</i>						
< 60	ref.		ref.		ref.	
60-64	0.020	[-0.011 0.051]	-0.001	[-0.030 0.027]	-0.005	[-0.026 0.017]
65-69	-0.003	[-0.036 0.030]	-0.017	[-0.049 0.015]	-0.012	[-0.036 0.012]
70-74	-0.011	[-0.045 0.024]	-0.020	[-0.054 0.013]	-0.006	[-0.031 0.020]
75-79	-0.009	[-0.044 0.026]	-0.030	[-0.065 0.005]	-0.016	[-0.043 0.012]
80-84	0.011	[-0.027 0.049]	-0.023	[0.060 0.015]	-0.007	[-0.036 0.022]
>84	-0.014	[-0.053 0.025]	-0.039	[-0.079 0.000]	-0.036	[-0.066 0.005]
<i>Education</i>						
Low	ref.		ref.		ref.	
Middle	-0.023	[-0.039 0.006]	-0.001	[-0.018 0.016]	-0.010	[-0.023 0.004]
High	-0.012	[-0.030 0.006]	0.000	[-0.019 0.019]	-0.010	[-0.026 0.005]
<i>Depression categories (at 2015)</i>						
Very low risk of depression	ref.		ref.		ref.	
Low risk of depression	0.028	[-0.010 0.066]	0.056	[0.002 0.111]	0.054	[0.012 0.096]
Middle risk of depression	0.054	[0.034 0.074]	0.080	[0.062 0.098]	0.071	[0.057 0.085]
High risk of depression	0.036	[0.022 0.050]	0.089	[0.073 0.105]	0.086	[0.074 0.099]
Depressed	0.080	[0.031 0.128]	0.076	[0.036 0.117]	0.101	[0.066 0.137]
Severely depressed	0.098	[0.045 0.150]	0.173	[0.129 0.217]	0.159	[0.125 0.192]
Extremely depressed	0.108	[-0.011 0.228]	0.179	[0.082 0.277]	0.158	[0.087 0.229]
Become widow/er (closed to outbreak)	-0.018	[-0.082 0.046]	0.004	[-0.050 0.058]	0.020	[-0.019 0.048]
Retired (closed to outbreak)	-0.016	[-0.043 0.011]	-0.011	[-0.043 0.021]	-0.010	[-0.007 0.049]
Had a heart attack/stroke (closed to outbreak)	0.032	[-0.004 0.068]	0.002	[-0.043 0.047]	0.022	[-0.034 0.033]
Diagnosed a cancer (closed to outbreak)	0.004	[-0.033 0.041]	0.044	[-0.006 0.094]	0.001	[-0.005 0.082]
Ever diagnosed chronic lung disease	0.016	[-0.008 0.039]	0.011	[-0.016 0.037]	0.010	[-0.013 0.024]
Ever diagnosed diabetes	-0.010	[-0.026 0.006]	0.003	[-0.017 0.023]	-0.003	[-0.016 0.013]
Ever diagnosed hypertension	0.000	[-0.013 0.012]	0.020	[0.005 0.034]	0.010	[-0.002 0.022]
Ever diagnosed cholesterol	0.004	[-0.010 0.018]	0.013	[-0.002 0.029]	0.000	[-0.012 0.012]
Ever diagnosed Alzheimer's disease	0.012	[-0.042 0.066]	0.011	[-0.045 0.068]	-0.021	[-0.056 0.003]
Ever diagnosed other affective diseases	0.088	[0.048 0.128]	0.079	[0.052 0.107]	0.041	[0.017 0.064]
Ever diagnosed rheumatoid arthritis	0.001	[-0.024 0.026]	0.016	[-0.005 0.037]	-0.009	[-0.009 0.020]
Ever diagnosed osteoarthritis	0.030	[0.011 0.050]	0.022	[0.006 0.037]	0.025	[0.010 0.039]

Table A5 (cont.)

Variable	Excluding any item non-responses			Including the first round of imputations				
	Males (9,960 units) AME CI 95%	Females (13,910 units) AME CI 95%		Males (15,538 units) AME CI 95%	Females (21,937 units) AME CI 95%			
At least one ADL limitation	-0.007	[-0.029 0.015]	0.009	[-0.015 0.033]	-0.007	[-0.024 0.010]	0.002	[-0.016 0.021]
At least one IADL limitation	0.031	[0.009 0.054]	0.015	[-0.004 0.035]	0.033	[0.015 0.050]	0.012	[-0.004 0.027]
<i>Body Mass Index</i>								
Normal weight/underweighted	ref.		ref.		ref.		ref.	
Being overweight	-0.017	[-0.031 -0.002]	-0.001	[-0.017 0.014]	-0.006	[-0.018 0.006]	-0.007	[-0.019 0.006]
Being obese	-0.005	[-0.023 0.013]	-0.028	[-0.046 -0.010]	0.003	[-0.012 0.018]	-0.019	[-0.034 -0.005]
Fluency test score (cognitive abilities)	-0.001	[-0.002 0.000]	-0.001	[-0.002 0.000]	0.000	[-0.001 0.001]	-0.001	[-0.002 -0.001]
Household size	-0.005	[-0.013 0.004]	-0.015	[-0.024 -0.005]	-0.005	[-0.012 0.002]	-0.015	[-0.022 -0.007]
Living with a partner	-0.012	[-0.032 0.008]	0.020	[0.003 0.037]	-0.007	[-0.023 0.009]	0.010	[-0.004 0.025]
<i>Number of living children</i>								
None	ref.		ref.		ref.		ref.	
One	0.018	[-0.007 0.042]	0.020	[-0.008 0.047]	0.015	[-0.004 0.034]	0.021	[0.001 0.041]
More than one	0.013	[-0.008 0.035]	-0.003	[-0.027 0.022]	0.010	[-0.007 0.027]	0.016	[-0.002 0.034]
<i>Job status</i>								
Employee	ref.		ref.		ref.		ref.	
Self-employed	0.024	[-0.006 0.053]	-0.044	[-0.089 0.001]	0.008	[-0.020 0.037]	-0.030	[-0.072 0.011]
Retired	0.034	[0.012 0.057]	0.018	[-0.009 0.032]	0.012	[-0.009 0.032]	-0.002	[-0.024 0.020]
Other (unemployed, permanently sick,...)	0.032	[0.001 0.062]	0.008	[-0.026 0.042]	0.015	[-0.014 0.044]	0.010	[-0.020 0.039]
Homemaker	0.070	[-0.046 0.189]	0.004	[-0.025 0.032]	0.015	[-0.080 0.110]	0.006	[-0.019 0.031]
<i>House ownership</i>								
Owner/Member of a cooperative	ref.		ref.		ref.		ref.	
Tenant/Subtenant	0.023	[-0.002 0.044]	0.028	[0.007 0.049]	0.024	[0.006 0.041]	0.029	[0.012 0.046]
Rent free	-0.007	[-0.035 0.020]	0.012	[-0.014 0.038]	0.000	[-0.023 0.023]	0.004	[-0.016 0.025]
Anyone in the hh tested positive for COVID-19	0.004	[-0.021 0.029]	-0.004	[-0.030 0.026]	0.003	[-0.017 0.023]	0.006	[-0.015 0.028]
Anyone in the hh tested negative for COVID-19	0.033	[0.015 0.051]	0.032	[0.014 0.050]	0.031	[0.017 0.045]	0.046	[0.032 0.060]
Anyone in the hh hospitalised due to infection	0.018	[-0.018 0.055]	-0.003	[-0.041 0.036]	0.025	[-0.005 0.055]	0.004	[-0.026 0.035]
Anyone in the hh died because infection	0.023	[-0.015 0.061]	0.055	[0.007 0.102]	0.026	[-0.004 0.056]	0.041	[0.006 0.077]
Never/rarely personal contacts	0.004	[-0.010 0.018]	0.016	[0.002 0.031]	0.023	[0.012 0.035]	0.029	[0.017 0.041]
Never/rarely electronic contacts	-0.004	[-0.028 0.019]	-0.089	[-0.120 -0.059]	-0.006	[-0.025 0.013]	-0.082	[-0.105 -0.058]
Helped others outside home	0.011	[-0.008 0.030]	0.013	[-0.007 0.032]	0.003	[-0.013 0.018]	0.016	[0.000 0.032]
Were helped by others outside home	0.036	[0.019 0.052]	0.063	[0.047 0.079]	0.047	[0.033 0.061]	0.069	[0.056 0.082]
Received additional financial support	0.018	[-0.011 0.048]	0.027	[-0.003 0.058]	0.012	[-0.011 0.034]	0.025	[0.001 0.049]
Become unemployed/were laid off	0.054	[0.013 0.095]	0.021	[-0.018 0.061]	0.060	[-0.027 0.093]	0.020	[-0.010 0.051]
Never left home since outbreak	-0.004	[-0.022 0.014]	0.002	[-0.017 0.021]	0.002	[-0.012 0.016]	-0.004	[-0.018 0.011]
Diagnosed major illness since wave 8	0.099	[0.069 0.128]	0.105	[0.077 0.132]	0.089	[0.069 0.109]	0.086	[0.067 0.104]

Notes: Inverse-probability weights for each unit are used. ADL = Activity of Daily Living; IADL = Instrumental Activity of Daily Living; hh = household.

Table A6: Statistical power of the estimates of models III on the probability of reporting to be sadder/more depressed during the first wave of the COVID-19 pandemic than before the outbreak: simulation results

Variable	Males (15,538 units)	Females (21,937 units)
<i>Age (at 2020)</i>		
< 60	ref.	ref.
60-64	0.062	0.070
65-69	0.148	0.185
70-74	0.090	0.090
75-79	0.239	0.238
80-84	0.176	0.096
>84	0.087	0.717
<i>Education</i>		
Low	ref.	ref.
Middle	0.662	0.277
High	0.600	0.251
<i>Depression categories (at 2015)</i>		
Very low risk of depression	ref.	ref.
Low risk of depression	0.512	0.755
Middle risk of depression	1.000	1.000
High risk of depression	1.000	1.000
Depressed	0.963	1.000
Severely depressed	1.000	1.000
Extremely depressed	0.442	0.999
Become widow/er (closed to outbreak)	0.098	0.116
Retired (closed to outbreak)	0.105	0.303
Had a heart attack/stroke (closed to outbreak)	0.312	0.079
Diagnosed a cancer (closed to outbreak)	0.050	0.498
Ever diagnosed chronic lung disease	0.105	0.060
Ever diagnosed diabetes	0.313	0.106
Ever diagnosed hypertension	0.055	0.415
Ever diagnosed cholesterol	0.115	0.050
Ever diagnosed Alzheimer's disease	0.300	0.569
Ever diagnosed other affective diseases	0.946	0.999
Ever diagnosed rheumatoid arthritis	0.157	0.115
Ever diagnosed osteoarthritis	0.888	0.685
At least one ADL limitation	0.131	0.065
At least one IADL limitation	0.934	0.377
<i>Body Mass Index</i>		
Normal weight/underweighted	ref.	ref.
Being overweighted	0.165	0.279
Being obese	0.089	0.791

Table A6 (cnt.)

Variable	Males (15,538 units)	Females (21,937 units)
Fluency test score	0.074	0.931
Household size	0.241	0.943
Living with a partner	0.154	0.194
<i>Number of living children</i>		
None	ref.	ref.
One	0.444	0.513
More than one	0.301	0.361
<i>Job status</i>		
Employee	ref.	ref.
Self-employed	0.066	0.272
Retired	0.163	0.053
Other (unemployed, permanently sick,...)	0.164	0.099
Homemaker	0.078	0.067
<i>House ownership</i>		
Owner/Member of a cooperative	ref.	ref.
Tenant/Subtenant	0.836	0.930
Rent free	0.056	0.053
Anyone in the hh tested positive for COVID-19	0.057	0.063
Anyone in the hh tested negative for COVID-19	0.992	1.000
Anyone in the hh hospitalised due to infection	0.431	0.080
Anyone in the hh died because infection	0.436	0.538
Never/rarely personal contacts	0.977	0.996
Never/rarely electronic contacts	0.111	1.000
Helped others outside home	0.071	0.538
Were helped by others outside home	1.000	1.000
Received additional financial support	0.187	0.527
Become unemployed/were laid off	0.976	0.280
Never left home since outbreak	0.069	0.085
Diagnosed major illness since wave 8	1.000	1.000

Notes: ADL = Activity of Daily Living; IADL = Instrumental Activity of Daily Living;
hh = household.