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Supplementary information

Right-wing ideology reduces the effects of education on climate change beliefs in more developed countries

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Supplementary materials
Right-wing ideology reduces effects of education on climate beliefs in more developed countries

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Climate change awareness

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Model details for Climate change awareness moderated by HDI (2016 European Social Survey)

	Climate change awareness			
Predictors	*b*	*SE*	*CI*	*p*
(Intercept)	0.82	0.01	0.80 – 0.84	**<0.001**
Gender	0.02	0.00	0.01 – 0.02	**<0.001**
Age	-0.03	0.01	-0.05 – -0.02	**<0.001**
Left-right id.	-0.07	0.01	-0.09 – -0.06	**<0.001**
Education	0.27	0.03	0.21 – 0.32	**<0.001**
HDI 2016	0.60	0.28	0.05 – 1.14	**0.033**
Left-right id. x Education	-0.28	0.07	-0.42 – -0.13	**<0.001**
Left-right id. x HDI 2016	-0.92	0.22	-1.35 – -0.49	**<0.001**
Education x HDI 2016	1.19	0.81	-0.39 – 2.77	0.141
Random Effects				
σ^2	0.05			
τ_{00}	0.00 $_{Country}$			
τ_{11}	0.00 $_{Country.Left\text{-}right\ id.}$			
	0.01 $_{Country.Education}$			
ρ_{01}	0.18			
	-0.62			
ICC	0.05			
N	22 $_{Country}$			
Observations	35431			
Marginal R^2 / Conditional R^2	0.032 / 0.080			

Climate change awareness: analysis of per-capita carbon emission

Table S2

Model details for Climate change awareness moderated by per capita carbon emission (2016 European Social Survey)

	Climate change awareness			
Predictors	*b*	*SE*	*CI*	*p*
(Intercept)	0.82	0.01	0.81 – 0.84	**<0.001**
Gender	0.02	0.00	0.01 – 0.02	**<0.001**
Age	-0.03	0.01	-0.05 – -0.02	**<0.001**
Left-right id.	-0.07	0.01	-0.09 – -0.05	**<0.001**
Education	0.27	0.03	0.21 – 0.33	**<0.001**
Carbon emission	-0.10	0.03	-0.17 – -0.04	**0.002**
Left-right id. x Education	-0.30	0.07	-0.45 – -0.16	**<0.001**
Left-right id. x Carbon emission	0.03	0.04	-0.04 – 0.10	0.400
Education x Carbon emission	-0.04	0.11	-0.26 – 0.19	0.753
Random Effects				
σ^2	0.05			
τ_{00}	0.00 $_{Country}$			
τ_{11}	0.00 $_{Country.Left\text{-}right\ id.}$			
	0.02 $_{Country.Education}$			
ρ_{01}	-0.12			
	-0.52			
ICC	0.04			
N	22 $_{Country}$			
Observations	35431			
Marginal R^2 / Conditional R^2	0.034 / 0.076			

Table S3

Model details for human-caused climate change moderated by HDI (2016 European Social Survey)

	Human-caused climate change			
Predictors	*b*	*SE*	*CI*	*p*
(Intercept)	0.68	0.01	0.67 – 0.69	**<0.001**
Gender	0.00	0.00	-0.00 – 0.00	0.402
Age	-0.08	0.00	-0.08 – -0.07	**<0.001**
Left-right id.	-0.05	0.01	-0.06 – -0.04	**<0.001**
Education	0.16	0.02	0.12 – 0.20	**<0.001**
HDI 2016	0.24	0.18	-0.11 – 0.58	0.180
Left-right id. x Education	-0.16	0.05	-0.26 – -0.05	**0.004**
Left-right id. x HDI 2016	-0.88	0.17	-1.22 – -0.54	**<0.001**
Education x HDI 2016	1.39	0.58	0.27 – 2.52	**0.015**
Left-right id. x Education x HDI 2016	-3.31	1.58	-6.42 – -0.21	**0.036**
Random Effects				
σ^2	0.02			
τ_{00}	0.00 $_{\text{Country}}$			
τ_{11}	0.00 $_{\text{Country.Left-right id.}}$			
	0.01 $_{\text{Country.Education}}$			
ρ_{01}	0.33			
	-0.26			
ICC	0.04			
N	22 $_{\text{Country}}$			
Observations	34740			
Marginal R^2 / Conditional R^2	0.032 / 0.068			

Human-caused climate change (2016 European Social Survey): analysis of per-capita carbon emission

Table S4

Model details for human-caused climate change moderated by per capita carbon emission (2016 European Social Survey)

	Human-caused climate change			
Predictors	*b*	*SE*	*CI*	*p*
(Intercept)	0.68	0.01	0.67 – 0.69	**<0.001**
Gender	0.00	0.00	-0.00 – 0.00	0.380
Age	-0.08	0.00	-0.08 – -0.07	**<0.001**
Left-right id.	-0.05	0.01	-0.07 – -0.03	**<0.001**
Education	0.17	0.02	0.12 – 0.21	**<0.001**
Carbon emission	-0.06	0.02	-0.10 – -0.02	**0.006**
Left-right id. x Education	-0.17	0.05	-0.28 – -0.06	**0.002**
Left-right id. x Carbon emission	-0.01	0.03	-0.07 – 0.05	0.786
Education x Carbon emission	-0.04	0.08	-0.21 – 0.12	0.602
Random Effects				
σ^2	0.02			
τ_{00}	0.00 $_{Country}$			
τ_{11}	0.00 $_{Country.Left\text{-}right\ id.}$			
	0.01 $_{Country.Education}$			
ρ_{01}	-0.08			
	-0.19			
ICC	0.03			
N	22 $_{Country}$			
Observations	34740			
Marginal R^2 / Conditional R^2	0.032 / 0.064			

Human-caused climate change: data from Hornsey et al. (2018)

Table S5

Model details for human-caused climate change moderated by HDI (data from Hornsey et al., 2018)

	Human-caused climate change			
Predictors	*b*	*SE*	*CI*	*p*
(Intercept)	0.63	0.01	0.61 – 0.66	**<0.001**
Gender [Women]	0.01	0.01	-0.01 – 0.03	0.211
Gender [Other]	-0.01	0.10	-0.19 – 0.18	0.940
Age	-0.03	0.02	-0.07 – 0.01	0.190
Left-right id.	-0.12	0.03	-0.17 – -0.07	**<0.001**
Education	0.03	0.02	-0.00 – 0.06	0.080
HDI 2016	-0.06	0.12	-0.30 – 0.17	0.598
Left-right id. x Education	-0.06	0.07	-0.20 – 0.07	0.342
Left-right id. x HDI 2016	-0.47	0.28	-1.03 – 0.08	0.091
Education x HDI 2016	0.03	0.19	-0.35 – 0.41	0.882
Left-right id. x Education * HDI 2016	-1.90	0.75	-3.36 – -0.43	**0.011**
Random Effects				
σ^2	0.06			
τ_{00}	0.00 $_{Country}$			
τ_{11}	0.01 $_{Country.\ Left\text{-}right\ id.}$			
ρ_{01}	0.78 $_{Country}$			
ICC	0.05			
N	25 $_{Country}$			
Observations	3703			
Marginal R^2 / Conditional R^2	0.017 / 0.061			

Human-caused climate change (data from Hornsey et al., 2018): analysis of per-capita carbon emission

Table S6

Model details for human-caused climate change moderated by per capita carbon emission (data from Hornsey et al., 2018)

	Human-caused climate change			
Predictors	*b*	*SE*	*CI*	*p*
(Intercept)	0.63	0.01	0.61 – 0.65	**<0.001**
Gender [Women]	0.01	0.01	-0.01 – 0.03	0.181
Gender [Other]	-0.01	0.10	-0.20 – 0.18	0.921
Age	-0.02	0.02	-0.07 – 0.02	0.256
Left-right id.	-0.11	0.02	-0.16 – -0.06	**<0.001**
Education	0.03	0.02	0.00 – 0.06	**0.048**
Carbon emission	-0.09	0.04	-0.16 – -0.02	**0.014**
Left-right id. x Education	-0.07	0.07	-0.20 – 0.06	0.272
Left-right id. x Carbon emission	-0.30	0.08	-0.47 – -0.14	**<0.001**
Random Effects				
σ^2	0.06			
τ_{00}	0.00 $_{Country}$			
τ_{11}	0.01 $_{Country.Left\text{-}right\ id.}$			
ρ_{01}	0.47 $_{Country}$			
ICC	0.04			
N	25 $_{Country}$			
Observations	3703			
Marginal R^2 / Conditional R^2	0.026 / 0.060			

The effects of left-right identification were negative at high levels of per capita carbon emission (b = -0.19, SE = 0.03, CI[-0.26, -0.13]) and non-significant at low levels (b = -0.02, SE = 0.03, CI[-0.08, 0.04]); this difference was statistically significant (b = 0.17, SE = 0.05, z = 3.67 p < .001). The effects are shown in Figure S1; a model details are presented in Table S6.

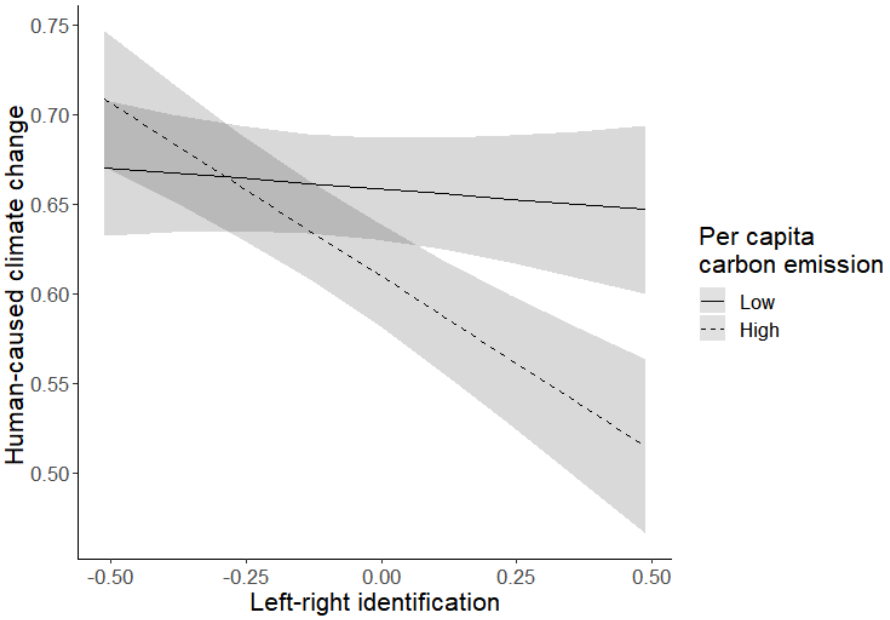

Figure S1. The effects of the left-right identification at low and high per capita carbon emission on belief that climate change is human-caused. The analysis is based on data from Hornsey et al. (2018). Grey shaded area represents 95% confidence intervals.

Seriousness of climate change

Table S7

Model details for seriousness of climate change moderated by HDI (2005-2009 World Value Survey)

	Seriousness of climate change			
Predictors	*b*	*SE*	*CI*	*p*
(Intercept)	0.82	0.01	0.80 – 0.84	**<0.001**
Gender [Woman]	0.01	0.00	0.01 – 0.02	**<0.001**
Age	0.02	0.01	0.00 – 0.03	**0.008**
Left-right id.	-0.05	0.01	-0.07 – -0.02	**0.002**
Education	0.06	0.01	0.04 – 0.08	**<0.001**
HDI 2005	0.10	0.07	-0.03 – 0.23	0.150
Left-right id. x Education	-0.01	0.02	-0.04 – 0.02	0.521
Left-right id. x HDI 2005	-0.33	0.09	-0.51 – -0.15	**<0.001**
Education x HDI 2005	-0.15	0.06	-0.28 – -0.02	**0.019**
Left-right id. x Education x HDI 2005	-0.23	0.10	-0.42 – -0.04	**0.016**
Random Effects				
σ^2	0.05			
τ_{00}	0.00 $_{Country}$			
τ_{11}	0.01 $_{Country.Left\text{-}right\ id.}$			
	0.00 $_{Country.Education}$			
ρ_{01}	0.19			
	-0.26			
ICC	0.10			
N	45 $_{Country}$			
Observations	42960			
Marginal R^2 / Conditional R^2	0.022 / 0.122			

Seriousness of climate change: analysis of per-capita carbon emission

Table S8

Model details for seriousness of climate change moderated by per capita carbon emission (2005-2009 World Value Survey)

	Seriousness of climate change			
Predictors	*b*	*SE*	*CI*	*p*
(Intercept)	0.82	0.01	0.80 – 0.84	**<0.001**
Gender [Woman]	0.01	0.00	0.01 – 0.02	**<0.001**
Age	0.02	0.01	0.00 – 0.03	**0.013**
Left-right id.	-0.04	0.01	-0.07 – -0.01	**0.003**
Education	0.06	0.01	0.04 – 0.09	**<0.001**
Carbon emission	0.04	0.05	-0.07 – 0.15	0.461
Left-right id. x Education	-0.02	0.02	-0.05 – 0.01	0.179
Left-right id. x Carbon emission	-0.28	0.07	-0.42 – -0.13	**<0.001**
Education x Carbon emission	-0.13	0.05	-0.24 – -0.03	**0.011**
Left-right id. x Education x Carbon emission	-0.41	0.09	-0.58 – -0.24	**<0.001**
Random Effects				
σ^2	0.05			
τ_{00}	0.01 $_{Country}$			
τ_{11}	0.01 $_{Country.Left\text{-}right\ id.}$			
	0.00 $_{Country.education\_c}$			
ρ_{01}	0.13			
	-0.28			
ICC	0.11			
N	44 $_{Country}$			
Observations	42130			
Marginal R^2 / Conditional R^2	0.017 / 0.122			

For the right-wing identification, at high levels of per capita carbon emission, the effects of education were positive for the political left (b = 0.07, SE = 0.02, CI[0.03, 0.10], whereas non-significant for the political right (b = 0.01, SE = 0.02, CI[-0.02, 0.04]); the difference between these slopes was statistically significant (b = 0.05, SE = 0.01, z = 4.10, p < .001). At low levels of per capita carbon emission, the effects of education were positive for the political right (b = 0.11, SE = 0.02, CI[0.08, 0.14]) and the political left (b = 0.08, SE = 0.02, CI[0.04, 0.11]) and the difference was

statistically significant (b = 0.03, SE = 0.01, z = 2.75, p = .001). This shows that in some contexts, right-wing identification can be associated with pro-climate change beliefs. It is, however, important to note that the difference in the effects of education between the political right vs. left at low levels of per capita carbon emission was rather small. The effects are shown in Figure S2 and a model details are presented in Table S8.

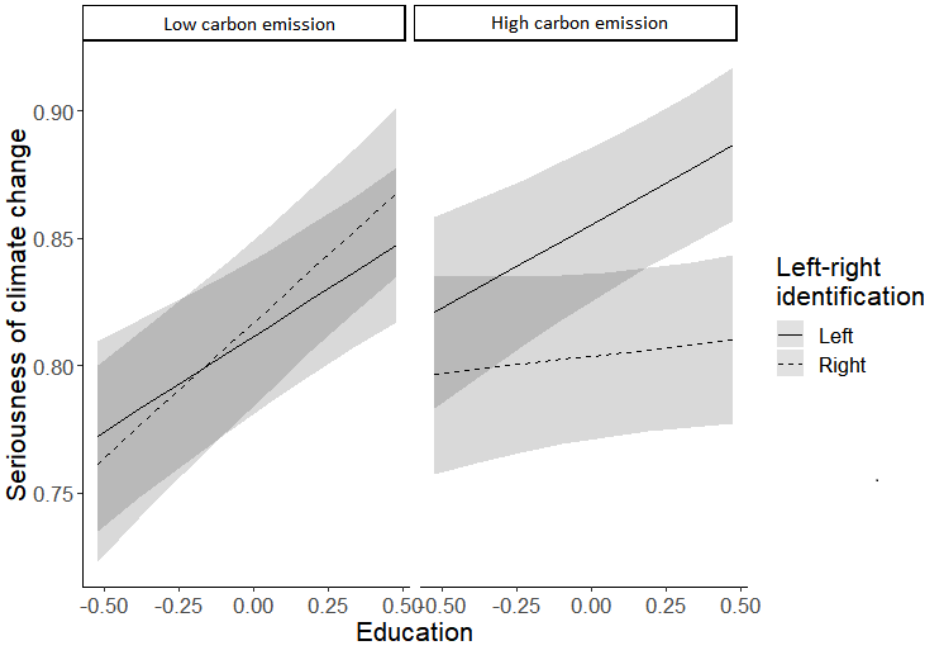

Figure S2. The effects of education for the political left and right at low and high per capita carbon emission on perception of seriousness of climate change. The analysis is based on data from 2005-2009 World Value Survey data. Grey shaded area represents 95% confidence intervals.

Climate change policy support

Table S9

Model details for climate change policy support moderated by HDI (2016 European Social Survey)

	Climate change policy support			
Predictors	*b*	*SE*	*CI*	*p*
(Intercept)	0.60	0.01	0.58 – 0.62	**<0.001**
Gender	0.02	0.00	0.01 – 0.02	**<0.001**
Age	-0.03	0.01	-0.04 – -0.02	**<0.001**
Left-right id.	-0.09	0.01	-0.11 – -0.07	**<0.001**
Education	0.37	0.04	0.29 – 0.46	**<0.001**
HDI 2016	0.40	0.24	-0.07 – 0.87	0.094
Left-right id. x Education	-0.57	0.07	-0.71 – -0.44	**<0.001**
Left-right id. x HDI 2016	-1.60	0.32	-2.22 – -0.97	**<0.001**
Education x HDI 2016	1.84	1.18	-0.48 – 4.15	0.120
Left-right id. x Education x HDI 2016	-11.22	1.97	-15.07 – -7.36	**<0.001**
Random Effects				
σ^2	0.04			
τ_{00}	0.00 $_{Country}$			
τ_{11}	0.00 $_{Country.Left\text{-}right\ id.}$			
	0.04 $_{Country.Education}$			
ρ_{01}	-0.66			
	-0.07			
ICC	0.05			
N	22 $_{Country}$			
Observations	35543			
Marginal R^2 / Conditional R^2	0.051 / 0.098			

Climate change policy support: analysis of per-capita carbon emission

Table S10

Model details for climate change policy support moderated by per capita carbon emission (2016 European Social Survey)

	Climate change policy support			
Predictors	*b*	*SE*	*CI*	*p*
(Intercept)	0.60	0.01	0.58 – 0.62	**<0.001**
Gender	0.02	0.00	0.01 – 0.02	**<0.001**
Age	-0.03	0.01	-0.04 – -0.02	**<0.001**
Left-right id.	-0.09	0.01	-0.12 – -0.06	**<0.001**
Education	0.38	0.04	0.30 – 0.47	**<0.001**
Carbon emission	-0.07	0.03	-0.13 – -0.01	**0.025**
Left-right id. x Education	-0.61	0.07	-0.74 – -0.48	**<0.001**
Left-right id. x Carbon emission	0.13	0.05	0.02 – 0.23	**0.015**
Education x Carbon emission	-0.20	0.15	-0.50 – 0.10	0.185
Random Effects				
σ^2	0.04			
τ_{00}	0.00 $_{Country}$			
τ_{11}	0.00 $_{Country.Left\text{-}right\ id.}$			
	0.04 $_{Country.Education}$			
ρ_{01}	-0.61			
	-0.08			
ICC	0.05			
N	22 $_{Country}$			
Observations	35543			
Marginal R^2 / Conditional R^2	0.045 / 0.091			

The effects of left-right identification on climate change policy support were negative at high levels of per capita carbon emission (b = -0.06, SE = 0.02, CI[-0.10, -0.02], and negative but, surprisingly, stronger at low levels of per capita carbon emission (b = -0.13, SE = 0.02, CI[-0.16, -0.09]); this difference was statistically significant (b = 0.07, SE = 0.03, z = 2.42, p = .016). The effects are shown in Figure S3; a model details are presented in Table S10.

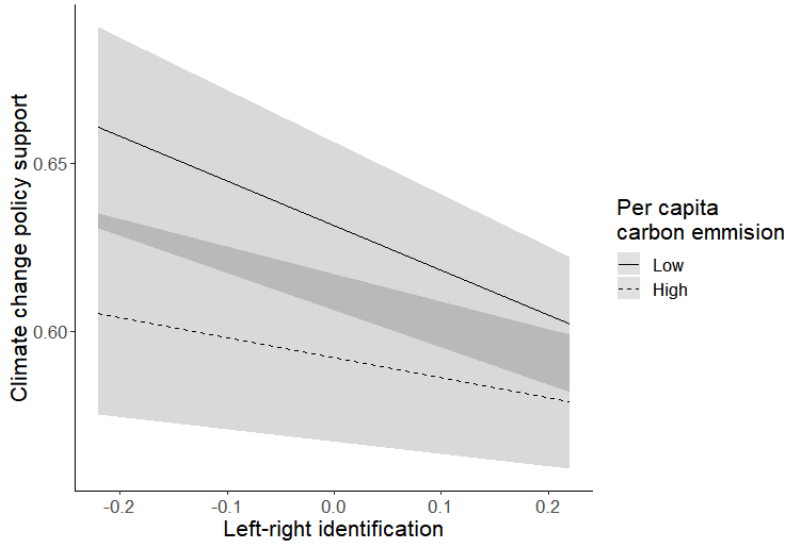

Figure S3. The effects of education for the political right and left at high and low per capita carbon emission on support for climate change policy. The analysis is based on data from the 2016 European Social Survey. Grey shaded area represents 95% confidence intervals.

B. Analysis for the ideological variables other than left-right identification

As mentioned in the main text, that the understanding of what a left-right identification is may vary between contexts, thus, below we present analysis for the cultural and the economic beliefs for the European Social Survey and World Value Survey data as well as liberal-conservative identification for the data from Hornsey et al. (2018).

Climate change awareness: the effects of the cultural and economic beliefs

Table S11

Model details for Climate change awareness moderated by HDI (2016 European Social Survey)

	Climate change awareness				**Climate change awareness**			
Predictors	*b*	*SE*	*CI*	*p*	*b*	*SE*	*CI*	*p*
(Intercept)	0.82	0.01	0.80 – 0.84	**<0.001**	0.82	0.01	0.80 – 0.84	**<0.001**
Gender	0.02	0.00	0.02 – 0.02	**<0.001**	0.02	0.00	0.01 – 0.02	**<0.001**
Age	-0.02	0.01	-0.03 – -0.01	**0.001**	-0.04	0.01	-0.05 – -0.03	**<0.001**
Education	0.23	0.03	0.18 – 0.29	**<0.001**	0.29	0.03	0.24 – 0.34	**<0.001**
HDI 2016	0.47	0.28	-0.07 – 1.02	0.089	0.65	0.28	0.10 – 1.20	**0.020**
Education x HDI 2016	-0.25	0.77	-1.75 – 1.25	0.748	1.08	0.73	-0.35 – 2.51	0.139
Cult. beliefs	-0.10	0.01	-0.12 – -0.08	**<0.001**				
Cult. beliefs x Education	-0.32	0.08	-0.48 – -0.16	**<0.001**				
Cult. beliefs x HDI 2016	-1.35	0.26	-1.87 – -0.83	**<0.001**				
Econ. beliefs					-0.08	0.01	-0.11 – -0.06	**<0.001**
Econ. beliefs x Education					-0.26	0.09	-0.44 – -0.08	**0.004**
Econ. beliefs x HDI 2016					-0.43	0.35	-1.12 – 0.25	0.212
σ^2	0.05				0.05			
τ_{00}	0.00 $_{Country}$				0.00 $_{Country}$			
τ_{11}	0.00 $_{Country.Cult.\ beliefs}$				0.00 $_{Country.Econ.\ beliefs}$			
	0.01 $_{Country.Education}$				0.01 $_{Country.Education}$			
ρ_{01}	0.03				-0.27			
	-0.71				-0.60			
ICC	0.05				0.05			
N	22 $_{Country}$				22 $_{Country}$			
Observations	40550				40493			
Marginal R^2 / Conditional R^2	0.033 / 0.081				0.030 / 0.078			

For the cultural beliefs, the effects of education were weaker for the political right (b = 0.16, SE = 0.03, CI[0.10, 0.23]) in comparison to the political left (b = 0.30, SE = 0.03, CI[0.24, 0.37]); this difference was statistically significant (b = 0.14, SE = 0.03, z = 3.99, p < .001). The effects of right-wing ideology were negative at high HDI (b = -0.15, SE = 0.01, CI[-0.18, -0.13), whereas weaker but still negative at low HDI (b = - .06, SE = 0.01, CI[-0.08, -0.04]); this difference was statistically significant (b = 0.09, SE = 0.02, z = 5.10, p < .001). The effects are shown in Figure S4; a model details are presented in Table S11.

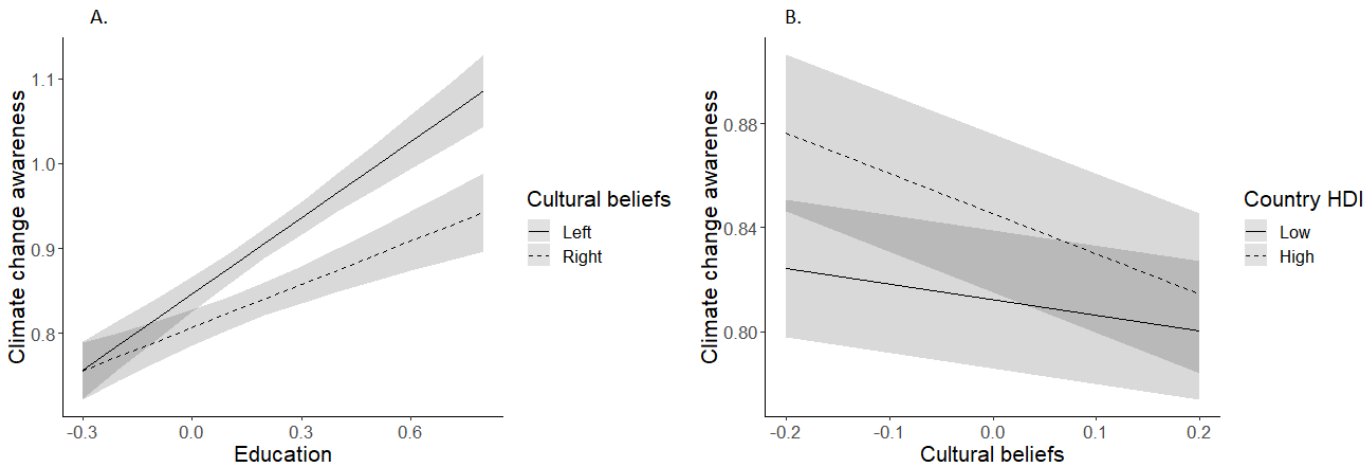

Figure S4. Climate change awareness in Europe. Panel A. The effects of education for the cultural left and right. Panel B. The effects of the cultural beliefs at high and low HDI. The analysis is based on 2016 European Social Survey data. Grey shaded area represents 95% confidence intervals.

For the economic beliefs, the effects of education were weaker for the political right (b = 0.25, SE = 0.03, CI[0.19, 0.31]) in comparison to the political left (b = 0.34, SE = 0.03, CI[0.28, 0.39]); this difference was statistically significant (b =0.09, SE = 0.03, z = 2.89, p = .004). The effects are shown in Figure S5; a model details are presented in Table S11.

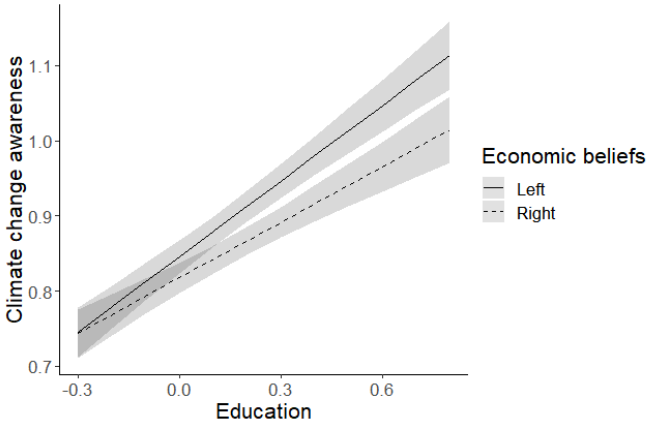

Figure S5. The effects of education for the economic left and right on climate change awareness. The analysis is based on 2016 European Social Survey data. Grey shaded area represents 95% confidence intervals.

Climate change awareness: analysis of per-capita carbon emission

Table S12

Model details for Climate change awareness moderated by per capita carbon emission (2016 European Social Survey)

	Climate change awareness				**Climate change awareness**			
Predictors	*b*	*SE*	*CI*	*p*	*b*	*SE*	*CI*	*p*
(Intercept)	0.82	0.01	0.80 – 0.83	**<0.001**	0.82	0.01	0.80 – 0.84	**<0.001**
Gender	0.02	0.00	0.02 – 0.02	**<0.001**	0.02	0.00	0.01 – 0.02	**<0.001**
Age	-0.02	0.01	-0.03 – -0.01	**0.001**	-0.04	0.01	-0.05 – -0.03	**<0.001**
Education	0.24	0.03	0.18 – 0.29	**<0.001**	0.29	0.03	0.24 – 0.35	**<0.001**
Carbon emission	-0.10	0.03	-0.16 – -0.03	**0.004**	-0.10	0.03	-0.17 – -0.04	**0.002**
Education x Carbon emission	0.03	0.10	-0.17 – 0.23	0.754	-0.00	0.10	-0.20 – 0.20	0.991
Cult. beliefs	-0.10	0.01	-0.13 – -0.07	**<0.001**				
Cult. beliefs x Education	-0.38	0.08	-0.53 – -0.22	**<0.001**				
Cult. beliefs x Carbon emission	0.05	0.05	-0.04 – 0.15	0.259				
Econ. Beliefs					-0.08	0.01	-0.11 – -0.06	**<0.001**
Econ. beliefs x Education					-0.24	0.09	-0.42 – -0.06	**0.008**
Econ. beliefs x Carbon emission					0.03	0.05	-0.06 – 0.12	0.537
σ^2	0.05			0.05				
τ_{00}	0.00_{Country}			0.00_{Country}				
τ_{11}	$0.00_{\text{Country.Cult. beliefs}}$			$0.00_{\text{Country.Econ. beliefs}}$				
	$0.01_{\text{Country.Education}}$			$0.01_{\text{Country.Education}}$				
ρ_{01}	-0.17			-0.34				
	-0.75			-0.41				
ICC	0.04			0.04				
N	22_{Country}			22_{Country}				
Observations	40550			40493				
Marginal R^2 / Conditional R^2	0.035 / 0.076			0.033 / 0.076				

Climate change awareness: per-country analysis

Climate change awareness: per-country analysis for the cultural beliefs

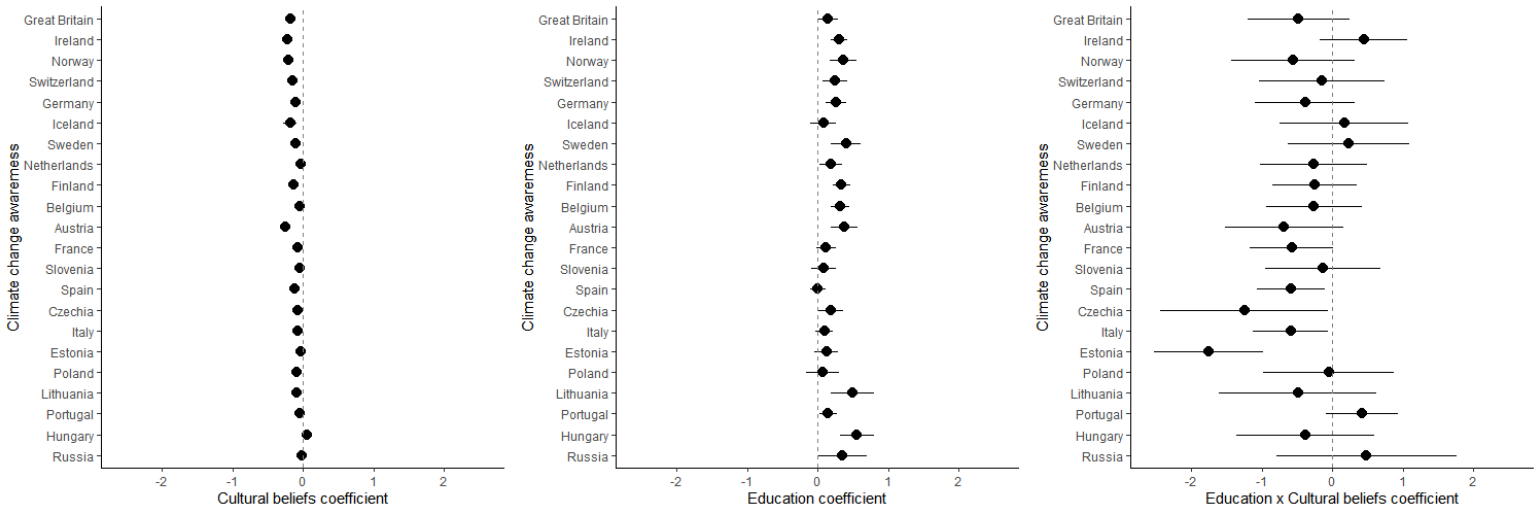

Figure S6. Per-country effects of the cultural beliefs, education, and their interaction on climate change awareness (2016 European Social Survey data). We first display the effects for the English-speaking countries and then the rest of the European countries by their HDI. Whiskers represent 95% confidence intervals.

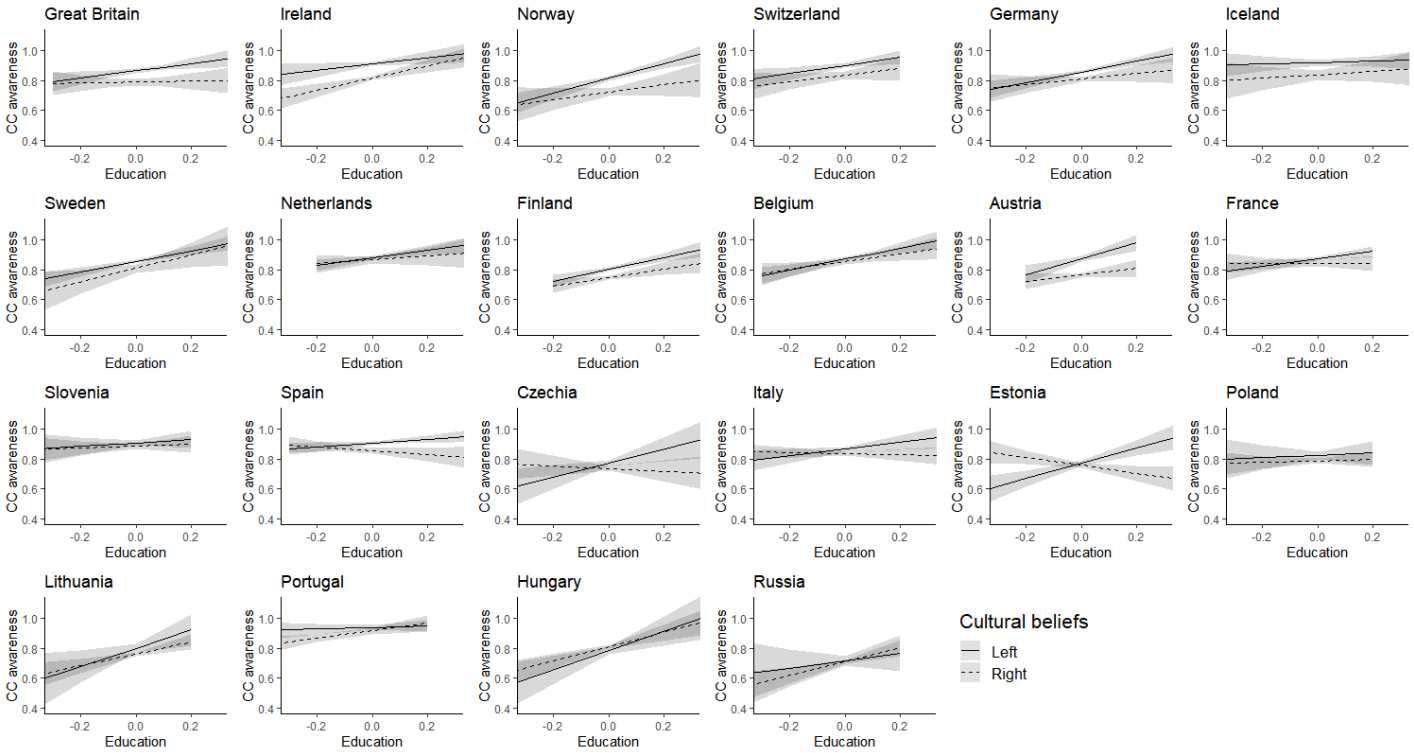

Figure S7. Per-country effects of education for the cultural left and right on climate change awareness (2016 European Social Survey data). The order of the countries reflects the charts with the coefficients presented in Figure S6. Grey shaded area represents 95% confidence intervals. CC = climate change.

Climate change awareness: per-country analysis for the economic beliefs

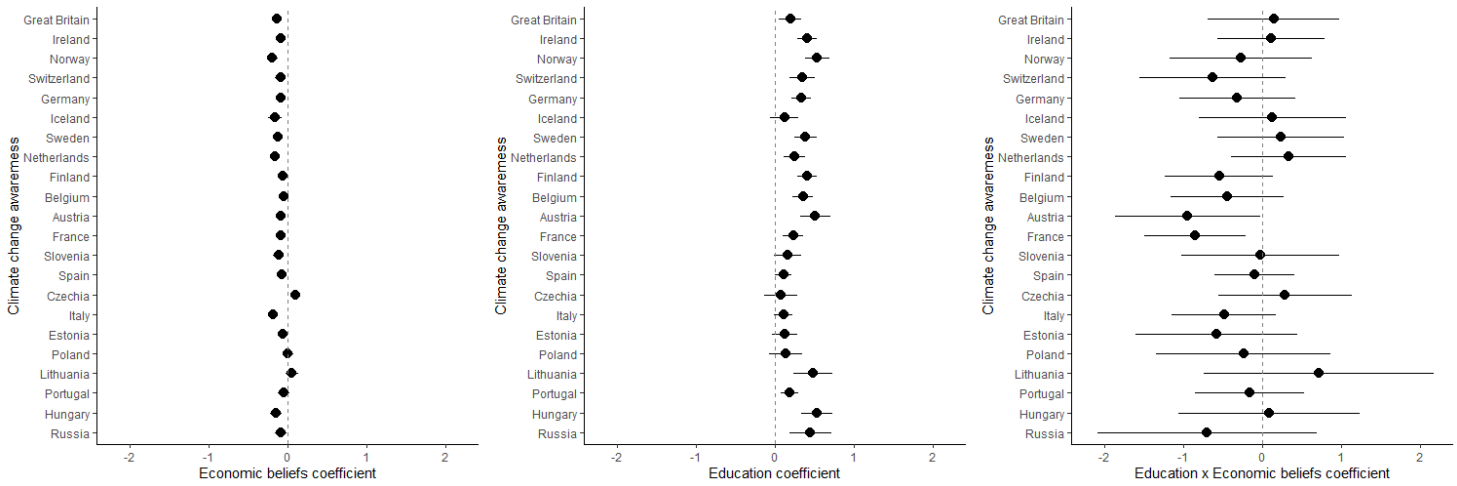

Figure S8. Per-country effects of the economic beliefs, education, and their interaction on climate change awareness (2016 European Social Survey data). We first display the effects for the English-speaking countries and then the rest of the European countries by their HDI. Whiskers represent 95% confidence intervals.

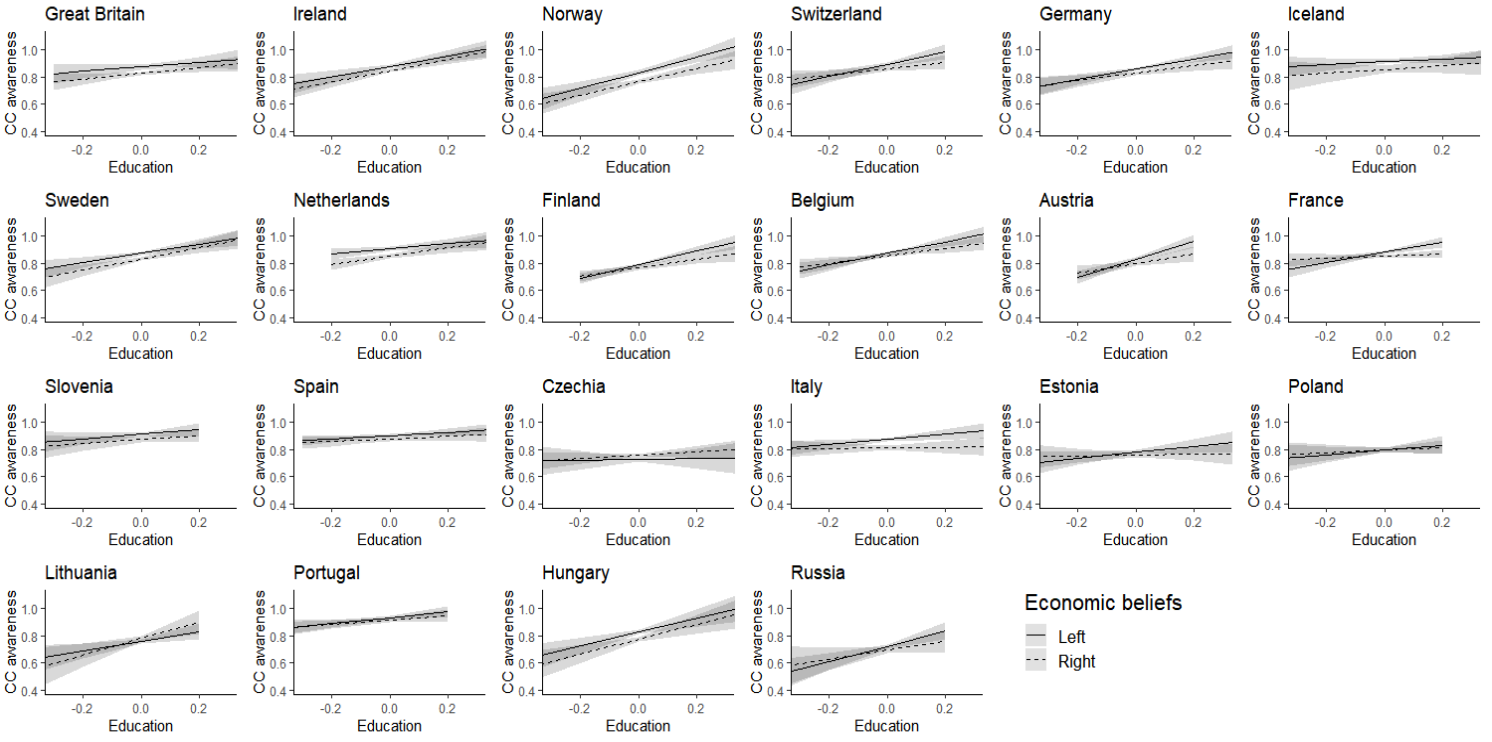

Figure S9. Per-country effects of education for the economic left and right on climate change awareness (2016 European Social Survey data). The order of the countries reflects the charts with the coefficients presented in Figure S8. Grey shaded area represents 95% confidence intervals. CC = climate change.

Human-caused climate change (2016 European Social Survey): the effects of the cultural and economic beliefs

Table S13

Model details for human-caused climate change moderated by HDI (2016 European Social Survey)

	Human-caused climate change				**Human-caused climate change**			
Predictors	*b*	*SE*	*CI*	*p*	*b*	*SE*	*CI*	*p*
(Intercept)	0.67	0.01	0.66 – 0.69	**<0.001**	0.68	0.01	0.67 – 0.69	**<0.001**
Gender	0.00	0.00	-0.00 – 0.01	0.116	0.00	0.00	-0.00 – 0.00	0.539
Age	-0.06	0.00	-0.07 – -0.06	**<0.001**	-0.08	0.00	-0.08 – -0.07	**<0.001**
Education	0.16	0.02	0.12 – 0.20	**<0.001**	0.19	0.02	0.15 – 0.22	**<0.001**
HDI 2016	0.21	0.19	-0.16 – 0.57	0.262	0.26	0.18	-0.08 – 0.61	0.134
Education x HDI 2016	0.42	0.55	-0.65 – 1.50	0.440	1.25	0.53	0.22 – 2.29	**0.018**
Cult. beliefs	-0.05	0.01	-0.07 – -0.03	**<0.001**				
Cult. beliefs x Education	-0.11	0.06	-0.23 – 0.01	0.065				
Cult. beliefs x HDI 2016	-1.37	0.27	-1.89 – -0.85	**<0.001**				
Econ. beliefs					-0.06	0.01	-0.08 – -0.04	**<0.001**
Econ. beliefs x Education					-0.17	0.07	-0.30 – -0.03	**0.014**
Econ. beliefs x HDI 2016					-0.33	0.26	-0.84 – 0.18	0.206
σ^2	0.03				0.03			
τ_{00}	0.00 $_{Country}$				0.00 $_{Country}$			
τ_{11}	0.00 $_{Country.Cult.\ beliefs}$				0.00 $_{Country.Econ.\ beliefs}$			
	0.00 $_{Country.Education}$				0.00 $_{Country.Education}$			
ρ_{01}	-0.10				-0.14			
	-0.50				-0.36			
ICC	0.04				0.04			
N	22 $_{Country}$				22 $_{Country}$			
Observations	39667				39620			
Marginal R^2 / Conditional R^2	0.030 / 0.069				0.028 / 0.063			

For the cultural beliefs, the effects of education were weaker for the political right (b = 0.13, SE = 0.02, CI[0.09, 0.18]) in comparison to the political left (b = 0.18, SE = 0.02, CI[0.14, 0.23]); this difference was only marginally significant (b = 0.05, SE = 0.04, z = 1.89, p = 0.065). The effects of right-wing ideology were negative at high HDI (b = -0.11, SE = 0.01, CI[-0.14, -0.08]), whereas weak at low HDI (b = -0.01, SE = 0.01, CI [-0.04, 0.01]), this difference was statistically significant (b = 0.10, SE

= 0.02, z = 5.15, p <.001). The effects are shown in Figure S10; a model details are presented in Table S13.

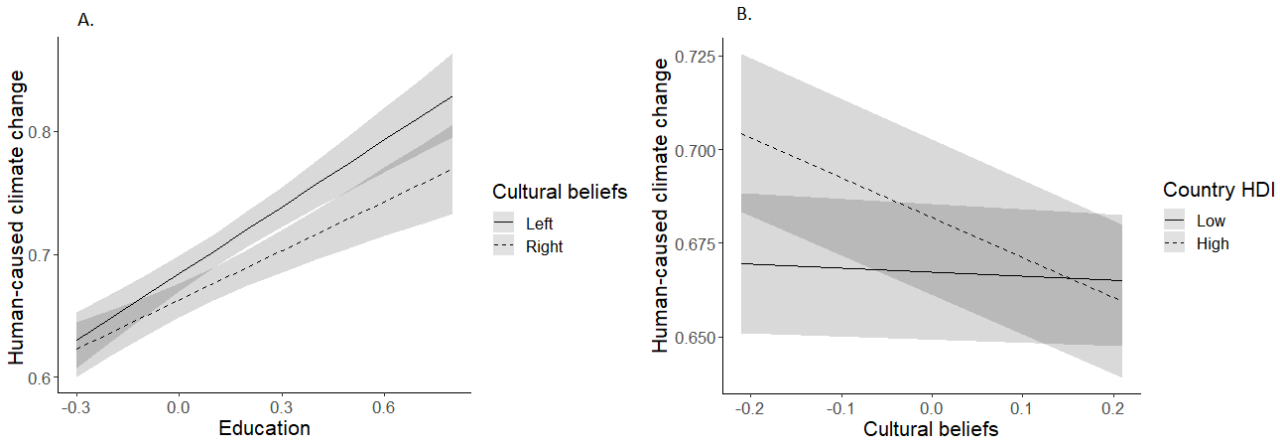

Figure S10. Belief that climate change is human-caused in Europe. Panel A. The effects of education for the cultural left and right. Panel B. The effects of the cultural beliefs at high and low HDI. The analysis is based on 2016 European Social Survey data. Grey shaded area represents 95% confidence intervals.

For the economic beliefs, the effects of education were weaker for the political right (b = 0.16, SE = 0.02, CI[0.11, 0.20]) in comparison to the political left (b = 0.22, SE = 0.02, CI[0.17, 0.26]); this difference was statistically significant (b = 0.06, SE = 0.02, z = 2.45, p = .014). Furthermore, the effects of education were stronger at high (b = 0.24, SE = 0.03, CI[0.18, 0.29]) in comparison to low HDI levels (b = 0.15, SE = 0.03, CI[0.10, 0.20]); the difference was significant (b = 0.09, SE = 0.04, z = 2.37, p = 0.018). The effects are shown in Figure S11; a model details are presented in Table S13.

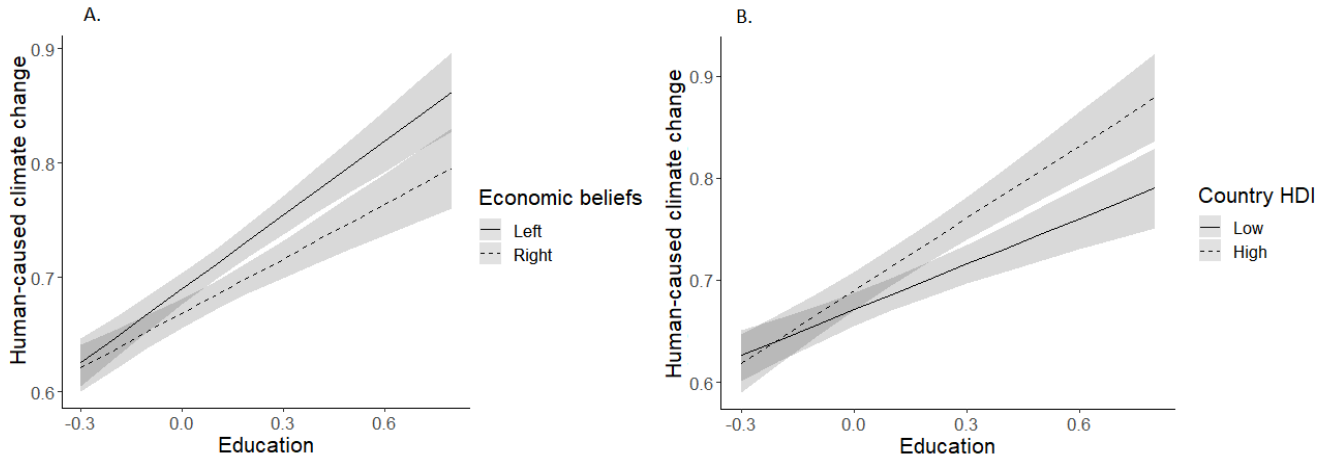

Figure S11. Belief that climate change is human-caused in Europe. Panel A. The effects of education for the economic left and right. Panel B. The effects of education at high and low HDI. The analysis is based on 2016 European Social Survey data. Grey shaded area represents 95% confidence intervals.

Human-caused climate change (2016 European Social Survey): analysis of per-capita carbon emission

Table S14

Model details for human-caused climate change moderated by per capita carbon emission (2016 European Social Survey)

	Human-caused climate change				**Human-caused climate change**			
Predictors	*b*	*SE*	*CI*	*p*	*b*	*SE*	*CI*	*p*
(Intercept)	0.67	0.01	0.66 – 0.68	**<0.001**	0.68	0.01	0.67 – 0.69	**<0.001**
Gender	0.00	0.00	-0.00 – 0.01	0.112	0.00	0.00	-0.00 – 0.00	0.549
Age	-0.06	0.00	-0.07 – -0.06	**<0.001**	-0.08	0.00	-0.08 – -0.07	**<0.001**
Education	0.16	0.02	0.12 – 0.20	**<0.001**	0.19	0.02	0.15 – 0.23	**<0.001**
Carbon emission	-0.06	0.02	-0.10 – -0.01	**0.010**	-0.06	0.02	-0.10 – -0.02	**0.003**
Education x Carbon emission	0.01	0.07	-0.13 – 0.15	0.920	-0.01	0.08	-0.16 – 0.14	0.897
Cult. beliefs	-0.05	0.01	-0.08 – -0.02	**<0.001**				
Cult. beliefs x Education	-0.14	0.06	-0.26 – -0.02	**0.020**				
Cult. beliefs x Carbon emission	0.05	0.05	-0.04 – 0.15	0.287				
Econ. beliefs					-0.06	0.01	-0.08 – -0.04	**<0.001**
Econ. beliefs x Education					-0.16	0.07	-0.29 – -0.02	**0.022**
Econ. beliefs x Carbon emission					-0.02	0.03	-0.09 – 0.05	0.602
σ^2	0.03				0.03			
τ_{00}	0.00 $_{Country}$				0.00 $_{Country}$			
τ_{11}	0.00 $_{Country.Cult.\ beliefs}$				0.00 $_{Country.Econ.\ beliefs}$			
	0.01 $_{Country.Education}$				0.01 $_{Country.Education}$			
ρ_{01}	-0.17				-0.36			
	-0.49				-0.20			
ICC	0.04				0.03			
N	22 $_{Country}$				22 $_{Country}$			
Observations	39667				39620			
Marginal R^2 / Conditional R^2	0.031 / 0.066				0.032 / 0.061			

Human-caused climate change (2016 European Social Survey): per-country analysis

Human-caused climate change: per-country analysis for the cultural beliefs

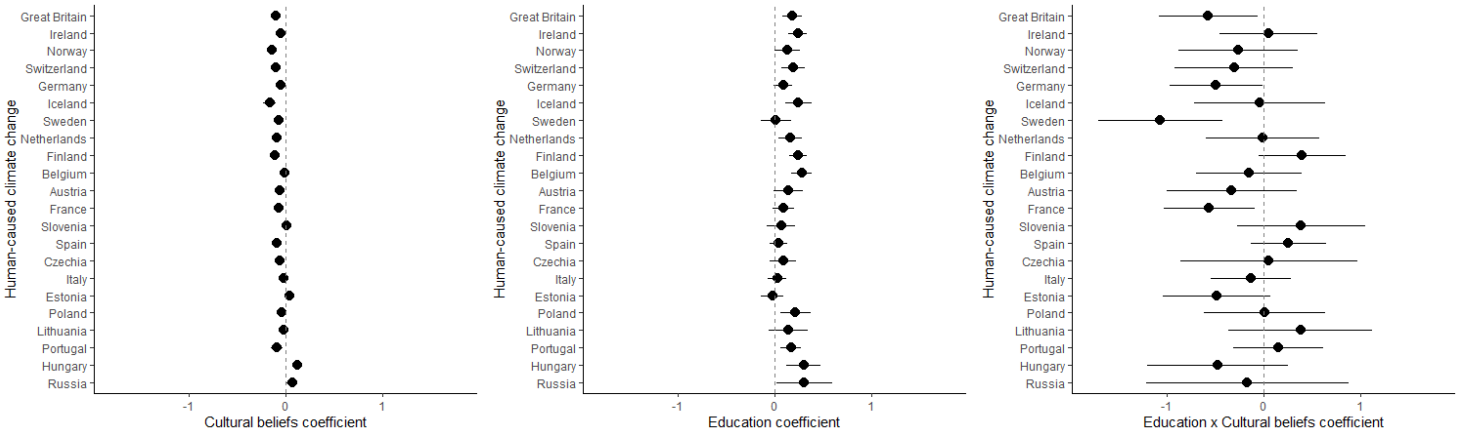

Figure S12. Per-country effects of the cultural beliefs, education, and their interaction on the beliefs that climate change is human-caused (2016 European Social Survey data). We first display the effects for the English-speaking countries and then the rest of the European countries by their HDI. Whiskers represent 95% confidence intervals.

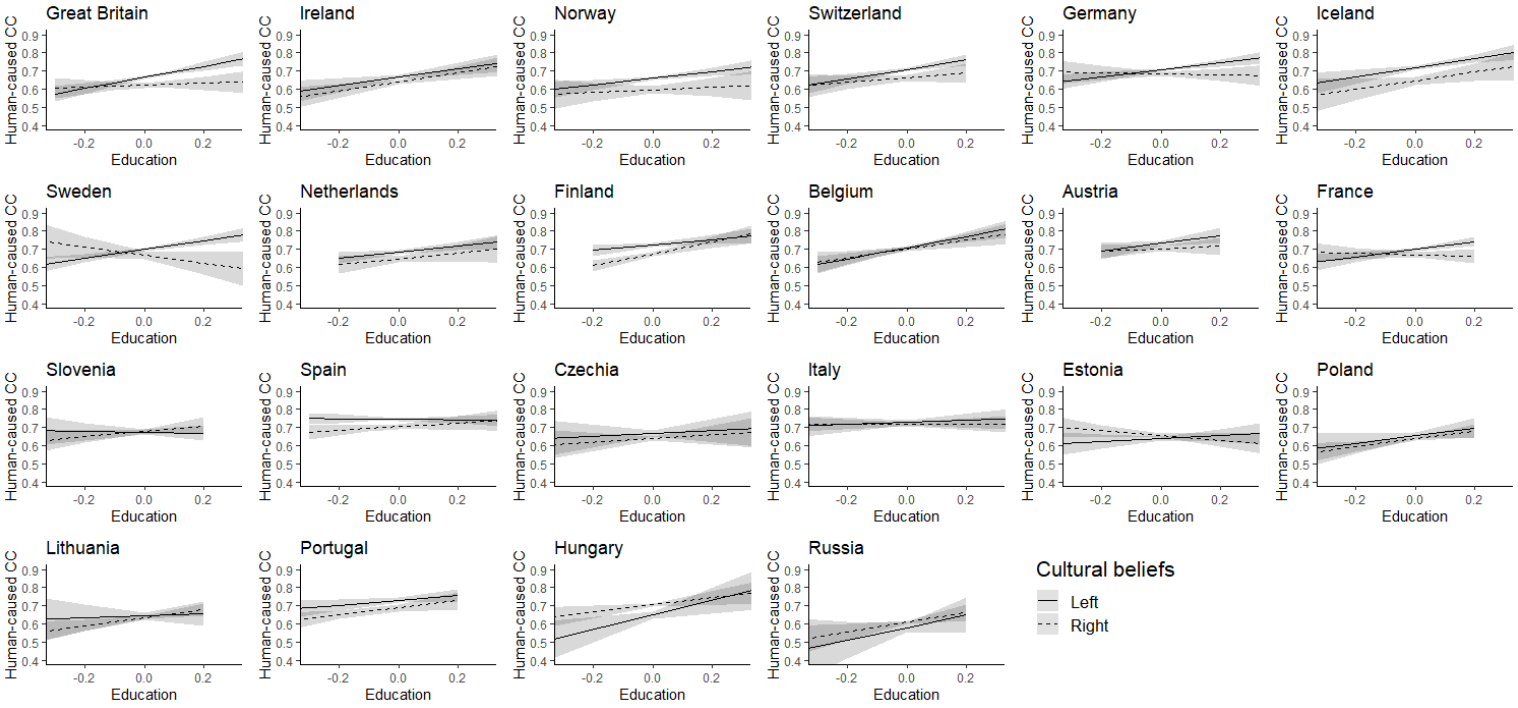

Figure S13. Per-country effects of education for the cultural left and right on the beliefs that climate change is human-caused (2016 European Social Survey data). The order of the countries reflects the charts with the coefficients presented in Figure S12. Grey shaded area represents 95% confidence intervals. CC = climate change.

Human-caused climate change: per-country analysis for the economic beliefs

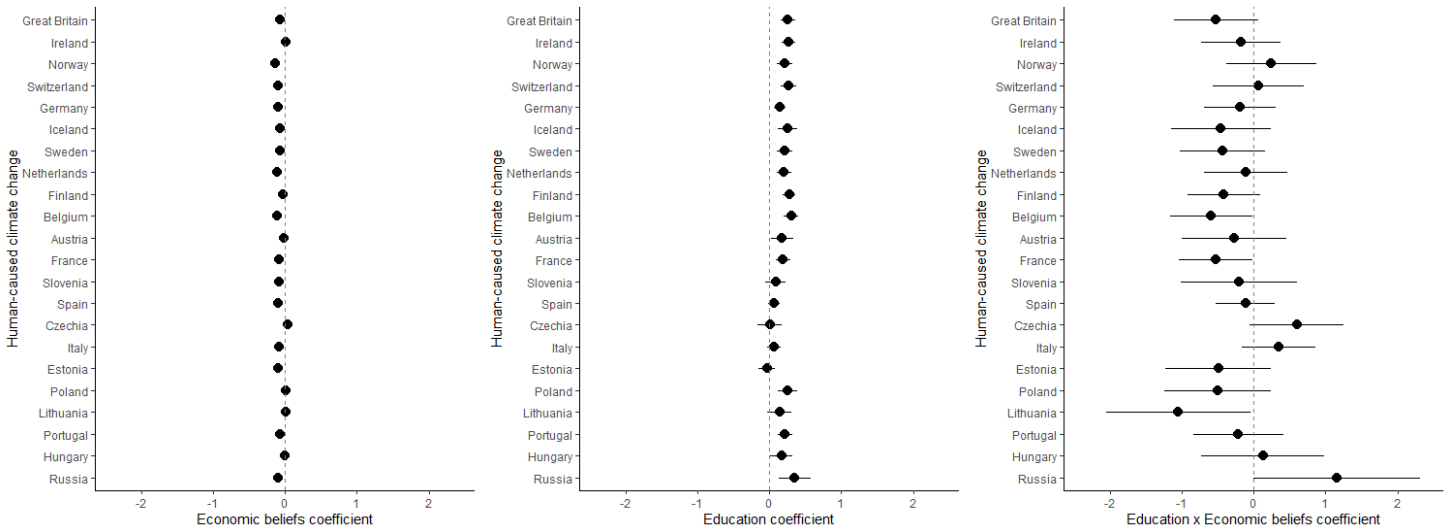

Figure S14. Per-country effects of the economic beliefs, education, and their interaction on the beliefs that climate change is human-caused (2016 European Social Survey data). We first display the effects for the English-speaking countries and then the rest of the European countries by their HDI. Whiskers represent 95% confidence intervals.

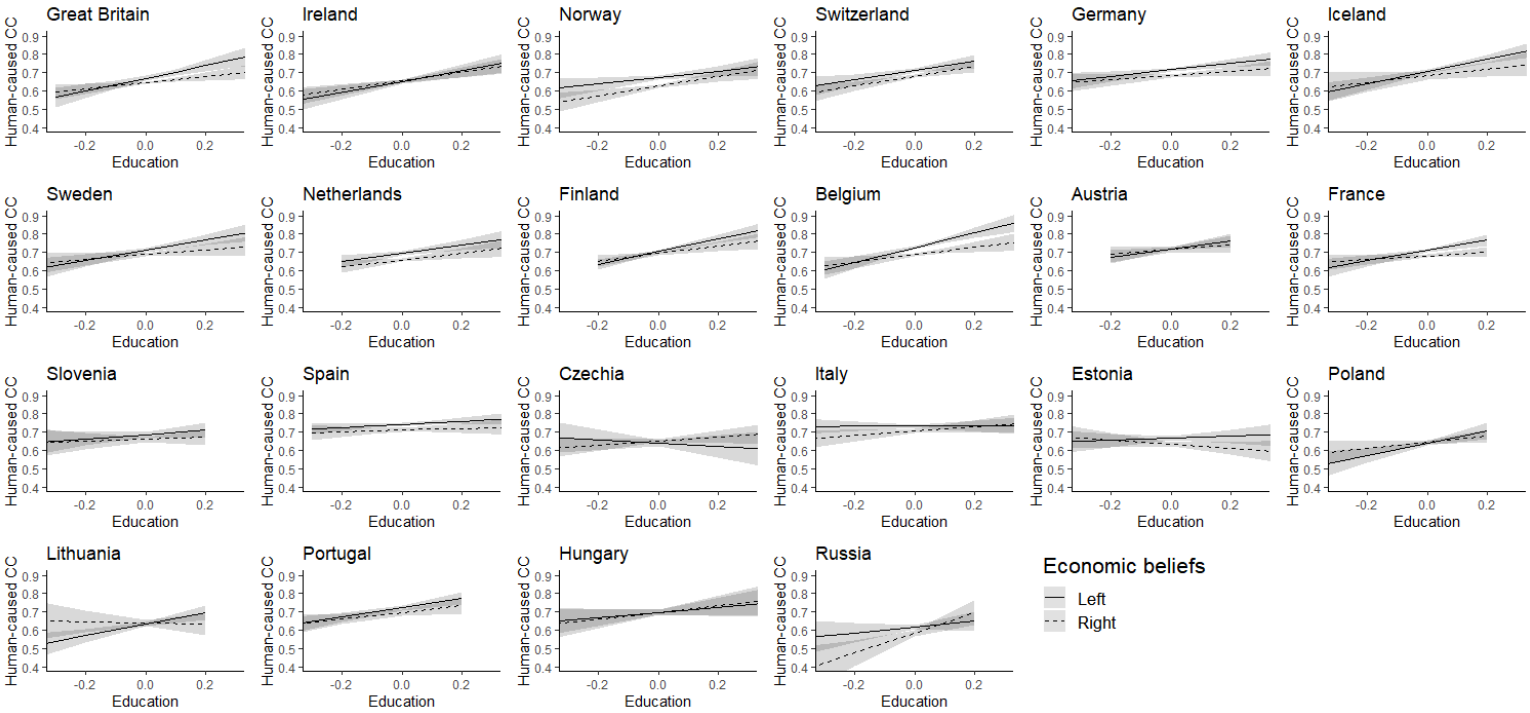

Figure S15. Per-country effects of education for the economic left and right on the beliefs that climate change is human-caused (2016 European Social Survey data). The order of the countries reflects the charts with the coefficients presented in Figure S14. Grey shaded area represents 95% confidence intervals. CC = climate change.

Human-caused climate change (data from Hornsey et al., 2018): the effects of liberal-conservative identification

Table S15

Model details for human-caused climate change moderated by HDI (data from Hornsey et al., 2018)

	Human-caused climate change			
Predictors	*b*	*SE*	*CI*	*p*
(Intercept)	0.63	0.01	0.61 – 0.66	**<0.001**
Gender [Women]	0.01	0.01	-0.00 – 0.03	0.132
Gender [Other]	-0.00	0.10	-0.19 – 0.18	0.962
Age	-0.03	0.02	-0.07 – 0.01	0.166
Education	0.03	0.02	-0.00 – 0.06	0.084
HDI 2016	-0.07	0.12	-0.30 – 0.16	0.560
Education x HDI 2016	-0.02	0.19	-0.39 – 0.36	0.934
Liberal-conservative id.	-0.09	0.02	-0.13 – -0.05	**<0.001**
Liberal-conservative id. x Education	-0.03	0.06	-0.16 – 0.10	0.630
Liberal-conservative id. x HDI 2016	-0.15	0.24	-0.62 – 0.32	0.539
Liberal-conservative id. x Education x HDI 2016	-1.25	0.71	-2.63 – 0.13	0.077
σ^2	0.06			
τ_{00}	0.00 $_{Country}$			
τ_{11}	0.00 $_{Country.Liberal\text{-}conservative\ id.}$			
ρ_{01}	0.43 $_{Country}$			
ICC	0.04			
N	25 $_{Country}$			
Observations	3701			
Marginal R^2 / Conditional R^2	0.011 / 0.052			

When we re-ran the analysis using liberal vs. conservative identification, we did not find any interaction (however, the 3-way interaction was marginally significant, p = .077; when it was removed, the lower level interactions persisted non-significant). Instead, we found the negative effects of the conservative ideology. It probably reflects the fact that liberal – conservative dimension does not describe political beliefs across the world very well. The model details are presented in the Table S15.

Human-caused climate change (data from Hornsey et al., 2018): analysis of per-capita carbon emission

Table S16

Model details for human-caused climate change moderated by per capita carbon emission (data from Hornsey et al., 2018)

	Human-caused climate change			
Predictors	*b*	*SE*	*CI*	*p*
(Intercept)	0.63	0.01	0.61 – 0.65	**<0.001**
Gender [Women]	0.01	0.01	-0.00 – 0.03	0.126
Gender [Other]	0.00	0.10	-0.19 – 0.19	0.992
Age	-0.03	0.02	-0.07 – 0.01	0.200
Left-right id.				
Education	0.03	0.02	-0.00 – 0.06	0.083
Carbon emission	-0.08	0.04	-0.15 – -0.01	**0.024**
Left-right id. x Education				
Left-right id. x HDI 2016				
Liberal-conservative id.	-0.08	0.02	-0.12 – -0.04	**<0.001**
Liberal-conservative id. x Education	-0.04	0.06	-0.16 – 0.09	0.544
Liberal-conservative id. x HDI 2016	-0.18	0.07	-0.32 – -0.04	**0.010**
Education x Carbon emission	-0.01	0.06	-0.13 – 0.11	0.870
σ^2	0.06			
τ_{00}	0.00 $_{Country}$			
τ_{11}	0.00 $_{Country.Liberal\text{-}conservative\ id.}$			
ρ_{01}	0.11 $_{Country}$			
ICC	0.03			
N	25 $_{Country}$			
Observations	3701			
Marginal R^2 / Conditional R^2	0.020 / 0.053			

The effects of liberal-conservative identification were negative at high levels of per-capita carbon emission (b = -0.13, SE = 0.03, CI[-0.19, -0.08]), whereas non-significant at low levels (b = -0.03, SE = 0.03, CI[-0.09, 0.02]); this difference was statistically significant (b = 0.10, SE = 0.04, z = 2.59 p = .01). The effects are shown in Figure S16; a model details are presented in Table S16.

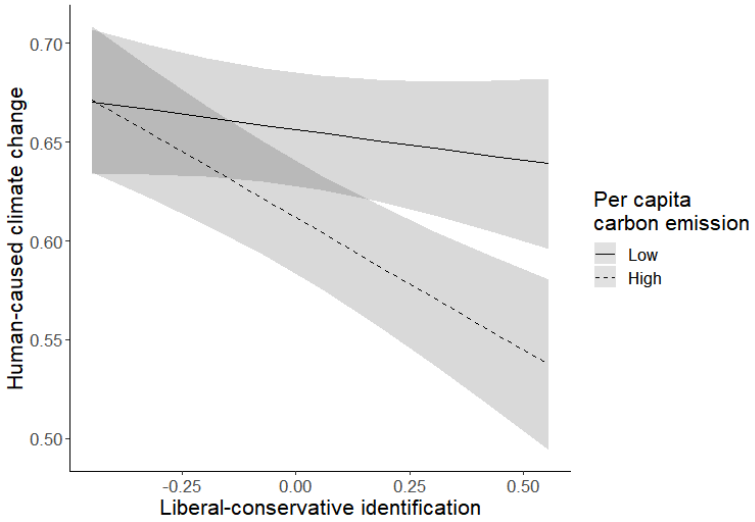

Figure S16. The effects of liberal-conservative identification at low and high per capita carbon emission on belief that climate change is human-caused. The analysis is based on data from Hornsey and others (2018). Grey shaded area represents 95% confidence intervals.

Human-caused climate change (data from Hornsey et al., 2018): per-country analysis for the liberal-conservative identification

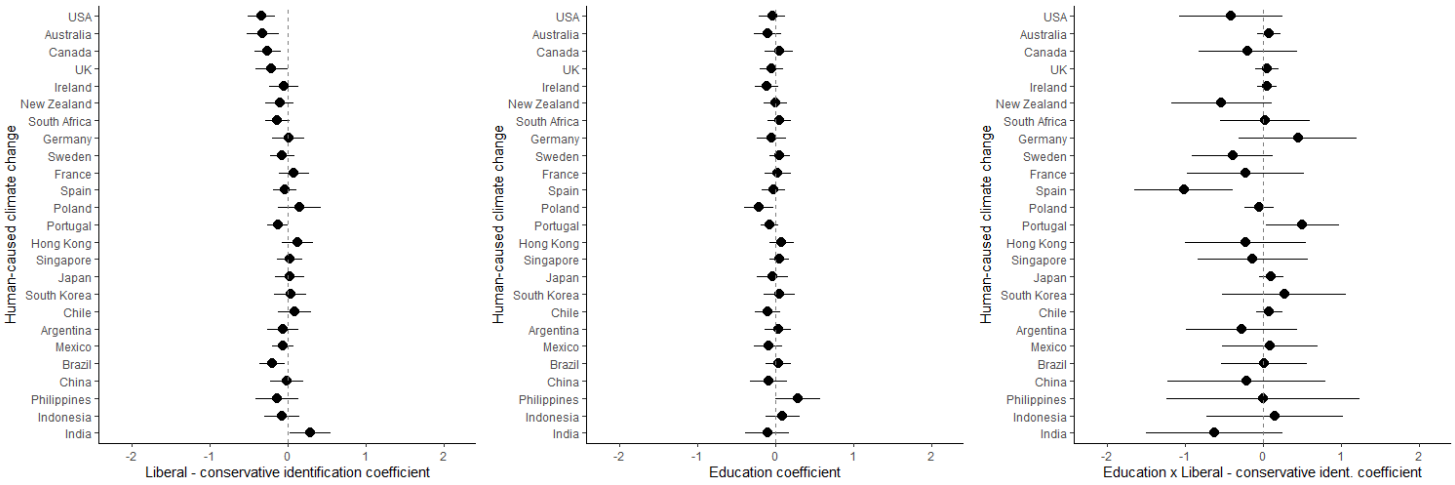

Figure S17. Per-country effects of the liberal-conservative identification, education, and their interaction on the beliefs that climate change is human-caused (data from Hornsey et al., 2018). We first display the effects for the US and English-speaking countries, then the European countries and the countries from other continents by their HDI. Whiskers represent 95% confidence intervals.

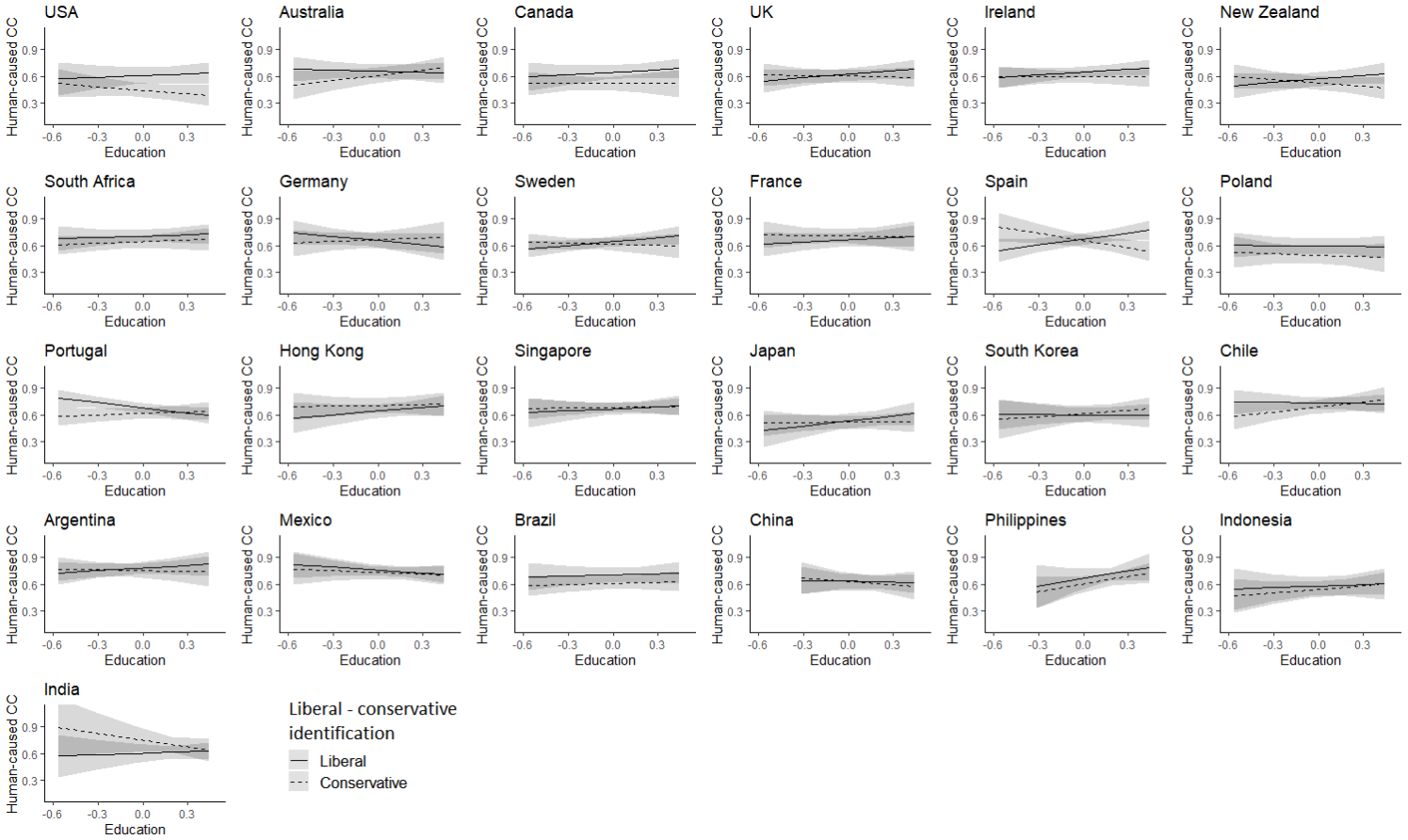

Figure S18. Per-country effects of education for the liberals and conservatives on the belief that climate change is human-caused (data from Hornsey et al., 2018). The order of the countries reflects

the charts with the coefficients presented in Figure S17. Grey shaded area represents 95% confidence intervals. CC = climate change.

Seriousness of climate change: the effects of the cultural and economic beliefs

Table S17

Model details for seriousness of climate change moderated by HDI (2005-2009 World Value Survey)

	Seriousness of climate change				**Seriousness of climate change**			
Predictors	*b*	*SE*	*CI*	*p*	*b*	*SE*	*CI*	*p*
(Intercept)	0.82	0.01	0.80 – 0.84	**<0.001**	0.83	0.01	0.81 – 0.85	**<0.001**
Gender [Woman]	0.01	0.00	0.00 – 0.01	**<0.001**	0.01	0.00	0.01 – 0.01	**<0.001**
Age	0.02	0.01	0.01 – 0.03	**<0.001**	0.02	0.01	0.01 – 0.03	**<0.001**
Education	0.06	0.01	0.04 – 0.08	**<0.001**	0.07	0.01	0.05 – 0.08	**<0.001**
HDI 2005	0.06	0.07	-0.07 – 0.19	0.372	0.11	0.06	-0.02 – 0.24	0.084
Education x HDI 2005	-0.19	0.06	-0.32 – -0.06	**0.003**	-0.07	0.06	-0.19 – 0.04	0.222
Cult. beliefs	-0.03	0.01	-0.06 – -0.01	**0.021**				
Cult. beliefs x Education	-0.05	0.02	-0.08 – -0.01	**0.017**				
Cult. beliefs x HDI 2005	-0.35	0.10	-0.54 – -0.16	**<0.001**				
Econ. beliefs					-0.02	0.01	-0.04 – 0.01	0.202
Econ. beliefs x Education					-0.03	0.02	-0.07 – 0.00	0.051
Econ. beliefs x HDI 2005					-0.44	0.09	-0.62 – -0.26	**<0.001**
Econ. beliefs x Education x HDI 2005					-0.53	0.12	-0.76 – -0.30	**<0.001**
σ^2	0.05				0.05			
τ_{00}	0.00_{Country}				0.00_{Country}			
τ_{11}	$0.01_{\text{Country.Cult. beliefs}}$				$0.01_{\text{Country.Econ. beliefs}}$			
	$0.00_{\text{Country.Education}}$				$0.00_{\text{Country.Education}}$			
ρ_{01}	0.20				-0.08			
	-0.23				-0.32			
ICC	0.10				0.09			
N	48_{Country}				48_{Country}			
Observations	57366				57050			
Marginal R^2 / Conditional R^2	0.016 / 0.112				0.017 / 0.108			

For the cultural beliefs, the comparison of the slopes showed that the effects of education were positive for the political right (b = 0.05, SE = 0.01, CI[0.03, 0.07]) and positive but stronger for the political left (b = 0.07, SE = 0.01, CI[0.05, 0.09]); this difference was statistically significant (b = 0.02, SE = 0.01, z = 2.39, p = 0.017). The effects of right-wing ideology were negative at high HDI (b = -0.09, SE = 0.02, CI[-0.13, -0.05]), whereas non-significant at low HDI (b = 0.02, SE = 0.02, CI[-0.02, 0.06]); this difference was statistically significant (b = 0.11, SE = 0.03, z = 3.62, p < .001). Finally, the effects of education were positive at low HDI (b = 0.09, SE = 0.01, CI[0.06, 0.12]), whereas weaker at high HDI (b = 0.03, SE = 0.01, CI[0.00, 0.06]); this difference was statistically significant (b = 0.06, SE = 0.02, z = 2.94, p = .003). The effects are shown in Figure S19; a model details are presented in Table S17.

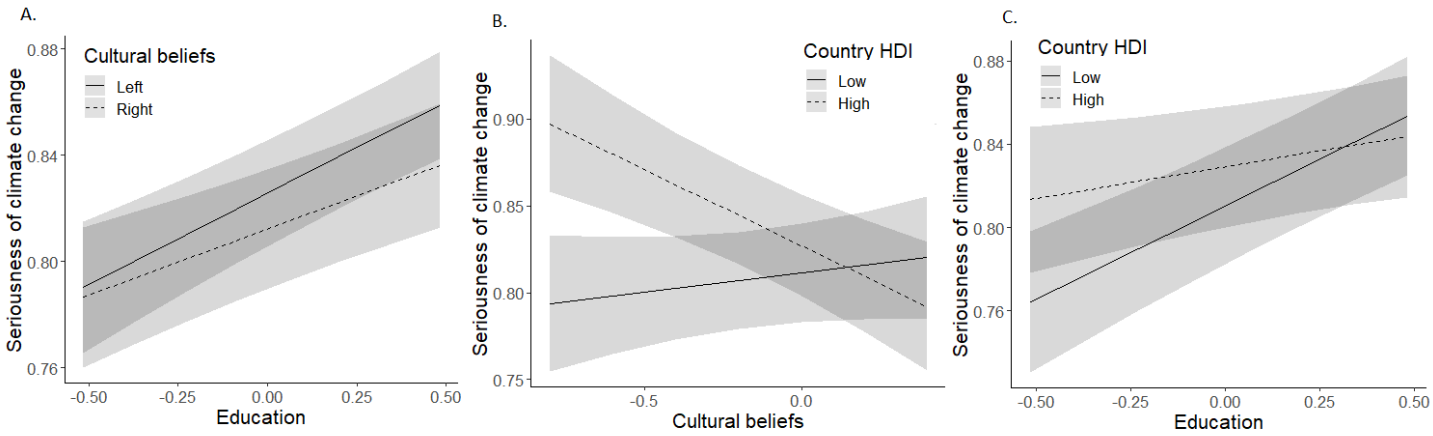

Figure S19. Perception of climate change seriousness. Panel A. The effects of education for the cultural left and right. Panel B. The effects of the cultural beliefs at low and high HDI. Panel C. The effect of education at low and high HDI. The analysis is based on data from 2005-2009 World Value Survey data. Grey shaded area represents 95% confidence intervals.

For the economic beliefs, at high HDI, the effects of education were weaker for the political right (b = 0.03, SE = 0.01, CI[0.00, 0.06]) in comparison to the political left (b = 0.08, SE = 0.01, CI[0.05, 0.11]), and this difference was statistically significant (b = 0.04, SE = 0.01, z = 4.51, p <.001). However, at low HDI, the effects of education were positive and slightly stronger for the political right (b = 0.09, 0.01, CI[0.06, 0.11]) in comparison to the political left (b = 0.07, 0.01, CI[0.04, 0.09]); this difference was statistically significant (b = 0.02, SE = 0.01, z = 2.13, p = 0.033). These findings are unexpected and suggests that with increasing levels of education, right-wing beliefs can also be associated with perception that climate change is serious in some contexts, here at low HDI. The difference between the political left and right seem to be smaller at low HDI, whereas larger at high HDI, as shown in Figure S20; a model details are presented in Table S17.

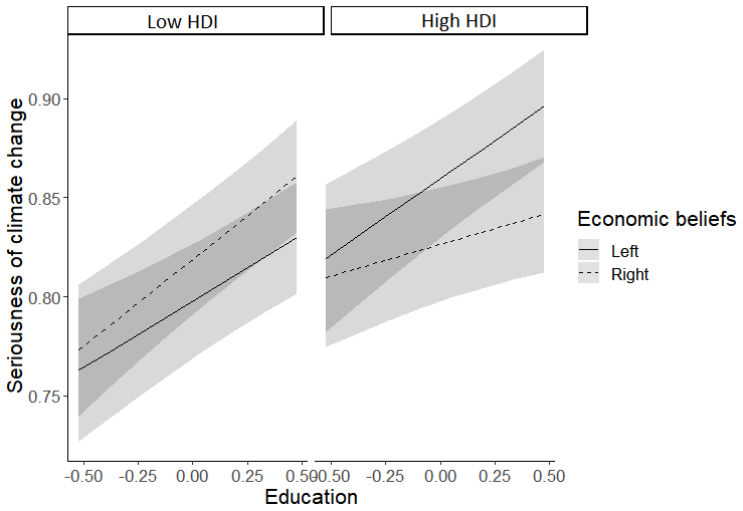

Figure S20. The effects of education for the economic left and right at low and high HDI on perception of seriousness of climate change. The analysis is based on data from 2005-2009 World Value Survey data. Grey shaded area represents 95% confidence intervals.

Seriousness of climate change: analysis of per-capita carbon emission

Table S18

Model details for seriousness of climate change moderated by per capita carbon emission (2005-2009 World Value Survey)

	Seriousness of climate change				**Seriousness of climate change**			
Predictors	*b*	*SE*	*CI*	*p*	*b*	*SE*	*CI*	*p*
(Intercept)	0.82	0.01	0.80 – 0.84	**<0.001**	0.82	0.01	0.80 – 0.85	**<0.001**
Gender [Woman]	0.01	0.00	0.00 – 0.01	**<0.001**	0.01	0.00	0.01 – 0.01	**<0.001**
Age	0.02	0.01	0.01 – 0.03	**<0.001**	0.02	0.01	0.01 – 0.03	**0.001**
Education	0.06	0.01	0.04 – 0.08	**<0.001**	0.07	0.01	0.05 – 0.09	**<0.001**
Carbon emission	0.02	0.05	-0.09 – 0.12	0.738	0.07	0.05	-0.04 – 0.17	0.210
Education x Carbon emission	-0.18	0.05	-0.28 – -0.07	**0.001**	-0.09	0.05	-0.18 – 0.01	0.069
Cult. beliefs	-0.03	0.02	-0.07 – -0.00	**0.032**				
Cult. beliefs x Education	-0.05	0.02	-0.08 – -0.01	**0.014**				
Cult. beliefs x Carbon emission	-0.18	0.08	-0.34 – -0.02	**0.032**				
Cult. beliefs x Education x Carbon emission	-0.24	0.11	-0.46 – -0.03	**0.026**				
Econ. beliefs					-0.02	0.02	-0.05 – 0.01	0.294
Econ. beliefs x Education					-0.04	0.02	-0.07 – -0.00	**0.026**
Econ. beliefs x Carbon emission					-0.27	0.08	-0.42 – -0.12	**<0.001**
Econ. beliefs x Education x Carbon emission					-0.35	0.10	-0.54 – -0.16	**<0.001**
σ^2	0.05				0.05			
τ_{00}	0.01_{Country}				0.00_{Country}			
τ_{11}	$0.01_{\text{Country.Cult. beliefs}}$				$0.01_{\text{Country.Econ. beliefs}}$			
	$0.00_{\text{Country.education\_c}}$				$0.00_{\text{Country.education\_c}}$			
ρ_{01}	0.14				-0.16			
	-0.24				-0.33			
ICC	0.10				0.10			
N	47_{Country}				47_{Country}			
Observations	56252				55943			
Marginal R^2 / Conditional R^2	0.012 / 0.112				0.013 / 0.109			

For the cultural beliefs, at low levels of per capita carbon emission, the effects of education were positive for the political left (b = 0.04, SE = 0.02, CI[0.01, 0.07], but non-significant for the political right (b = 0.003, SE = 0.02, CI[-0.03, 0.04]; the difference between these effects was significant (b = 0.04, SE = 0.01, z = 3.35, p = .001). At low levels of per capita carbon emission, the effects of education were positive for both the political right (b = 0.09, SE = 0.02, CI[0.06, 0.12]) and the political left (b = 0.09, SE = 0.02, CI[0.06, 0.12]); this difference was non-significant (b < 0.001, SE = 0.01, z = 0.02, p = 0.985). The effects are shown in Figure S21 and a model details are presented in Table S18.

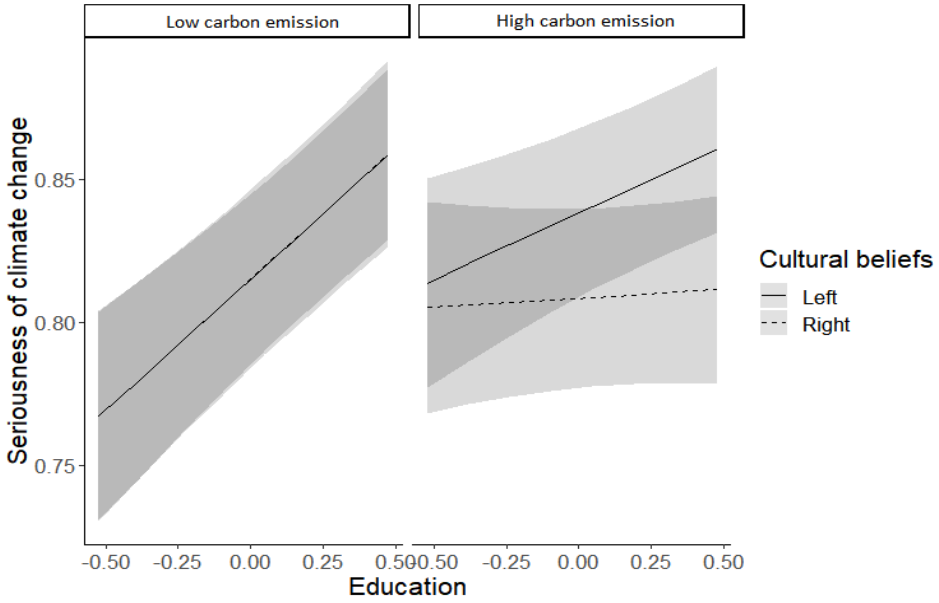

Figure S21. The effects of education for the cultural left and right at low and high per capita carbon emission on perception of seriousness of climate change. The analysis is based on data from 2005-2009 World Value Survey data. Grey shaded area represents 95% confidence intervals.

For the economic beliefs, at high per capita carbon emission, the effects of education were positive for both the political left (b = 0.07, SE = 0.01, CI[0.04, 0.10], and positive but weaker for the political right (b = 0.03, SE = 0.01, CI[0.002, 0.06]); this difference was statistically significant (b = 0.04, SE = 0.01, z = 4.07, p < .001). At low levels of per capita carbon emission, the effects of education were positive for both the political right (b = 0.09, SE = 0.01, CI[0.06, 0.12]) and the political left (b = 0.08, SE = 0.01, CI[0.05, 0.11]); this difference was statistically non-significant (b = 0.01, SE = 0.01, z = 1.19, p = .236)). The effects are shown in Figure S22 and a model details are presented in Table S18.

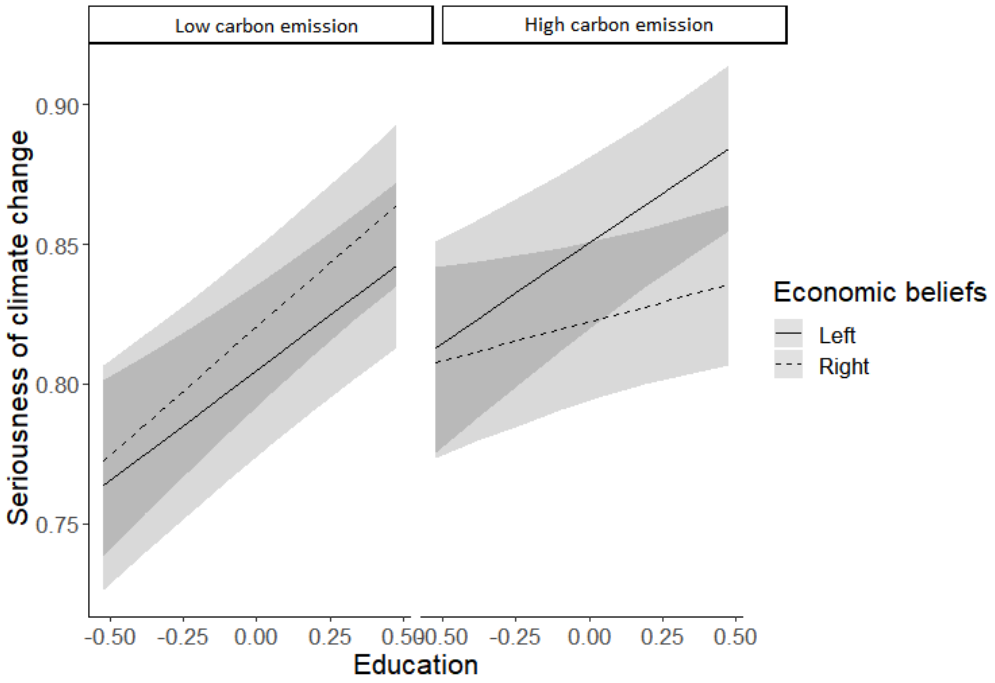

Figure S22. The effects of education for the economic left and right at low and high per capita carbon emission on perception of seriousness of climate change. The analysis is based on data from 2005-2009 World Value Survey data. Grey shaded area represents 95% confidence intervals.

Seriousness of climate change: per-country analysis

Seriousness of climate change: per-country analysis for the cultural beliefs

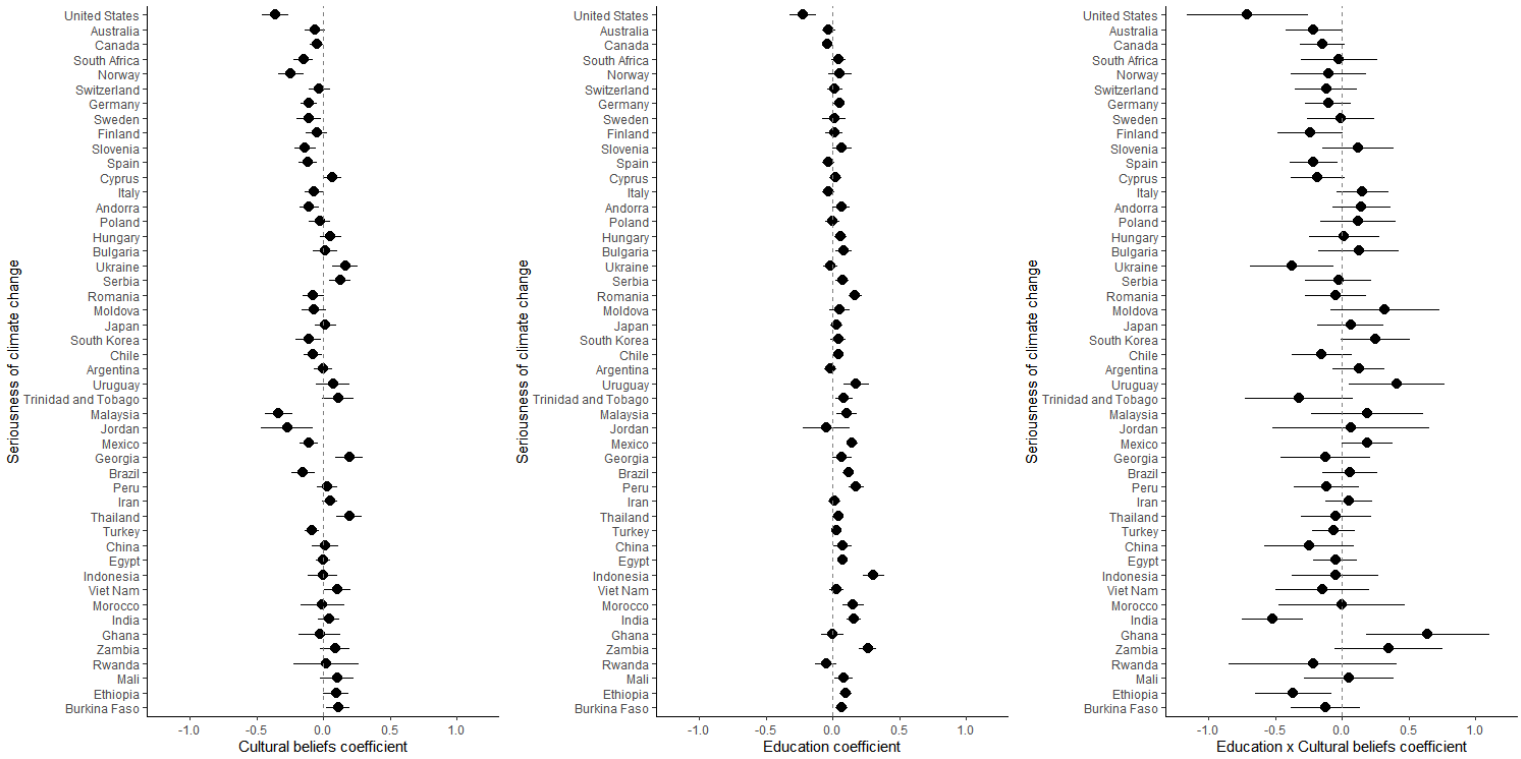

Figure S23. Per-country effects of the cultural beliefs, education, and their interaction on the perception of climate change seriousness (2005-2009 World Value Survey data). We first display the effects for the US and English-speaking countries, then the European countries and the countries from other continentsby their HDI. Whiskers represent 95% confidence intervals.

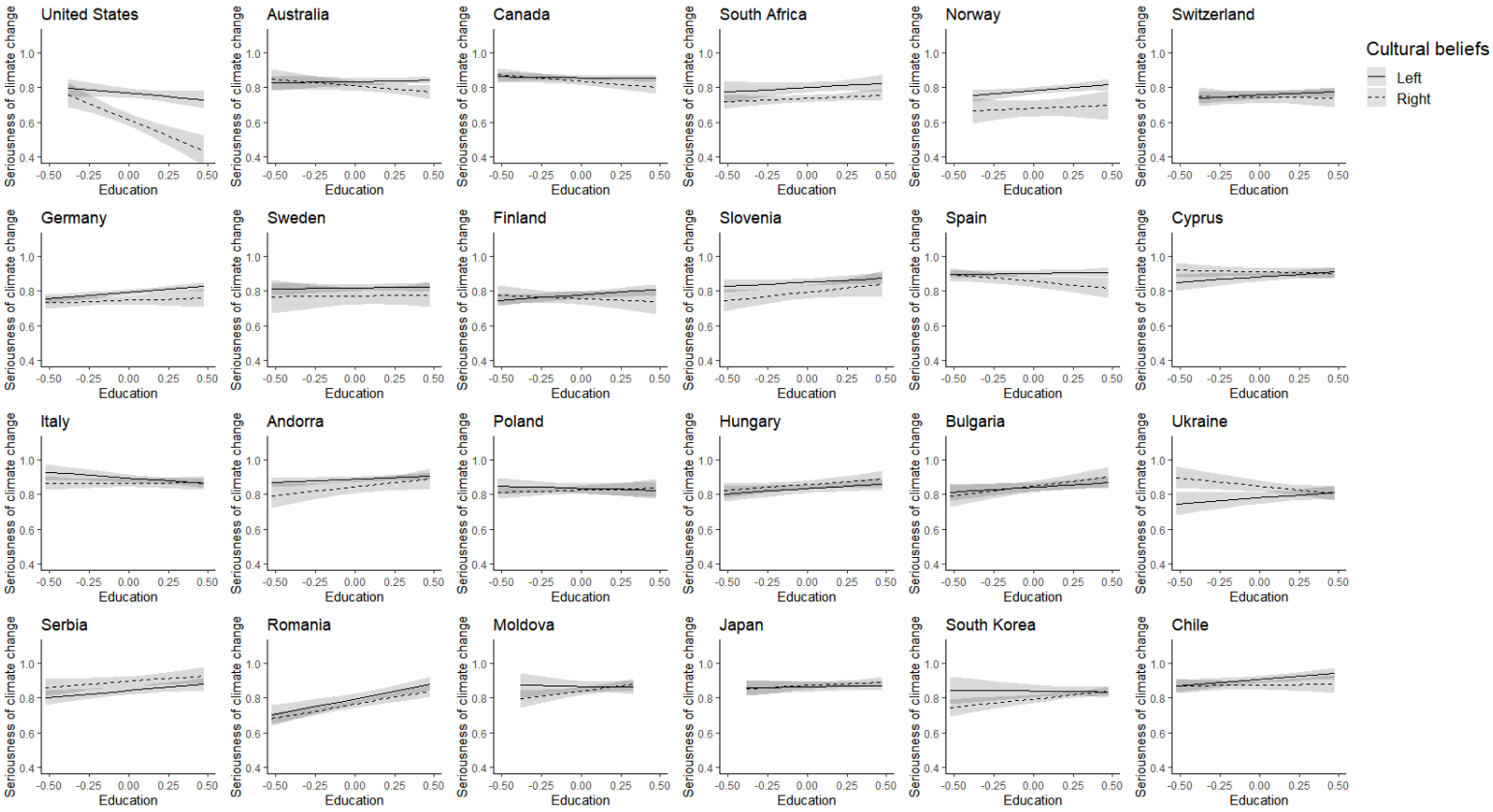

Figure S24. Per-country effects of education for the cultural left and right on the perception of climate change seriousness (2005-2009 World Value Survey data). The order of the countries reflects the charts with the coefficients presented in Figure S23. Grey shaded area represents 95% confidence intervals. CC = climate change.

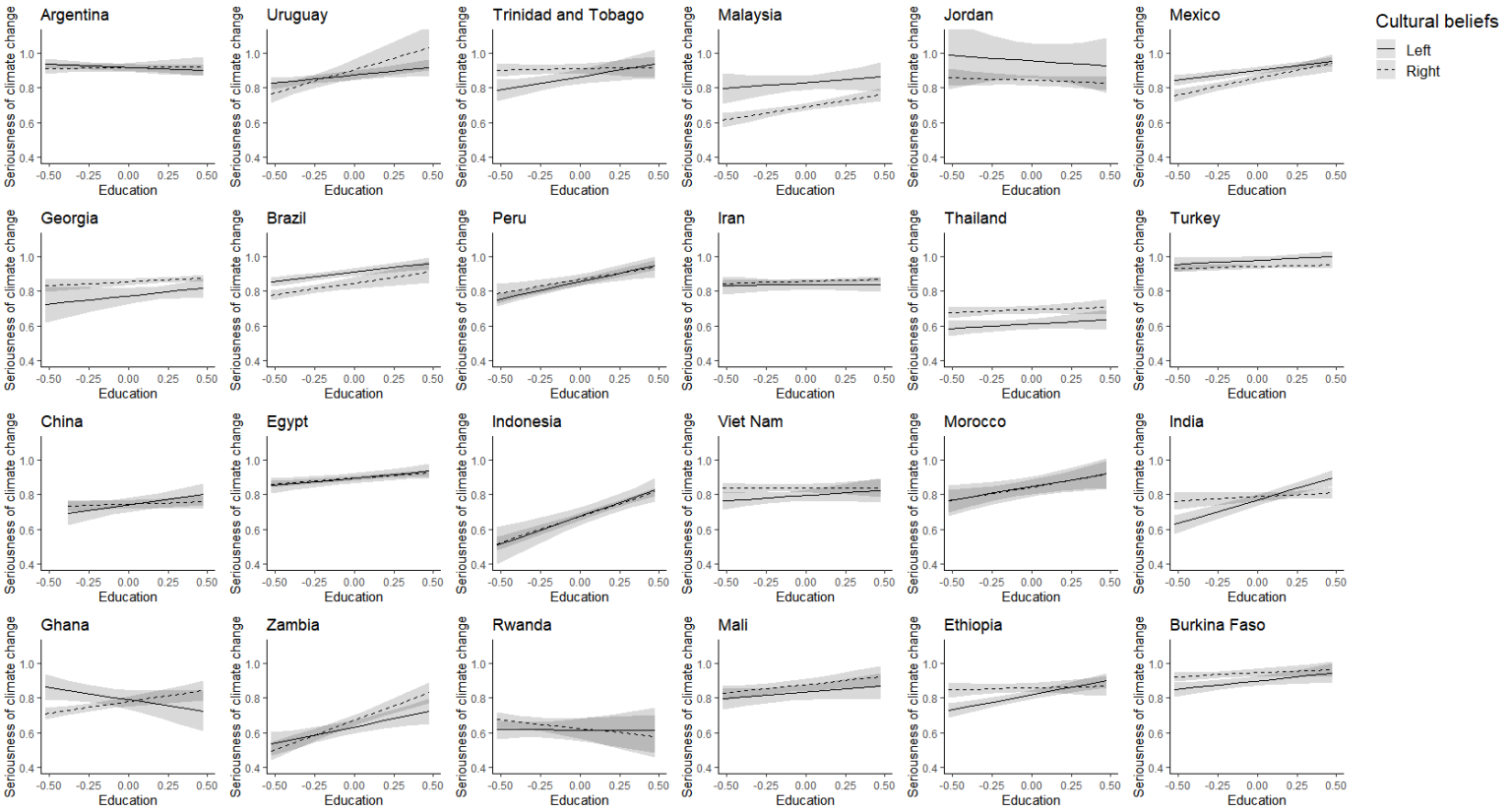

Figure S25. Continuation: per-country effects of education for the cultural left and right on the perception of climate change seriousness (2005-2009 World Value Survey data). The order of the countries reflects the charts with the coefficients presented in Figure S23. Grey shaded area represents 95% confidence intervals. CC = climate change.

Seriousness of climate change: per-country analysis for the economic beliefs

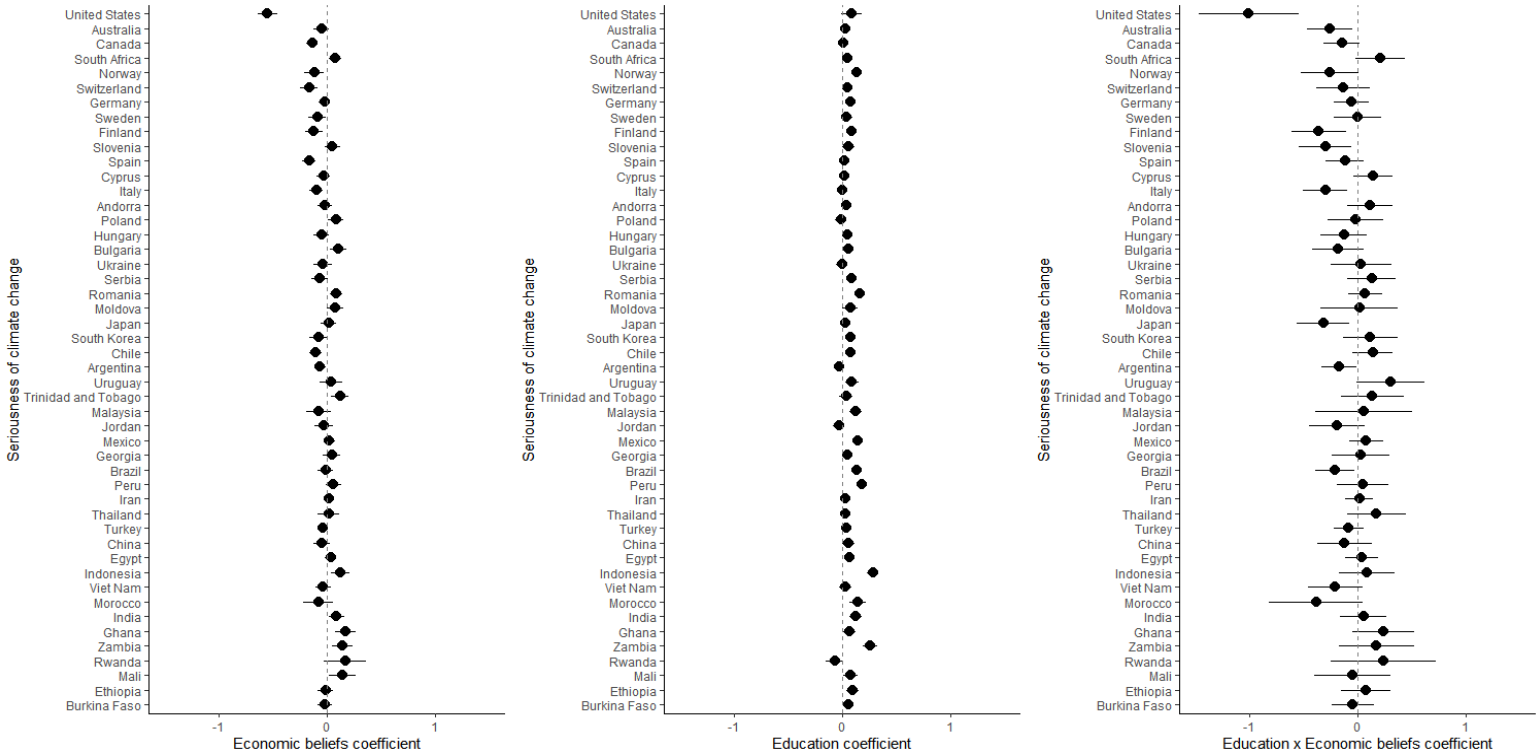

Figure S26. Per-country effects of the economic beliefs, education, and their interaction on the perception of climate change seriousness (2005-2009 World Value Survey data). We first display the effects for the US and English-speaking countries, then the European countries and the countries from other continents by their HDI. Whiskers represent 95% confidence intervals.

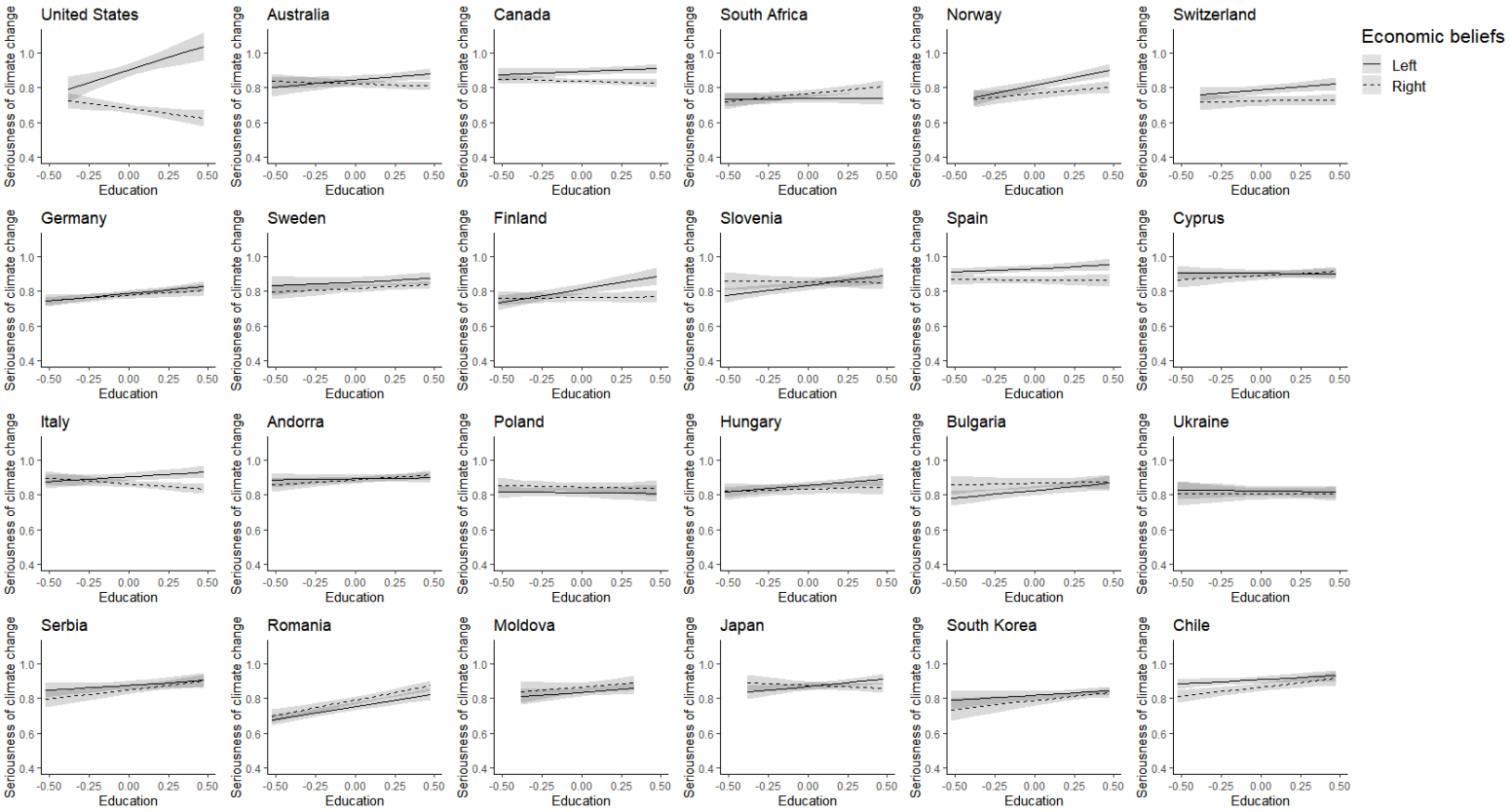

Figure S27. Per-country effects of education for the economic left and right on the perception of climate change seriousness (2005-2009 World Value Survey data). The order of the countries reflects the charts with the coefficients presented in Figure S26. Grey shaded area represents 95% confidence intervals. CC = climate change.

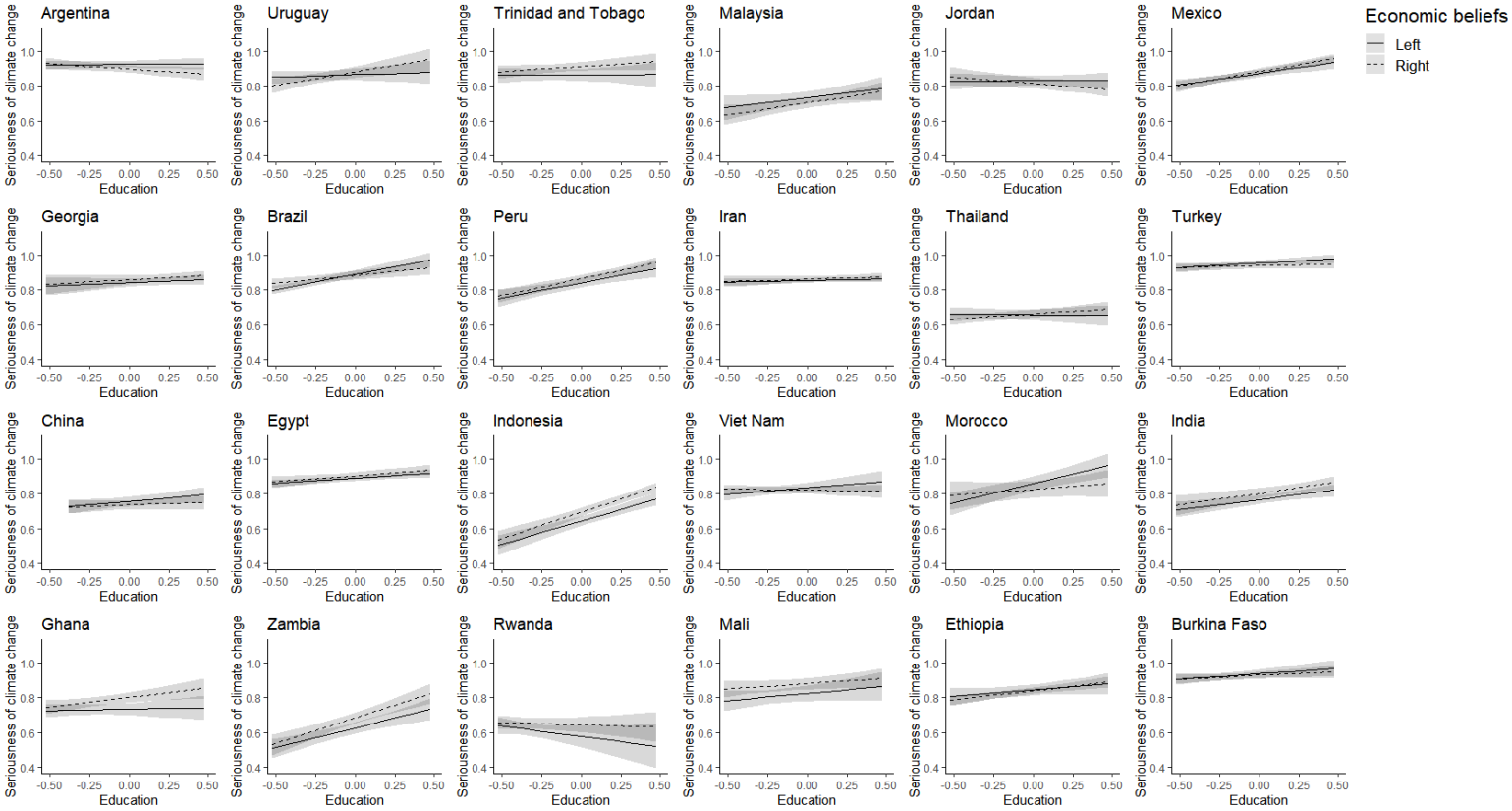

Figure S28. Continuation: per-country effects of education for the economic left and right on the perception of climate change seriousness (2005-2009 World Value Survey data). The order of the countries reflects the charts with the coefficients presented in Figure S26. Grey shaded area represents 95% confidence intervals. CC = climate change.

Climate change policy support: the effects of the cultural and economic beliefs

Table S19

Model details for climate change policy support moderated by HDI (2016 European Social Survey)

	Climate change policy support				**Climate change policy support**			
Predictors	*b*	*SE*	*CI*	*p*	*b*	*SE*	*CI*	*p*
(Intercept)	0.59	0.01	0.58 – 0.61	**<0.001**	0.60	0.01	0.58 – 0.62	**<0.001**
Gender	0.02	0.00	0.02 – 0.02	**<0.001**	0.02	0.00	0.01 – 0.02	**<0.001**
Age	-0.00	0.00	-0.01 – 0.01	0.651	-0.04	0.00	-0.05 – -0.03	**<0.001**
Education	0.31	0.04	0.23 – 0.38	**<0.001**	0.41	0.04	0.33 – 0.49	**<0.001**
HDI 2016	0.11	0.23	-0.35 – 0.57	0.630	0.43	0.24	-0.04 – 0.90	0.076
Education x HDI 2016	2.29	1.07	0.19 – 4.40	**0.033**	2.54	1.12	0.35 – 4.73	**0.023**
Cult. beliefs	-0.15	0.01	-0.17 – -0.13	**<0.001**				
Cult. beliefs x Education	-0.25	0.08	-0.40 – -0.10	**0.001**				
Cult. beliefs x HDI 2016	-0.54	0.27	-1.07 – -0.00	**0.048**				
Cult. beliefs x Education x HDI 2016	-9.45	2.16	-13.68 – -5.22	**<0.001**				
Econ. beliefs					-0.12	0.02	-0.15 – -0.08	**<0.001**
Econ. beliefs x Education					-0.80	0.08	-0.96 – -0.64	**<0.001**
Econ. beliefs x HDI 2016					-2.01	0.50	-3.00 – -1.03	**<0.001**
Econ. beliefs x Education x HDI 2016					-7.01	2.49	-11.88 – -2.14	**0.005**
σ^2	0.04				0.04			
τ_{00}	0.00 $_{Country}$				0.00 $_{Country}$			
τ_{11}	0.00 $_{Country.Cult.\ beliefs}$				0.01 $_{Country.Econ.\ beliefs}$			
	0.03 $_{Country.Education}$				0.03 $_{Country.Education}$			
ρ_{01}	0.22				-0.68			
	0.05				0.07			
ICC	0.05				0.05			
N	22 $_{Country}$				22 $_{Country}$			
Observations	40624				40598			
Marginal R^2 / Conditional R^2	0.053 / 0.095				0.051 / 0.099			

For the cultural beliefs, at high HDI levels, the effects of education were weaker for the political right (b = 0.27, SE = 0.07, CI[0.14, 0.40]) in comparison to the political left (b = 0.53, SE = 0.06, CI[0.41, 0.65]), and this difference was statistically significant (b = 0.26, SE = 0.05, z = 5.36, p < .001). At low HDI, the effects of education were positive for both the political right (b = 0.25, SE =

0.05, CI[0.14, 0.35]) and the political left (b = 0.23, SE = 0.06, CI[0.12, 0.35]); this difference was non-significant (b = 0.01, SE = 0.04, z = 0.34, p = .737). The effects are shown in Figure S29; a model details are presented in Table S19.

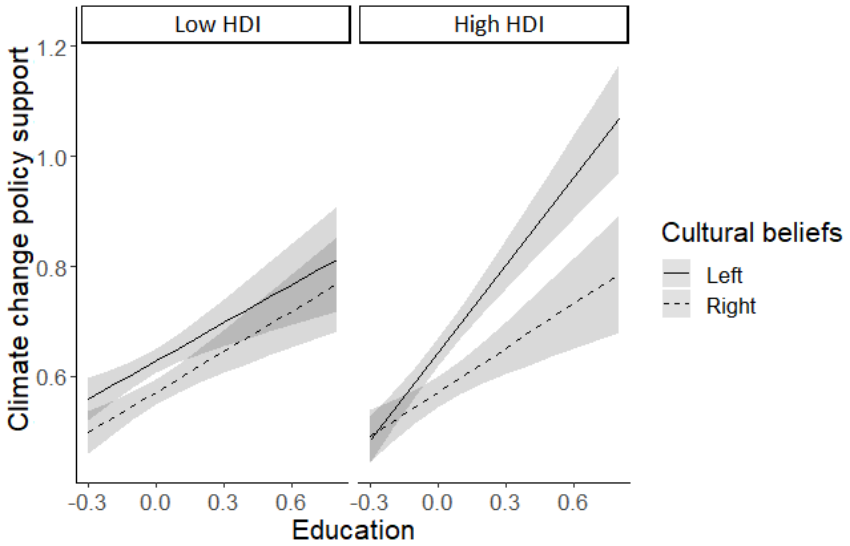

Figure S29. The effects of education for the cultural right and left at high and low HDI on support for climate change policy. The analysis is based on data from the 2016 European Social Survey. Grey shaded area represents 95% confidence intervals.

For the economic beliefs, at high HDI levels, the effects of education were positive but weaker for the political right (b = 0.32, SE = 0.06, CI[0.20, 0.45]) in comparison to the political left (b = 0.69, 0.06, CI[0.57, 0.82]), and this difference was statistically significant (b = 0.37, SE = 0.04, z = 8.61, p < .001). At low HDI, the effects of education were positive for both the political right (b = 0.23, SE = 0.06, CI[0.12, 0.34]) and the political left (b = 0.43, SE = 0.06, CI[0.32, 0.54]), and this difference was significant (b = 0.20, SE = 0.04, z = 5.13, p <.001) but smaller than at high HDI levels, which is shown in Figure S30; a model details are presented in Table S19.

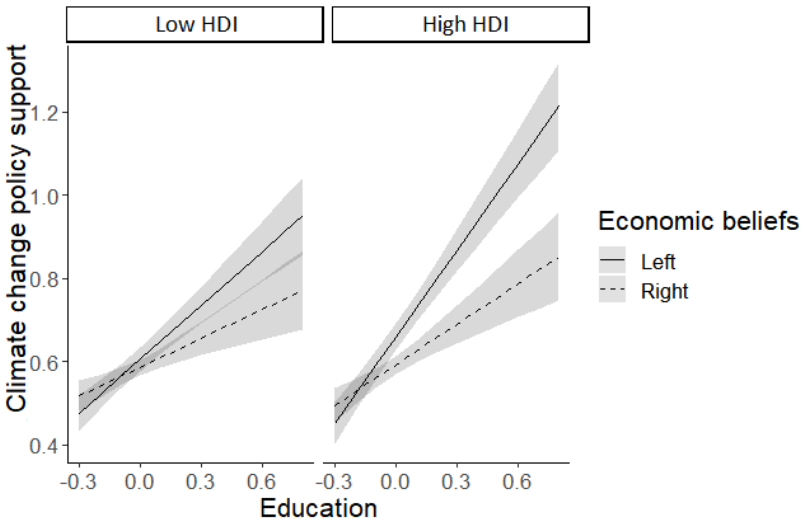

Figure S30. The effects of education for the economic right and left at high and low HDI on support for climate change policy. The analysis is based on data from the 2016 European Social Survey. Grey shaded area represents 95% confidence intervals.

Climate change policy support: analysis of per-capita carbon emission

Table S20

Model details for climate change policy support moderated by per capita carbon emission (2016 European Social Survey)

	Climate change policy support				**Climate change policy support**			
Predictors	*b*	*SE*	*CI*	*p*	*b*	*SE*	*CI*	*p*
(Intercept)	0.59	0.01	0.58 – 0.61	**<0.001**	0.60	0.01	0.58 – 0.62	**<0.001**
Gender	0.02	0.00	0.02 – 0.02	**<0.001**	0.02	0.00	0.01 – 0.02	**<0.001**
Age	-0.00	0.00	-0.01 – 0.01	0.607	-0.04	0.00	-0.05 – -0.03	**<0.001**
Education	0.33	0.04	0.26 – 0.41	**<0.001**	0.40	0.04	0.32 – 0.49	**<0.001**
Carbon emission	-0.05	0.03	-0.11 – 0.00	0.058	-0.06	0.03	-0.12 – -0.01	**0.033**
Education x Carbon emission	-0.14	0.14	-0.41 – 0.13	0.318	-0.18	0.15	-0.48 – 0.12	0.247
Cult. beliefs	-0.16	0.01	-0.17 – -0.14	**<0.001**				
Cult. beliefs x Education	-0.27	0.07	-0.42 – -0.12	**<0.001**				
Cult. beliefs x Carbon emission	0.09	0.03	0.02 – 0.16	**0.007**				
Econ. beliefs					-0.12	0.02	-0.17 – -0.08	**<0.001**
Econ. beliefs x Education					-0.83	0.08	-0.99 – -0.66	**<0.001**
Econ. beliefs x Carbon emission					0.14	0.08	-0.02 – 0.29	0.085
σ^2	0.04				0.04			
τ_{00}	0.00 $_{Country}$				0.00 $_{Country}$			
τ_{11}	0.00 $_{Country.Cult.\ beliefs}$				0.01 $_{Country.Econ.\ beliefs}$			
	0.03 $_{Country.Education}$				0.04 $_{Country.Education}$			
ρ_{01}	0.48				-0.67			
	0.02				0.14			
ICC	0.04				0.05			
N	22 $_{Country}$				22 $_{Country}$			
Observations	40624				40598			
Marginal R^2 / Conditional R^2	0.054 / 0.093				0.044 / 0.094			

The effects of right-wing cultural beliefs were negative but weaker at high levels of per capita carbon emission (b = -0.13, SE = 0.01, CI[-0.16, -0.10]), than at low levels of per capita carbon emission (b = -0.18, SE = 0.01, CI [-0.21, -0.15]); this difference was statistically significant (b = 0.05, SE = 0.02, z = 2.68, p =.01). The effects are shown in Figure S31; a model details are presented in Table S20.

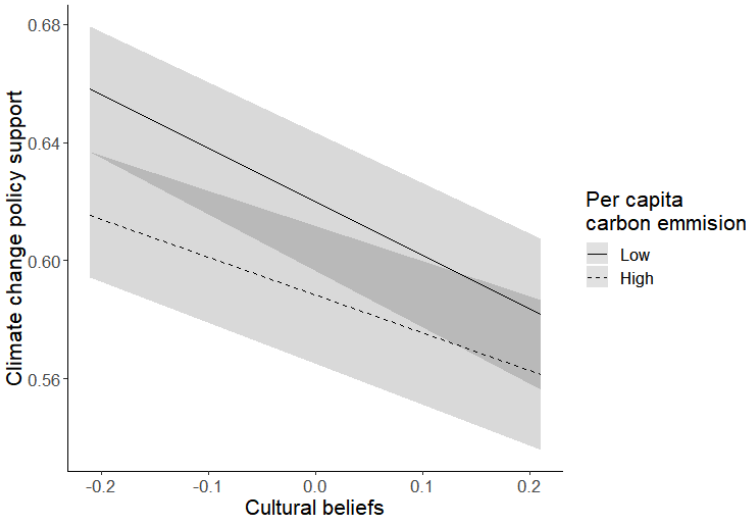

Figure S31. The effects of education for the cultural right and left at high and low per capita carbon emission on support for climate change policy. The analysis is based on data from the 2016 European Social Survey. Grey shaded area represents 95% confidence intervals.

The effects of right-wing economic beliefs were negative but weaker at high levels of per capita carbon emission (b = -0.08, SE = 0.03, CI[-0.15, -0.02], than at low levels of per capita carbon emission (b = -0.16, SE = 0.02, CI[-0.23, -0.10]); but the difference was not large and only marginally significant (b = 0.07, SE = 0.05, z = 1.72, p = .085). The effects are shown in Figure S32; a model details are presented in Table S20.

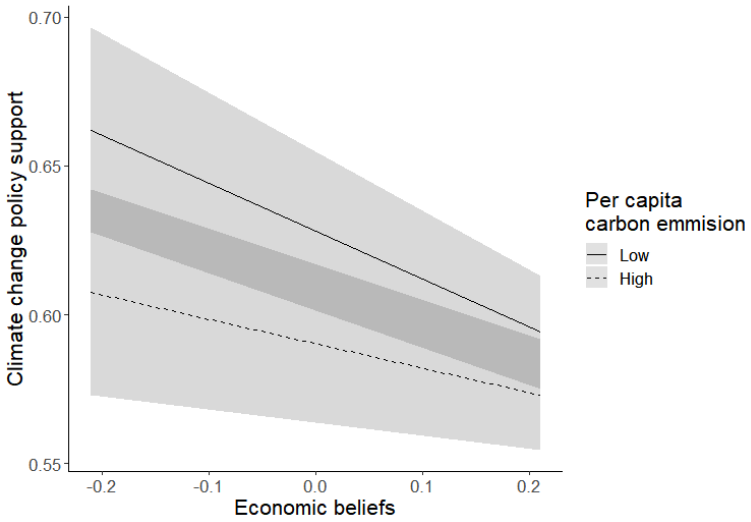

Figure S32. The effects of education for the economic right and left at high and low per capita carbon emission on support for climate change policy. The analysis is based on data from the 2016 European Social Survey. Grey shaded area represents 95% confidence intervals.

Climate change policy support: per-country analysis for the cultural beliefs

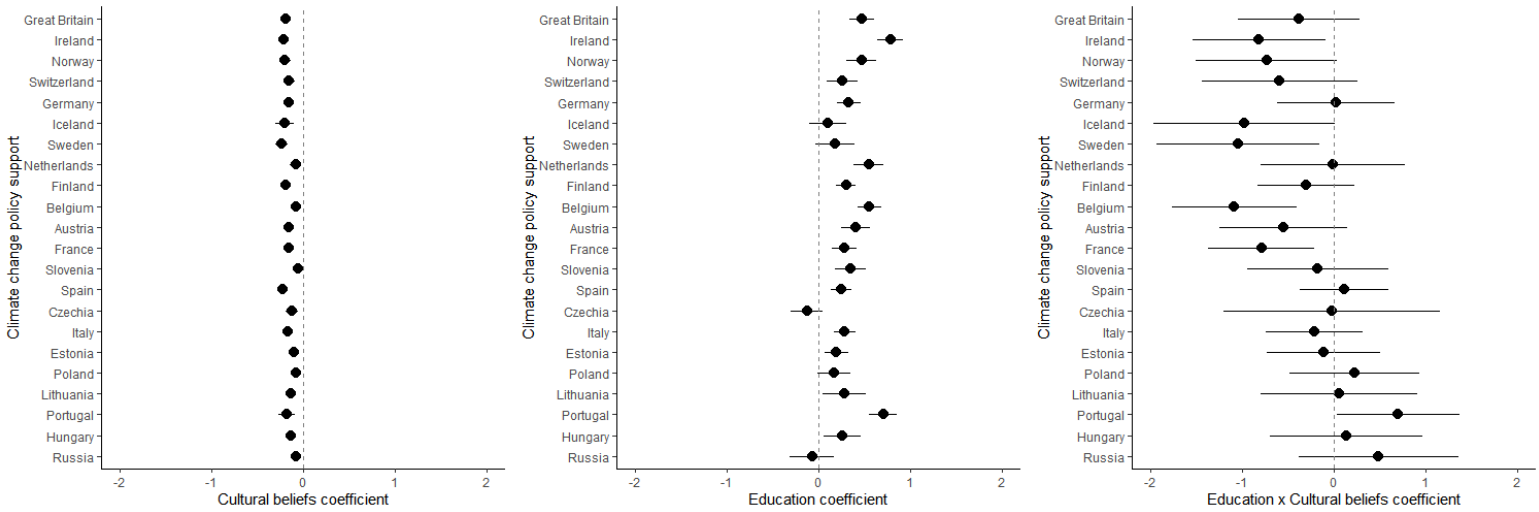

Figure S33. Per-country effects of the cultural beliefs, education, and their interaction on climate change policy support (2016 European Social Survey data). We first display the effects for the English-speaking countries and then the rest of the European countries by their HDI. Whiskers represent 95% confidence intervals.

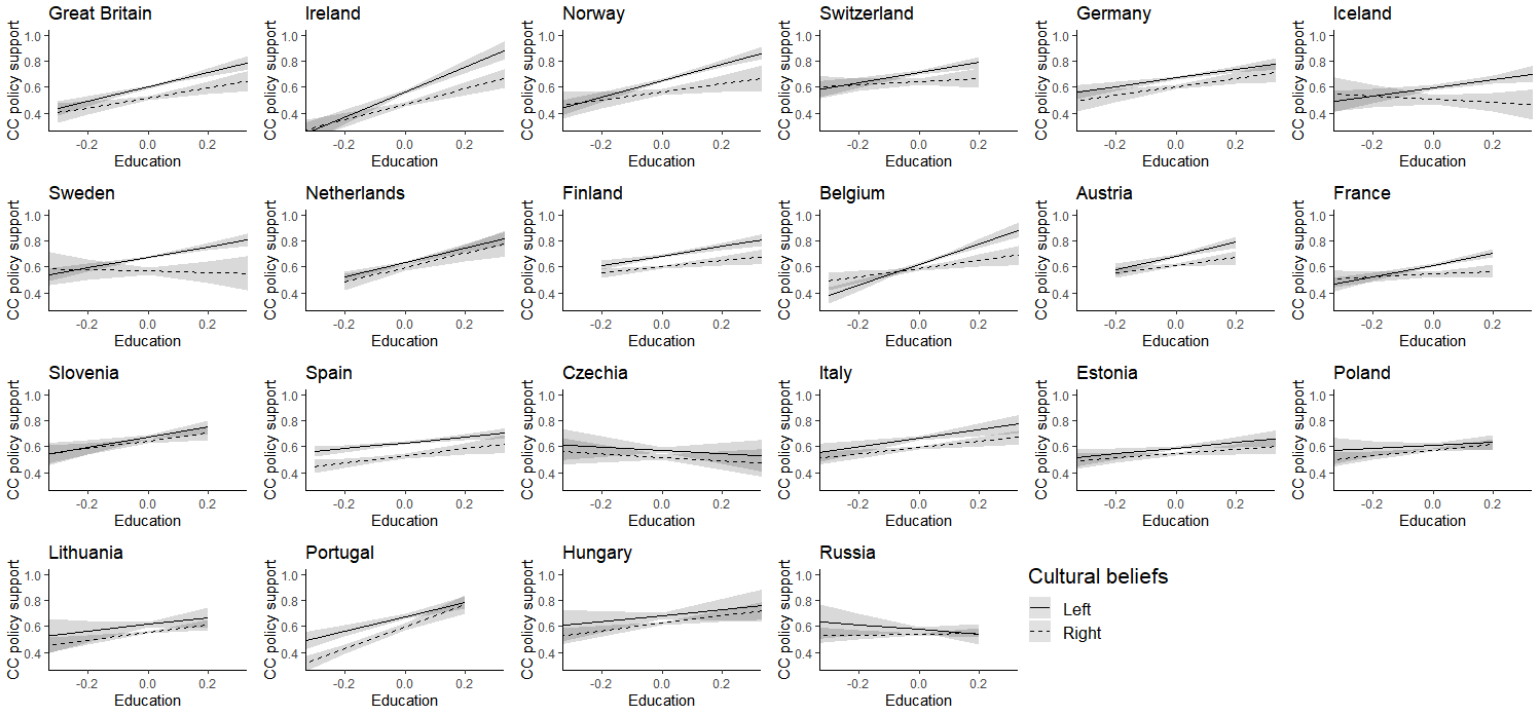

Figure S34. Per-country effects of education for the cultural left and right on climate change policy support (2016 European Social Survey data). The order of the countries reflects the charts with the coefficients presented in Figure S33. Grey shaded area represents 95% confidence intervals. CC = climate change.

Climate change policy support: per-country analysis for the economic beliefs

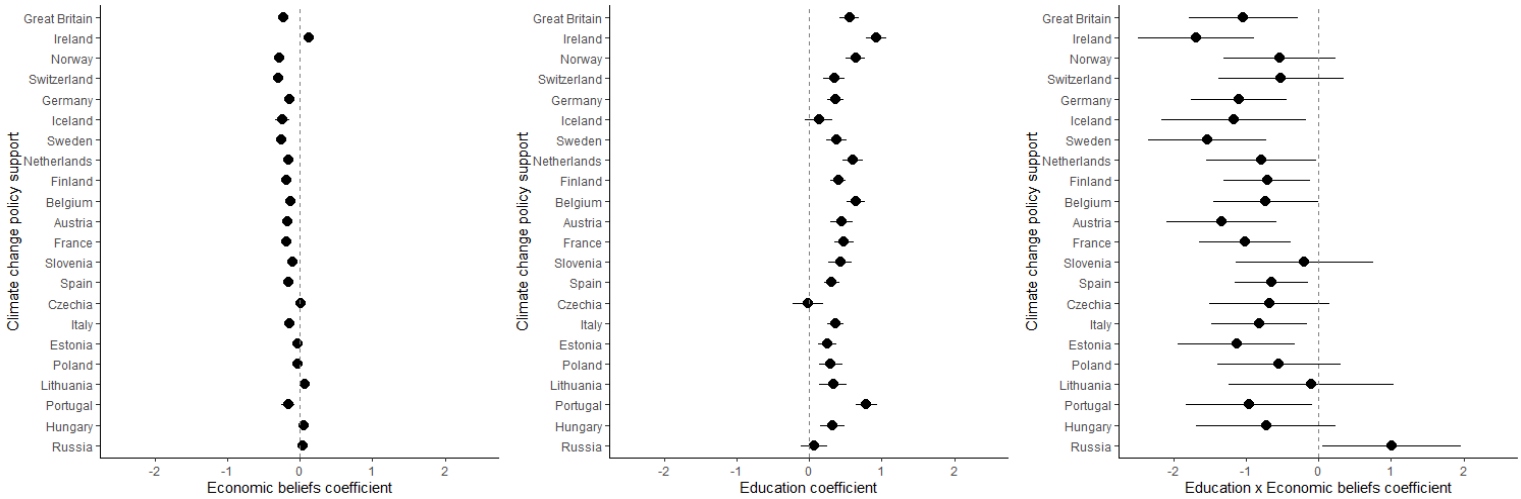

Figure S35. Per-country effects of the economic beliefs, education, and their interaction on climate change policy support (2016 European Social Survey data). We first display the effects for the English-speaking countries and then the rest of the European countries by their HDI. Whiskers represent 95% confidence intervals.

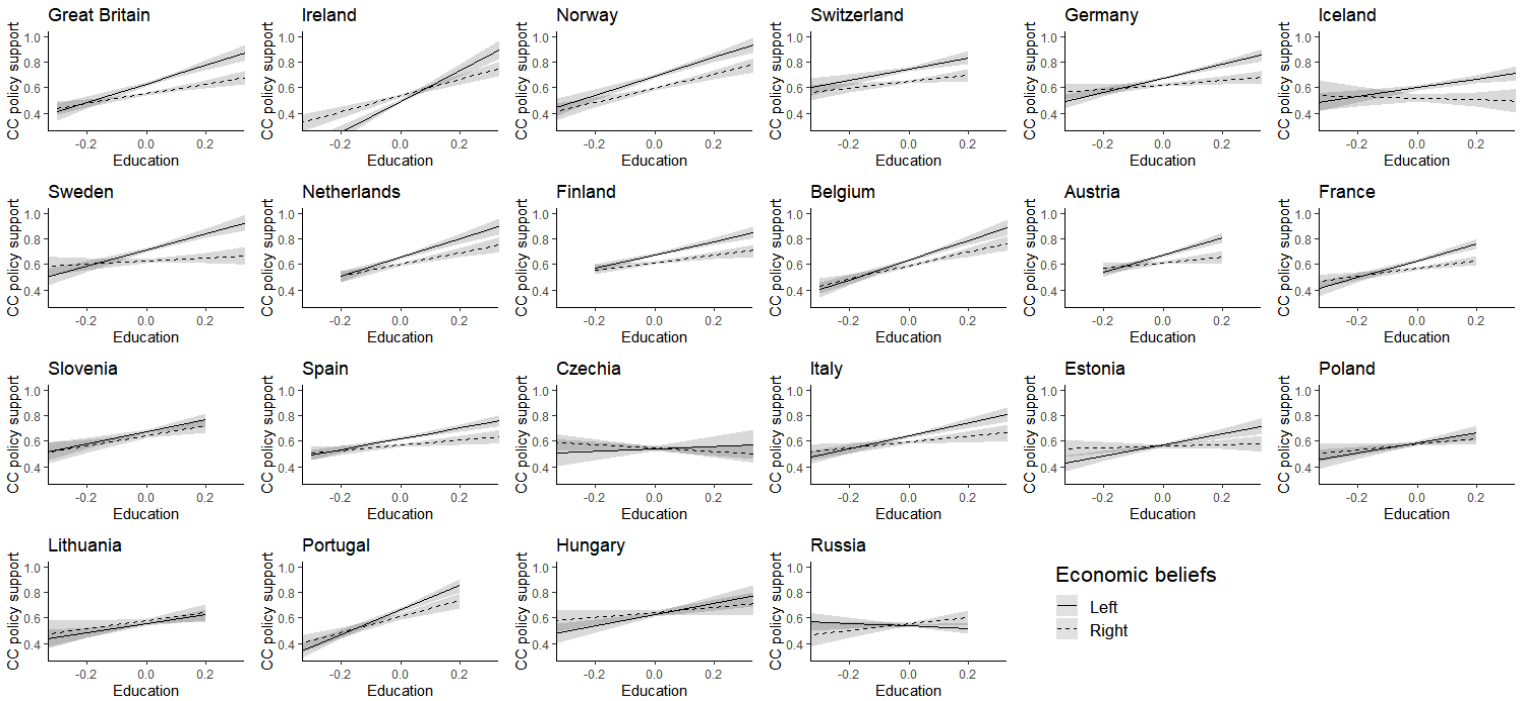

Figure S36. Per-country effects of education for the economic left and right on climate change policy support (2016 European Social Survey data). The order of the countries reflects the charts with the coefficients presented in Figure S35. Grey shaded area represents 95% confidence intervals. CC = climate change.

C. Descriptive statistics

Table S21

Per-country descriptive statistics for demographic variables for 2016 European Social Survey

		Gender		Age		Education	
Country	*N*	Men	Women	*M*	*SD*	*M*	*SD*
Austria	2001	896	1105	49.70	17.36	12.63	2.99
Belgium	1762	885	877	46.99	18.87	13.78	3.78
Czech Republic	2204	1060	1144	45.97	17.05	12.41	3.16
Estonia	2017	925	1092	49.64	18.99	13.11	3.43
Finland	1916	959	957	50.03	18.91	13.79	4.03
France	2055	943	1112	52.35	18.93	12.41	3.83
Germany	2848	1508	1340	48.55	18.50	14.26	3.31
United Kingdom	1914	853	1061	51.41	18.75	13.84	3.90
Hungary	1609	674	935	50.81	18.74	11.96	3.15
Iceland	860	430	430	48.34	18.01	14.98	4.29
Ireland	2704	1330	1374	50.17	17.91	14.60	3.50
Italy	2523	1231	1292	48.76	19.13	11.54	4.27
Lithuania	2067	841	1226	49.89	18.39	12.77	2.90
Netherlands	1677	751	926	51.19	18.70	13.81	3.90
Norway	1542	828	714	46.90	18.82	14.07	3.76
Poland	1671	798	873	47.12	18.23	12.49	3.30
Portugal	1258	526	732	51.98	18.32	10.10	5.34
Russia	2430	1037	1393	46.73	18.02	13.05	2.76
Slovenia	1300	597	703	49.14	18.65	12.36	3.41
Spain	1893	944	949	49.13	18.02	12.80	5.37
Sweden	1543	769	774	51.53	19.05	13.28	3.72
Switzerland	1516	785	731	47.84	18.77	11.30	3.50

Table S22

Per-country descriptive statistics for the key variables for 2016 European Social Survey

	Left-right id.		Cultural beliefs		Economic beliefs		CC awareness		Human-caused CC		CC policy support	
Country	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Austria	5.00	2.04	0.43	0.19	0.35	0.18	0.81	0.23	0.72	0.18	0.64	0.19
Belgium	4.96	1.97	0.34	0.19	0.38	0.17	0.87	0.19	0.71	0.16	0.62	0.20
Czechia	5.17	2.19	0.43	0.16	0.49	0.20	0.75	0.24	0.65	0.19	0.54	0.25
Estonia	5.35	1.96	0.43	0.19	0.37	0.15	0.77	0.23	0.65	0.16	0.57	0.18
Finland	5.68	2.08	0.39	0.19	0.37	0.16	0.78	0.20	0.70	0.15	0.65	0.18
France	5.08	2.41	0.35	0.19	0.40	0.19	0.86	0.20	0.69	0.16	0.59	0.20
Germany	4.39	1.85	0.32	0.17	0.37	0.16	0.85	0.21	0.70	0.14	0.66	0.19
Great Britain	4.93	1.90	0.33	0.18	0.45	0.17	0.84	0.22	0.66	0.15	0.58	0.21
Hungary	5.84	2.52	0.57	0.19	0.34	0.15	0.80	0.23	0.69	0.17	0.63	0.19
Iceland	5.14	2.21	0.29	0.17	0.30	0.16	0.90	0.18	0.71	0.14	0.59	0.20
Ireland	5.32	2.02	0.39	0.18	0.41	0.16	0.87	0.19	0.66	0.15	0.54	0.23
Italy	5.13	2.51	0.48	0.19	0.35	0.16	0.85	0.21	0.72	0.16	0.61	0.21

	Left-right id.		Cultural beliefs		Economic beliefs		CC awareness		Human-caused CC		CC policy support	
Country	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Lithuania	5.41	2.05	0.58	0.19	0.31	0.14	0.76	0.27	0.63	0.18	0.56	0.21
Netherlands	5.21	1.96	0.31	0.16	0.40	0.17	0.88	0.20	0.68	0.16	0.63	0.21
Norway	5.21	2.22	0.28	0.16	0.40	0.17	0.81	0.22	0.65	0.15	0.65	0.19
Poland	5.86	2.44	0.54	0.20	0.38	0.17	0.79	0.24	0.64	0.16	0.58	0.18
Portugal	4.67	2.41	0.40	0.18	0.35	0.14	0.92	0.17	0.70	0.16	0.60	0.23
Russia	5.13	1.96	0.59	0.18	0.33	0.17	0.71	0.30	0.61	0.24	0.55	0.21
Slovenia	4.78	2.31	0.45	0.19	0.35	0.15	0.89	0.19	0.67	0.15	0.65	0.18
Spain	4.45	2.17	0.32	0.20	0.32	0.17	0.89	0.20	0.73	0.16	0.60	0.21
Sweden	5.22	2.27	0.22	0.15	0.38	0.16	0.85	0.19	0.70	0.15	0.67	0.20
Switzerland	5.06	2.13	0.36	0.18	0.40	0.16	0.87	0.20	0.68	0.14	0.68	0.19

Note. "CC" stands for climate change.

Table S23

Per-country descriptive statistics for demographic and key variables for data from Hornsey and others (2018)

		Gender			Age		Education		Left-right id.		Lib.-cons. Id.		Human – caused CC	
Country	*N*	Men	Women	Other	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Argentina	151	72	79		0.28	0.20	0.46	0.24	0.50	0.25	0.43	0.23	0.75	0.24
Australia	145	67	76	2	0.34	0.21	0.55	0.28	0.49	0.22	0.42	0.25	0.62	0.26
Brazil	143	72	71		0.30	0.19	0.58	0.29	0.51	0.28	0.49	0.29	0.64	0.27
Canada	147	73	74		0.35	0.20	0.50	0.26	0.48	0.25	0.47	0.29	0.62	0.28
Chile	147	74	72	1	0.29	0.19	0.56	0.23	0.49	0.23	0.44	0.25	0.71	0.24
China	140	68	72		0.28	0.19	0.68	0.18	0.50	0.15	0.44	0.23	0.60	0.25
France	149	78	71		0.35	0.21	0.49	0.26	0.47	0.27	0.43	0.23	0.70	0.25
Germany	129	65	64		0.34	0.20	0.42	0.24	0.43	0.22	0.42	0.24	0.66	0.25
Hong Kong	140	65	75		0.28	0.16	0.58	0.26	0.52	0.15	0.42	0.20	0.64	0.24
India	132	72	60		0.27	0.18	0.81	0.19	0.59	0.25	0.36	0.29	0.61	0.29
Indonesia	138	70	68		0.25	0.16	0.64	0.24	0.61	0.21	0.51	0.23	0.56	0.30
Ireland	157	82	74	1	0.31	0.19	0.53	0.28	0.47	0.21	0.41	0.24	0.65	0.23
Japan	160	78	81	1	0.35	0.21	0.57	0.26	0.54	0.18	0.50	0.20	0.55	0.25
Mexico	162	77	85		0.27	0.19	0.62	0.20	0.51	0.26	0.44	0.28	0.71	0.22
New Zealand	151	71	80		0.35	0.21	0.54	0.29	0.52	0.23	0.48	0.24	0.59	0.27
Philippines	151	77	74		0.26	0.17	0.73	0.15	0.70	0.24	0.51	0.27	0.71	0.25
Poland	142	70	71	1	0.34	0.18	0.51	0.27	0.48	0.23	0.41	0.26	0.58	0.29
Portugal	170	82	88		0.37	0.20	0.52	0.27	0.46	0.25	0.39	0.24	0.68	0.21
Singapore	151	76	75		0.30	0.18	0.57	0.27	0.57	0.19	0.51	0.21	0.67	0.20
South Africa	154	78	76		0.22	0.15	0.50	0.27	0.56	0.24	0.47	0.26	0.68	0.25
South Korea	144	79	65		0.31	0.17	0.64	0.24	0.50	0.21	0.42	0.24	0.62	0.28
Spain	151	73	78		0.33	0.19	0.58	0.25	0.43	0.25	0.40	0.25	0.67	0.23
Sweden	165	87	78		0.41	0.22	0.41	0.26	0.48	0.25	0.42	0.24	0.67	0.22
United Kingdom	140	65	74	1	0.34	0.19	0.51	0.27	0.48	0.24	0.44	0.26	0.60	0.23

		Gender			Age		Education		Left-right id.		Lib.-cons. Id.		Human – caused CC	
Country	*N*	Men	Women	Other	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
United States	144	62	82		0.35	0.19	0.60	0.28	0.52	0.25	0.50	0.28	0.53	0.30

Note. "CC" stands for climate change.

Table S24

Per-country descriptive statistics for demographic variables for 2005-2009 World Value Survey

		Gender		Age		Education	
Country	N	Men	Women	M	SD	M	SD
Andorra	982	493	489	40.38	13.45	5.25	2.14
Argentina	940	435	505	42.23	17.25	3.89	2.04
Australia	1364	614	750	50.08	16.68	5.96	1.93
Brazil	1415	597	818	39.72	15.55	3.22	2.27
Bulgaria	845	395	450	46.47	16.10	5.07	2.03
Burkina Faso	758	431	327	31.14	12.27	3.39	2.07
Canada	2059	862	1197	49.04	17.71	5.19	2.00
Chile	940	426	514	42.16	16.38	4.20	2.13
China	1038	561	477	41.15	13.19	4.72	2.03
Cyprus	1010	490	520	41.52	15.54	5.38	2.23
Egypt	2127	930	1197	38.30	13.45	4.44	2.35
Ethiopia	1308	686	622	28.46	8.53	3.87	1.96
Finland	996	480	516	47.28	17.45	4.48	2.23
Georgia	1393	664	729	45.46	16.77	5.94	1.72
Germany	1960	875	1085	50.54	17.28	3.92	2.23
Ghana	1031	577	454	31.52	12.59	3.20	1.85
Hungary	986	460	526	45.45	16.74	4.66	2.10
India	996	679	317	37.41	13.33	5.48	2.26
Indonesia	1712	912	800	34.74	13.30	5.86	2.04
Iran	2401	1217	1184	33.59	11.91	4.88	2.31
Italy	968	487	481	45.10	15.44	5.20	2.14
Japan	1056	463	593	48.27	15.66	5.89	1.71
Jordan	946	518	428	35.56	12.95	4.87	2.35
Malaysia	1106	564	542	31.63	11.68	4.73	1.80
Mali	666	387	279	33.89	13.75	3.58	2.30
Mexico	1382	704	678	38.13	14.81	4.46	2.37
Moldova	982	472	510	41.55	15.88	5.29	1.38
Morocco	416	208	208	31.07	9.63	4.55	2.19
Norway	1007	509	498	46.29	15.99	5.69	2.10
Peru	1158	610	548	34.40	14.24	4.85	2.11
Poland	981	506	475	45.68	17.68	4.14	1.86
Romania	1388	676	712	46.43	16.68	4.75	2.39
Rwanda	1184	610	574	32.92	12.80	2.54	1.58
Serbia	1115	571	544	41.81	14.83	4.77	2.20
Slovenia	955	455	500	44.96	17.09	4.70	2.02

		Gender		Age		Education	
Country	N	Men	Women	M	SD	M	SD
South Africa	2350	1195	1155	37.64	15.76	4.91	1.75
South Korea	1184	593	591	40.95	13.86	6.45	1.77
Spain	1035	516	519	45.46	17.90	3.70	2.22
Sweden	982	493	489	48.57	16.87	5.98	2.07
Switzerland	1223	551	672	52.28	16.11	5.41	2.06
Thailand	1420	705	715	44.45	15.40	3.55	2.27
Trinidad and Tobago	915	416	499	42.14	17.09	3.75	1.80
Turkey	1169	619	550	35.34	13.08	4.28	2.28
Ukraine	947	328	619	41.86	16.42	5.74	1.86
United States	1216	609	607	48.10	16.98	4.77	1.34
Uruguay	968	432	536	46.20	18.51	3.21	1.83
Viet Nam	1256	681	575	39.76	15.39	3.57	1.68
Zambia	1142	592	550	29.20	11.05	4.25	1.93

Table S25

Per-country descriptive statistics for they key variables for 2005-2009 World Value Survey

	Left-right id.		Cultural beliefs		Economic beliefs		Seriousness of CC	
Country	M	SD	M	SD	M	SD	M	SD
Andorra	4.63	1.96	0.34	0.16	0.51	0.17	0.90	0.17
Argentina	5.47	1.85	0.54	0.20	0.42	0.24	0.93	0.17
Australia	5.52	1.95	0.46	0.20	0.54	0.19	0.86	0.22
Brazil	5.40	2.37	0.55	0.17	0.47	0.19	0.84	0.22
Bulgaria	4.87	2.21	0.50	0.17	0.46	0.21	0.86	0.22
Burkina Faso	4.61	2.55	0.66	0.16	0.52	0.21	0.93	0.17
Canada	5.41	1.87	0.47	0.19	0.56	0.18	0.87	0.21
Chile	5.37	2.15	0.56	0.18	0.41	0.21	0.91	0.18
China			0.71	0.16	0.49	0.22	0.74	0.25
Cyprus	5.17	2.59	0.59	0.18	0.47	0.21	0.90	0.19
Egypt	4.59	2.52	0.79	0.16	0.41	0.16	0.89	0.20
Ethiopia	6.72	2.08	0.59	0.14	0.63	0.18	0.83	0.23
Finland	5.60	1.97	0.44	0.18	0.53	0.17	0.81	0.22
Georgia	6.06	2.18	0.77	0.13	0.49	0.17	0.86	0.21
Germany	4.78	1.84	0.50	0.18	0.43	0.19	0.80	0.23
Ghana	6.59	2.39	0.72	0.14	0.53	0.22	0.76	0.27
Hungary	5.68	1.92	0.58	0.16	0.42	0.18	0.86	0.20
India	4.46	2.82	0.67	0.21	0.44	0.25	0.79	0.28
Indonesia	6.60	2.25	0.79	0.13	0.55	0.18	0.73	0.30
Iran			0.79	0.15	0.39	0.20	0.86	0.21
Italy	5.07	2.21	0.55	0.21	0.51	0.19	0.89	0.19
Japan	5.50	1.78	0.61	0.17	0.49	0.17	0.90	0.17
Jordan	5.75	3.20	0.88	0.09	0.49	0.20	0.79	0.28
Malaysia			0.72	0.13	0.53	0.12	0.71	0.24

	Left-right id.		Cultural beliefs		Economic beliefs		Seriousness of CC	
Country	M	SD	M	SD	M	SD	M	SD
Mali	5.69	3.02	0.65	0.18	0.56	0.18	0.84	0.27
Mexico	6.06	2.93	0.52	0.19	0.51	0.23	0.87	0.23
Moldova	6.01	2.22	0.65	0.16	0.46	0.18	0.86	0.21
Morocco	5.95	1.95	0.64	0.16	0.46	0.18	0.84	0.25
Norway	5.60	1.90	0.33	0.17	0.48	0.17	0.83	0.23
Peru	5.69	2.23	0.46	0.18	0.57	0.19	0.85	0.24
Poland	5.87	2.21	0.63	0.18	0.47	0.20	0.82	0.22
Romania	6.02	2.36	0.67	0.18	0.50	0.24	0.78	0.26
Rwanda	5.68	2.52	0.63	0.13	0.53	0.16	0.65	0.31
Serbia	5.92	2.25	0.53	0.18	0.50	0.19	0.87	0.24
Slovenia	5.26	2.25	0.43	0.20	0.46	0.21	0.83	0.23
South Africa	6.57	2.20	0.68	0.17	0.51	0.21	0.76	0.30
South Korea	5.67	2.06	0.65	0.15	0.47	0.15	0.83	0.18
Spain	4.62	1.93	0.45	0.18	0.47	0.19	0.91	0.17
Sweden	5.62	2.20	0.27	0.16	0.59	0.19	0.86	0.20
Switzerland	5.15	2.01	0.44	0.19	0.47	0.18	0.80	0.24
Thailand	6.15	1.74	0.65	0.14	0.55	0.13	0.66	0.23
Trinidad and Tobago	6.01	2.55	0.69	0.15	0.56	0.21	0.88	0.23
Turkey	6.10	2.72	0.72	0.17	0.45	0.20	0.95	0.15
Ukraine	5.63	1.96	0.59	0.17	0.45	0.19	0.83	0.22
United States	5.72	1.82	0.51	0.18	0.62	0.17	0.74	0.29
Uruguay	5.19	2.44	0.46	0.18	0.47	0.19	0.86	0.25
Viet Nam	9.09	1.43	0.68	0.14	0.56	0.21	0.82	0.21
Zambia	6.73	2.40	0.63	0.17	0.49	0.19	0.63	0.32

Note. "CC" stands for climate change.