

**Supplemental material**

Cognitio populi – vox populi:  
Implications of science-related populism for communication behavior

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## Introduction

This document provides information, tables, and figures supplementing the analyses presented in the article “Cognitio populi – vox populi: Implications of science-related populism for communication behavior”, published in *Communications*.

### *Data and code for reproducing the analyses*

All analyses were conducted in R (version 4.1.0). We share the R syntax used for the analyses at <https://osf.io/yhmbd/>. The survey data and additional materials (e.g., the questionnaires and a methodological report, the former in German, French, and Italian, the latter in German) are publicly available in the online repository SWISSUbase (doi: [10.48573/wpf5-hf36](https://doi.org/10.48573/wpf5-hf36)).

### *Quantifying science-related populist attitudes: The SciPop Score*

To obtain a single aggregate score which quantifies propensity and aversion to science-related populism, we followed the “Goertz approach” (Wuttke et al., 2020, p. 362), that is, we computed unweighted mean values of each of the four 2-item subscales for every respondent and determined the smallest of these four values to represent their “SciPop Score”. The SciPop Score could thus range from 1.00 to 5.00, with higher values indicating stronger science-related populist attitudes.

Taking the average of participants’ responses to the SciPop Scale would have been another way to compose an aggregate score for science-related populist attitudes—a procedure Wuttke et al. (2020, p. 359) described as the “Bollen approach”. We did not choose this approach in the main analysis, because it would produce scores which are not in line with the conceptual premise that science-related populism is non-compensatory, that is, that it requires the concurrent presence of all its four components (Mede et al., 2021; see also Goertz, 2020). For example, Bollen scores would indicate similar degrees of science-related populism for an individual A who endorses some of its components fully but rejects others completely and for an individual B who endorses all components moderately—although only people like B can be conceptualized as supporters of science-related populism as all its facets are concurrently present in them. Goertz scores (minimum subscale means) would not indicate similar populism degrees for A and B, however. They would be small in A’s case, where one component is absent, and bigger in B’s case, where all components are present. Accordingly, the Goertz approach can usefully account for the concurrency criterion of non-compensatory phenomena such as science-related populism, and, as such, represents a useful analytical procedure for us to translate responses to the SciPop Scale into a single numerical value indicating ‘full-fledged’ science-related populist attitudes.

Importantly, there are further procedures which could be described as a “Bollen approach” to the aggregation of multiple scale items to a single composite score (e.g., using factor scores extracted from confirmatory factor analysis; Wuttke et al., 2020, p. 362). Meanwhile, another analytical strategy to quantify (science-related) populist attitudes is to compose a binary score based on individuals’ responses to the scale items, which can be described as the “Satori approach” (Wuttke et al., 2020, p. 365). While we decided against these alternative approaches in our main analysis for the reasons explained above, we tested them and their implications for our results in multiverse analyses (see below).

### *Multiverse analyses*

To assess how much our results depended on our analytical decisions, we ran a series of multiverse analyses (also known as specification curve analysis; Del Giudice and Gangestad, 2021; Simonsohn et al., 2020; Steegen et al., 2016), using the R package *specr* v0.2.1 (Masur and Scharnow, 2020). Our multiverse analyses scrutinized how results would have differed if we had:

- (a) applied other computation procedures of the SciPop Score (5 scenarios): Apart from (1) the SciPop Score used in the main analysis (one variant of a “Goertz score”; Wuttke et al., 2020), we also tested four alternative scores common in populism research, that is, (2) mean scores of all SciPop Scale items (one variant of a “Bollen score”; e.g., Rico and Anduiza, 2019), (3) factor scores extracted from polychoric confirmatory factor analysis with the scale items (another variant of a “Bollen score”; e.g., see van Hauwaert et al., 2019), (4) a binary score classifying respondents as populist if they reach 75% percentile on all subscales (one variant of a “Sartori score”; e.g., Wuttke et al., 2020, p. 363), and (5) a binary score classifying respondents as populists if they agree with at least six items (another variant of a “Sartori score”; Vehrkamp and Merkel, 2020).
- (b) used only some covariates (18 scenarios): Apart from models containing (1) the full set of covariates and (2) no covariates, we also tested models that controlled for each covariate individually (3-18).
- (c) analyzed only subsets of the data (4 scenarios): Apart from the (1) full sample, we also tested single subsets, that is, the (2) German-speaking, (3) French-speaking, and (4) Italian-speaking subsample.

We ran one multiverse analysis for the H1-H4 model (1,440 specifications) and four multiverse analyses for the models testing RQ1 (2,160), RQ2 (1,440), RQ3 (1,080), and RQ4 (1,800). Plots of specification curves (Simonsohn et al., 2020) are provided in this document (in reduced resolution) and at <https://osf.io/yhmbd/> (in full resolution).

## Supplemental tables

### Supplemental table S1

#### *Overview of variables used in the analyses.*

Variable	Question/Item	Type	Levels in analyses	
Science-related populist attitudes	<i>The following statements are about the relationship between science and society. How much do you agree with them?</i>	Composite score (continuous)	Range: 1-5; higher values indicate stronger endorsement of science-related populist attitudes	
	<i>What unites the ordinary people is that they trust their common sense in everyday life.</i>	Single item (continuous)	1 = do not agree at all, 5 = agree completely	
	<i>Ordinary people are of good and honest character.</i>	Single item (continuous)	1 = do not agree at all, 5 = agree completely	
	<i>Scientists are only after their own advantage.</i>	Single item (continuous)	1 = do not agree at all, 5 = agree completely	
	<i>Scientists are in cahoots with politics and business.</i>	Single item (continuous)	1 = do not agree at all, 5 = agree completely	
	<i>The people should have influence on the work of scientists.</i>	Single item (continuous)	1 = do not agree at all, 5 = agree completely	
	<i>People like me should be involved in decisions about the topics scientists research.</i>	Single item (continuous)	1 = do not agree at all, 5 = agree completely	
	<i>In case of doubt, one should rather trust the life experience of ordinary people than the estimations of scientists.</i>	Single item (continuous)	1 = do not agree at all, 5 = agree completely	
Journalistic media use	<i>We should rely more on common sense and less on scientific studies.</i>	Single item (continuous)	1 = do not agree at all, 5 = agree completely	
	<i>How often do you come in contact with science and research in the following media?</i>	Mean score (continuous)	Range: 1-5; higher values indicate more frequent contact with science and research	
	TV	<i>Television, without streaming and on-demand services</i>	Single item (continuous)	1 = never, 5 = very often
	Radio	<i>Radio, without streaming and on-demand services</i>	Single item (continuous)	1 = never, 5 = very often
	Printed newspapers	<i>Printed daily newspapers, weekly newspapers, or magazines</i>	Single item (continuous)	1 = never, 5 = very often
	Science magazines	<i>Science magazines like "PM" or "Bild der Wissenschaft"</i>	Single item (continuous)	1 = never, 5 = very often
	News websites/apps	<i>Websites or apps of newspapers and magazines</i>	Single item (continuous)	1 = never, 5 = very often
	On-demand TV/radio	<i>Streaming and on-demand services of TV and radio stations</i>	Single item (continuous)	1 = never, 5 = very often

Social media use	<i>How often do you come in contact with science and research in the following media?</i>	Mean score (continuous)	Range: 1-5; higher values indicate more frequent contact with science and research
Social networking sites	<i>Facebook, Twitter, or other social networking sites</i>	Single item (continuous)	1 = never, 5 = very often
Video platforms	<i>YouTube or other video platforms</i>	Single item (continuous)	1 = never, 5 = very often
Blogs/Forums	<i>Blogs and online forums</i>	Single item (continuous)	1 = never, 5 = very often
Wikipedia	<i>Wikipedia</i>	Single item (continuous)	1 = never, 5 = very often
Non-mediated science communication formats	<i>One can encounter science and research not only in the media, but also in other ways. I'll name a few activities. Please tell me how often you do this.</i>	Mean score (continuous)	Range: 1-5; higher values indicate more frequent contact with science and research
Museums/Exhibitions	<i>Visit museums and exhibitions on science and research</i>	Single item (continuous)	1 = never, 5 = very often
Zoos/Aquariums	<i>Visit zoos, aquariums, or botanical gardens</i>	Single item (continuous)	1 = never, 5 = very often
Events/Lectures	<i>Attend events, lectures, and discussions on science and research</i>	Single item (continuous)	1 = never, 5 = very often
Communicative engagement	<i>One can encounter science and research not only in the media, but also in other ways. I'll name a few activities. Please tell me how often you do this.</i>	Mean score (continuous)	Range: 1-5; higher values indicate more frequent contact with science and research
Post/Share on social media	<i>Post or share information or opinions about science</i>	Single item (continuous)	1 = never, 5 = very often
Like on social media	<i>Like information or opinions about science</i>	Single item (continuous)	1 = never, 5 = very often
Comment on social media	<i>Comment on information or opinions about science</i>	Single item (continuous)	1 = never, 5 = very often
Instant messaging	<i>Discuss science and research in messengers like WhatsApp</i>	Single item (continuous)	1 = never, 5 = very often
Talk to peers	<i>Talk about science and research with friends and acquaintances</i>	Single item (continuous)	1 = never, 5 = very often
Age	<i>In which year were you born?</i>	Single item (continuous)	[Age in years]
Gender	[Determined by interviewer]	Single item (categorical)	0 = male, 1 = female
Swiss region	[Inferred from postal codes]	Single item (dummy-coded)	1 = German-speaking, 2 = French-speaking, 3 = Italian-speaking
Urbanity of residence place	[Inferred from postal codes]	Single item (continuous) <sup>a</sup>	Range: 4.344-12.922; higher values indicate greater urbanity

Education	<i>What is your educational background?</i>	Single item (dummy-coded)	1 = compulsory school, 2 = secondary education, 3 = post-secondary education (i.e., completion of teacher education programs, advanced vocational trainings, colleges for advanced professional education, and university degrees)
Proximity to science	<i>To conclude the interview, I would like to ask you a few questions about yourself.</i>	Composite score <sup>b</sup> (continuous)	Range: 1-4; higher values indicate higher proximity
	<i>Are you a scientist yourself?</i>	Single item (continuous)	0 = no, 1 = yes
	<i>Do you know a scientist personally?</i>	Single item (continuous)	0 = no, 1 = yes
	<i>Are you professionally involved with science?</i>	Single item (continuous)	0 = no, 1 = yes
Scientific literacy	<i>Do you have family members who have studied or are studying?</i>	Single item (continuous)	0 = no, 1 = yes
	<i>I'm going to give you some statements that you may know from school or the media. Some are false, some are true. Please tell me if you think these statements are false or true, and whether you are sure about that. If you don't know, feel free to tell me.</i>	Composite score <sup>c</sup> (continuous)	Range: -10.0-10.0; higher values indicate higher literacy
	<i>The continents on which we live have been moving for millions of years. (true)</i>	Single item (continuous)	1 = certainly wrong, 2 = rather wrong, 3 = rather true, 4 = certainly true, 98 = don't know
	<i>Electrons are smaller than atoms. (true)</i>	Single item (continuous)	1 = certainly wrong, 2 = rather wrong, 3 = rather true, 4 = certainly true, 98 = don't know
	<i>Antibiotics kill viruses as well as bacteria. (false)</i>	Single item (continuous)	1 = certainly wrong, 2 = rather wrong, 3 = rather true, 4 = certainly true, 98 = don't know
	<i>The genes of the mother decide if the child will be a boy or a girl. (false)</i>	Single item (continuous)	1 = certainly wrong, 2 = rather wrong, 3 = rather true, 4 = certainly true, 98 = don't know
Religiosity	<i>Scientific theories never change. (false)</i>	Single item (continuous)	1 = certainly wrong, 2 = rather wrong, 3 = rather true, 4 = certainly true, 98 = don't know
	<i>How religious would you consider yourself?</i>	Single item (continuous)	1 = not at all religious, 5 = very religious
Political orientation	<i>How would you classify your own political orientation?</i>	Single item (continuous)	1 = very left-leaning, 7 = very right-leaning
Interest in science	<i>How interested are you in science and research?</i>	Single item (continuous)	1 = not interested at all, 5 = very strongly interested
Trust in science	<i>How high is your trust in science in general?</i>	Single item (continuous)	1 = very low, 5 = very high
Trust in scientists	<i>How high is your trust in university scientists?</i>	Single item (continuous)	1 = very low, 5 = very high

Attention media coverage of science	<i>How closely do you follow media coverage of science and research?</i>	Single item (continuous)	1 = <i>not attentively at all</i> , 5 = <i>very attentively</i>
Satisfaction media coverage of science	<i>How satisfied are you with media coverage of science and research?</i>	Single item (continuous)	1 = <i>not satisfied at all</i> , 5 = <i>very satisfied</i>

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*Note.* Original items were in German, French, and Italian, but we translated them into English for this article.

<sup>a</sup> Inferred from log-transformed inhabitant counts of respondents' residence municipalities, which were obtained by merging their postal codes with Swiss census data. Log-transformation was advisable as inhabitant counts were approximately log-normally distributed in the survey data. This pattern corresponds with previous analyses of Swiss census data showing that inhabitant counts of Swiss municipalities follow Zipf's Law (Decker et al., 2007).

<sup>b</sup> Respondents who reported working as scientists were assigned a 4. Respondents were assigned a 3 if they answered "yes" to all three remaining questions; a 2 if they answered "yes" to two of these questions; a 1 if they answered "yes" to one of these questions; a 0 if they answered "yes" to none of these questions.

<sup>c</sup> Respondents were given -2 points for every true (false) statement they were certain it was false (true), -1 point for every true (false) statement they were rather sure it was false (true), 0 points for every item for which they did not know if it was false or true, 1 point for every true (false) statement they were rather sure it was true (false), and 2 points for every true (false) statement they were certain it was true (false). The composite score was calculated by summing up all points.

Supplemental table S2

*Results of multivariate multiple linear regression predicting media use and engagement with science-related populist attitudes (H1-H4).*

Independent variable	Dependent variable															
	Journalistic media use				Social media use				Non-mediated science communication				Communicative engagement			
	<i>b</i>	<i>SE</i>	<i>t</i>		<i>b</i>	<i>SE</i>	<i>t</i>		<i>b</i>	<i>SE</i>	<i>t</i>		<i>b</i>	<i>SE</i>	<i>t</i>	
Intercept	0.90	0.28	3.25	**	1.52	0.43	3.51	***	0.23	0.35	0.67		1.35	0.34	4.02	***
Science-related populist attitudes	0.06	0.04	1.23		0.04	0.07	0.51		-0.09	0.05	-1.86		0.05	0.05	1.04	
Age	0.00	0.00	1.98	*	-0.02	0.00	-8.22	***	0.00	0.00	1.14		0.00	0.00	-2.42	*
Gender (1 = female)	0.03	0.06	0.56		0.02	0.08	0.26		0.23	0.07	3.21	**	0.00	0.06	-0.04	
Swiss region (ref. French-speaking)																
German-speaking	-0.09	0.07	-1.28		0.21	0.10	2.05	*	-0.36	0.09	-3.82	***	-0.01	0.07	-0.19	
Italian-speaking	0.10	0.10	1.05		0.08	0.15	0.53		-0.21	0.14	-1.48		-0.15	0.09	-1.56	
Urbanity of residence place	-0.02	0.02	-1.08		0.01	0.03	0.28		0.02	0.02	0.98		-0.05	0.02	-2.43	*
Education (ref. secondary education)																
Post-secondary education	0.02	0.06	0.37		0.09	0.09	0.95		0.06	0.08	0.81		0.03	0.06	0.48	
Compulsory school	-0.01	0.08	-0.19		0.17	0.14	1.22		0.05	0.13	0.36		0.05	0.11	0.49	
Proximity to science	0.01	0.02	0.30		0.00	0.04	-0.04		0.14	0.03	4.09	***	-0.01	0.03	-0.49	
Scientific literacy	0.00	0.01	0.45		-0.01	0.01	-1.23		-0.01	0.01	-0.91		-0.02	0.01	-2.12	*
Religiosity	-0.04	0.02	-1.45		-0.07	0.04	-1.91		-0.01	0.03	-0.35		0.00	0.03	0.06	
Political orientation (7 = right)	0.02	0.02	1.01		0.02	0.03	0.89		0.04	0.03	1.53		-0.01	0.03	-0.33	
Interest in science	0.03	0.03	0.86		0.13	0.05	2.64	**	0.06	0.04	1.33		0.15	0.04	3.88	***
Trust in science	0.08	0.06	1.35		0.06	0.07	0.81		0.17	0.07	2.51	*	0.06	0.06	0.98	
Trust in scientists	0.03	0.04	0.64		0.02	0.07	0.25		0.02	0.06	0.27		-0.03	0.05	-0.57	
Attention media coverage of science	0.25	0.03	7.36	***	0.10	0.06	1.84		0.22	0.04	5.20	***	0.19	0.03	5.31	***
Satisfaction media coverage of science	0.10	0.04	2.40	*	0.14	0.06	2.40	*	0.09	0.05	1.91		0.06	0.04	1.56	

Note: Unstandardized regression coefficients reported. \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ . Analysis employed survey weights using the R package survey v4.0 (Lumley, 2020).



Supplemental table S3

*Results of multivariate multiple linear regression predicting journalistic media use with science-related populist attitudes (RQ1).*

Independent variable	Dependent variable																							
	TV			Radio			Printed newspapers			Science magazines			News websites/apps			On-demand TV/radio								
	<i>b</i>	<i>SE</i>	<i>t</i>	<i>b</i>	<i>SE</i>	<i>t</i>	<i>b</i>	<i>SE</i>	<i>t</i>	<i>b</i>	<i>SE</i>	<i>t</i>	<i>b</i>	<i>SE</i>	<i>t</i>	<i>b</i>	<i>SE</i>	<i>t</i>						
Intercept	0.63	0.57	1.10	1.84	0.68	2.72	**	0.58	0.58	1.00	0.72	0.58	1.24	0.47	0.62	0.76	1.17	0.64	1.84					
Science-related populist attitudes	0.25	0.09	2.94	**	0.02	0.08	0.28	0.05	0.08	0.56	0.02	0.07	0.29	-0.06	0.08	-0.74	0.06	0.08	0.72					
Age	0.01	0.00	2.91	**	0.01	0.00	3.03	**	0.02	0.00	4.81	***	0.00	0.00	0.62	-0.01	0.00	-4.56	***	-0.01	0.00	-2.15	*	
Gender (1 = female)	0.19	0.11	1.67		0.02	0.11	0.20		0.05	0.11	0.45		0.13	0.11	1.22	-0.23	0.11	-2.13	*	0.02	0.11	0.17		
Swiss region (ref. French-speaking)																								
German-speaking	-0.48	0.15	-3.26	**	0.11	0.17	0.68		0.10	0.14	0.72		-0.40	0.15	-2.66	**	0.22	0.15	1.50		-0.14	0.15	-1.00	
Italian-speaking	0.25	0.19	1.29		-0.05	0.24	-0.19		-0.17	0.23	-0.73		-0.15	0.20	-0.74		0.49	0.23	2.13	*	0.22	0.21	1.02	
Urbanity of residence place	-0.02	0.04	-0.41		-0.07	0.04	-1.64		-0.03	0.04	-0.81		-0.04	0.04	-0.91		0.05	0.04	1.36		-0.02	0.04	-0.48	
Education (ref. secondary education)																								
Post-secondary education	-0.16	0.12	-1.27		0.09	0.15	0.63		-0.06	0.12	-0.50		0.20	0.14	1.50		0.09	0.13	0.66		-0.04	0.14	-0.25	
Compulsory school	0.10	0.18	0.53		-0.06	0.16	-0.36		-0.11	0.19	-0.57		0.22	0.15	1.44		-0.31	0.16	-1.86		0.02	0.18	0.13	
Proximity to science	-0.05	0.06	-0.84		-0.03	0.06	-0.42		0.01	0.05	0.26		0.11	0.06	1.92		0.04	0.05	0.70		-0.04	0.06	-0.70	
Scientific literacy	0.00	0.02	0.23		-0.02	0.02	-0.83		0.05	0.02	2.93	**	0.02	0.02	1.22		-0.02	0.02	-1.02		-0.02	0.02	-1.18	
Religiosity	-0.08	0.05	-1.55		-0.01	0.05	-0.13		0.04	0.05	0.74		-0.04	0.04	-0.89		-0.07	0.04	-1.63		-0.04	0.05	-0.85	
Political orientation (7 = right)	0.02	0.05	0.50		-0.04	0.05	-0.97		0.06	0.04	1.61		0.02	0.04	0.41		0.03	0.04	0.74		0.03	0.04	0.81	
Interest in science	-0.11	0.07	-1.64		-0.24	0.07	-3.58	***	0.02	0.07	0.27		0.18	0.06	3.14	**	0.22	0.05	4.17	***	0.11	0.06	1.86	
Trust in science	0.06	0.12	0.49		0.02	0.12	0.21		0.04	0.09	0.41		0.09	0.08	1.12		0.30	0.09	3.23	**	-0.05	0.09	-0.58	
Trust in scientists	0.10	0.09	1.11		0.16	0.11	1.44		-0.06	0.10	-0.63		-0.09	0.09	-1.04		-0.03	0.09	-0.32		0.11	0.08	1.29	
Attention media coverage of science	0.31	0.08	4.07	***	0.17	0.07	2.33	*	0.31	0.06	4.84	***	0.24	0.06	3.69	***	0.24	0.07	3.49	***	0.22	0.07	3.09	**
Satisfaction media coverage of science	0.18	0.08	2.26	*	0.13	0.08	1.64		0.10	0.08	1.31		-0.04	0.07	-0.55		0.09	0.07	1.24		0.11	0.07	1.52	

Note: Unstandardized regression coefficients reported. \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ . Analysis employed survey weights using the R package survey v4.0 (Lumley, 2020).

Supplemental table S4

*Results of multivariate multiple linear regression predicting social media use with science-related populist attitudes (RQ2).*

Independent variable	Dependent variable															
	Social networking sites				Video platforms				Blogs/Forums				Wikipedia			
	<i>b</i>	<i>SE</i>	<i>t</i>		<i>b</i>	<i>SE</i>	<i>t</i>		<i>b</i>	<i>SE</i>	<i>t</i>		<i>b</i>	<i>SE</i>	<i>t</i>	
Intercept	2.17	0.62	3.52	***	2.53	0.61	4.12	***	1.29	0.51	2.54	*	0.09	0.62	0.15	
Science-related populist attitudes	0.22	0.10	2.12	*	-0.08	0.09	-0.91		0.04	0.08	0.53		-0.03	0.08	-0.38	
Age	-0.02	0.00	-6.36	***	-0.03	0.00	-9.23	***	-0.01	0.00	-3.81	***	-0.02	0.00	-5.61	***
Gender (1 = female)	0.29	0.13	2.30	*	-0.25	0.12	-2.01	*	0.01	0.10	0.12		0.02	0.12	0.18	
Swiss region (ref. French-speaking)																
German-speaking	0.10	0.16	0.66		0.26	0.14	1.79		0.11	0.12	0.98		0.36	0.16	2.23	*
Italian-speaking	-0.01	0.19	-0.04		0.14	0.21	0.70		-0.04	0.16	-0.25		0.23	0.22	1.05	
Urbanity of residence place	-0.03	0.04	-0.77		0.02	0.04	0.42		-0.04	0.04	-0.99		0.08	0.04	1.82	
Education (ref. secondary education)																
Post-secondary education	0.10	0.13	0.78		-0.03	0.14	-0.22		0.09	0.11	0.79		0.18	0.15	1.22	
Compulsory school	0.39	0.20	1.94		0.18	0.17	1.04		0.14	0.16	0.85		-0.04	0.18	-0.23	
Proximity to science	-0.07	0.07	-0.96		-0.03	0.06	-0.52		0.05	0.05	1.10		0.04	0.05	0.67	
Scientific literacy	-0.03	0.02	-1.56		-0.03	0.02	-1.45		-0.04	0.02	-2.46	*	0.04	0.02	2.07	*
Religiosity	-0.12	0.05	-2.25	*	-0.02	0.05	-0.48		-0.02	0.04	-0.40		-0.12	0.05	-2.56	*
Political orientation (1 = left, 7 = right)	0.06	0.06	1.06		-0.03	0.04	-0.72		0.01	0.04	0.35		0.05	0.04	1.27	
Interest in science	0.06	0.07	0.80		0.20	0.07	3.02	**	0.08	0.06	1.25		0.19	0.06	3.14	**
Trust in science	-0.08	0.11	-0.70		0.06	0.09	0.60		0.06	0.08	0.83		0.18	0.10	1.94	
Trust in scientists	0.06	0.11	0.58		-0.05	0.10	-0.49		0.08	0.08	0.99		-0.02	0.10	-0.22	
Attention media coverage of science	0.04	0.07	0.49		0.11	0.08	1.43		0.11	0.06	1.65		0.16	0.07	2.16	*
Satisfaction media coverage of science	0.13	0.08	1.57		0.18	0.08	2.36	*	0.02	0.07	0.34		0.22	0.07	2.94	**

Note: Unstandardized regression coefficients reported. \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ . Analysis employed survey weights using the R package survey v4.0 (Lumley, 2020).

Supplemental table S5

*Results of multivariate multiple linear regression predicting use of science communication with science-related populist attitudes (RQ3).*

Independent variable	Dependent variable											
	Museums/Exhibitions				Zoos/Aquariums				Events/Lectures			
	<i>b</i>	<i>SE</i>	<i>t</i>		<i>b</i>	<i>SE</i>	<i>t</i>		<i>b</i>	<i>SE</i>	<i>t</i>	
Intercept	0.31	0.50	0.61		1.25	0.57	2.20	*	-0.86	0.50	-1.74	
Science-related populist attitudes	-0.20	0.07	-2.78	**	-0.05	0.07	-0.69		-0.04	0.07	-0.55	
Age	0.00	0.00	0.56		0.00	0.00	0.48		0.01	0.00	1.88	
Gender (1 = female)	0.16	0.10	1.61		0.36	0.11	3.44	***	0.16	0.09	1.77	
Swiss region (ref. French-speaking)												
German-speaking	-0.40	0.12	-3.29	**	-0.69	0.14	-5.05	***	0.02	0.14	0.18	
Italian-speaking	-0.16	0.16	-1.01		-0.43	0.22	-1.96		-0.04	0.21	-0.21	
Urbanity of residence place	0.05	0.03	1.64		0.03	0.04	0.77		-0.01	0.03	-0.29	
Education (ref. secondary education)												
Post-secondary education	0.05	0.10	0.44		-0.14	0.12	-1.12		0.27	0.10	2.61	**
Compulsory school	0.09	0.17	0.53		-0.07	0.16	-0.40		0.11	0.15	0.75	
Proximity to science	0.11	0.05	2.30	*	0.13	0.05	2.81	**	0.19	0.05	3.97	***
Scientific literacy	0.00	0.02	-0.15		-0.02	0.02	-1.12		-0.01	0.01	-0.78	
Religiosity	-0.04	0.05	-0.85		-0.01	0.04	-0.18		0.01	0.04	0.38	
Political orientation (1 = left, 7 = right)	0.08	0.04	1.77		0.08	0.04	2.10	*	-0.03	0.04	-0.78	
Interest in science	0.06	0.06	0.94		-0.02	0.07	-0.30		0.14	0.04	3.04	**
Trust in science	0.15	0.08	1.84		0.19	0.10	1.82		0.18	0.08	2.16	*
Trust in scientists	0.01	0.08	0.10		-0.01	0.10	-0.11		0.05	0.09	0.59	
Attention media coverage of science	0.26	0.06	4.20	***	0.09	0.07	1.39		0.32	0.06	5.49	***
Satisfaction media coverage of science	0.14	0.07	2.01	*	0.10	0.07	1.39		0.04	0.05	0.77	

Note: Unstandardized regression coefficients reported. \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ . Analysis employed survey weights using the R package survey v4.0 (Lumley, 2020).

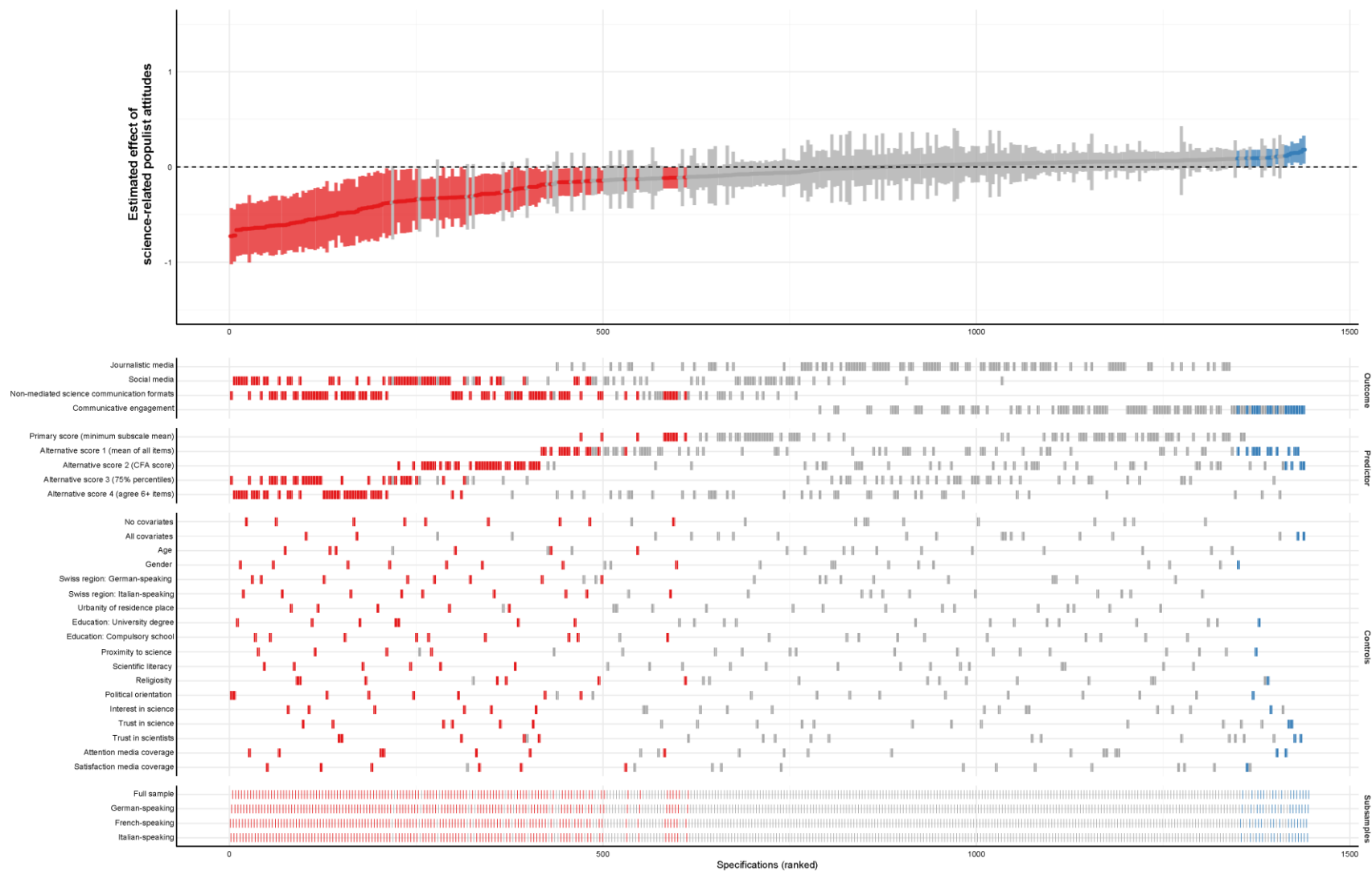
Supplemental table S6

*Results of multivariate multiple linear regression predicting communicative engagement with science-related populist attitudes (RQ4).*

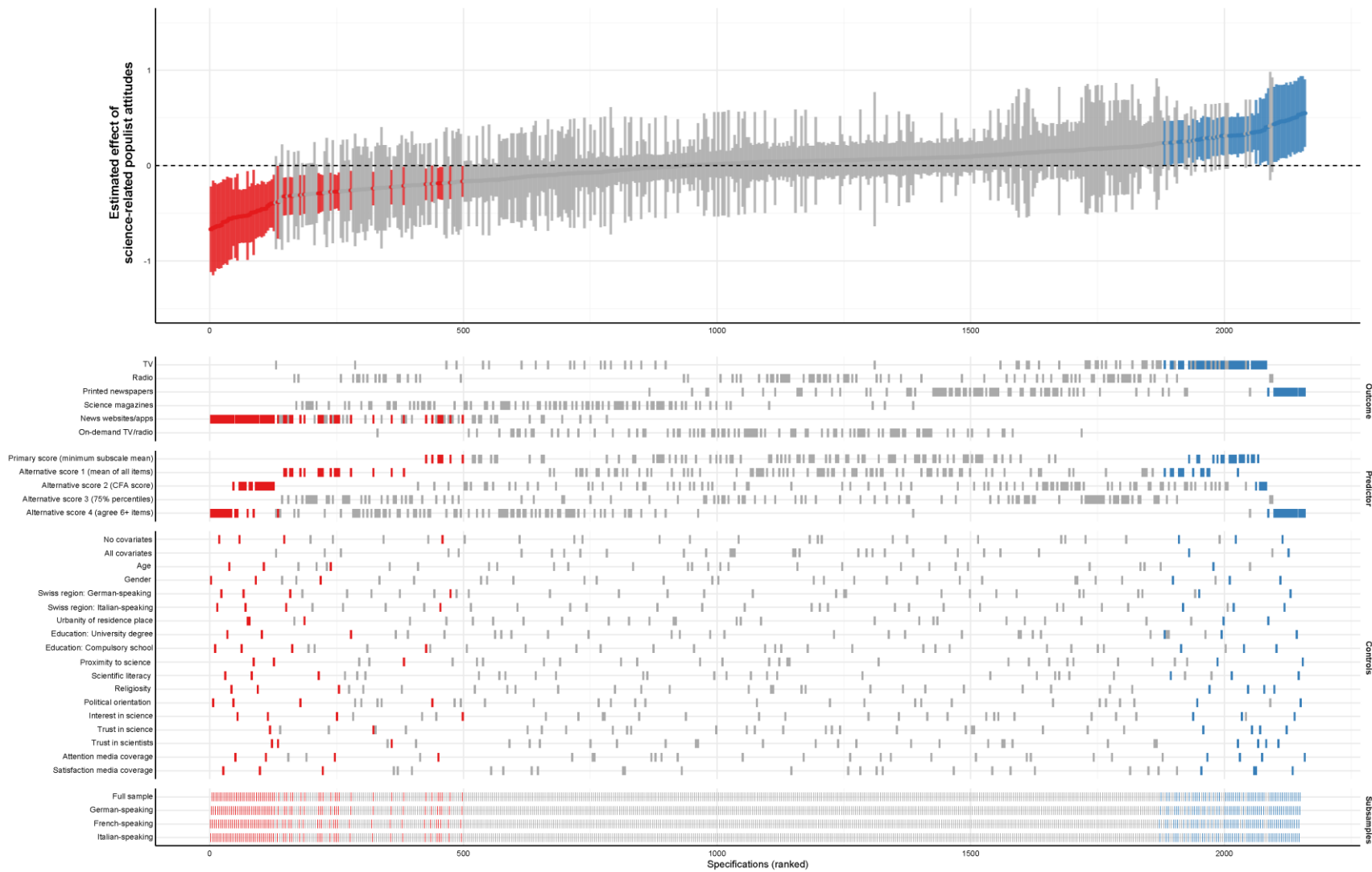
Independent variable	Dependent variable																			
	Post/Share on social media				Like on social media			Comment on social media				Instant messaging			Talk to peers					
	<i>b</i>	<i>SE</i>	<i>t</i>		<i>b</i>	<i>SE</i>	<i>t</i>		<i>b</i>	<i>SE</i>	<i>t</i>		<i>b</i>	<i>SE</i>	<i>t</i>					
Intercept	1.52	0.58	2.62	**	2.84	0.60	4.69	***	1.48	0.55	2.68	**	0.97	0.54	1.79		0.67	0.49	1.37	
Science-related populist attitudes	0.03	0.08	0.43		-0.01	0.09	-0.16		0.16	0.08	2.05	*	0.04	0.08	0.47		0.04	0.07	0.65	
Age	0.00	0.00	0.41		-0.01	0.00	-2.62	**	0.00	0.00	-0.72		-0.01	0.00	-4.64	***	0.00	0.00	-1.21	
Gender (1 = female)	-0.01	0.10	-0.14		0.07	0.12	0.59		-0.23	0.10	-2.40	*	-0.03	0.10	-0.31		0.09	0.10	0.94	
Swiss region (ref. French-speaking)																				
German-speaking	-0.13	0.14	-0.94		-0.37	0.14	-2.66	**	0.02	0.14	0.15		0.21	0.11	1.93		0.14	0.13	1.12	
Italian-speaking	-0.20	0.20	-1.00		-0.28	0.22	-1.23		-0.18	0.17	-1.04		0.14	0.13	1.05		-0.13	0.18	-0.73	
Urbanity of residence place	-0.08	0.04	-2.23	*	-0.14	0.04	-3.25	**	-0.10	0.04	-2.69	**	0.01	0.03	0.21		0.03	0.03	0.90	
Education (ref. secondary education)																				
Post-secondary education	0.14	0.11	1.27		0.02	0.12	0.20		0.00	0.10	-0.01		0.02	0.09	0.18		0.11	0.11	1.02	
Compulsory school	-0.04	0.16	-0.26		0.36	0.21	1.76		0.09	0.16	0.55		-0.12	0.15	-0.82		0.00	0.16	0.00	
Proximity to science	-0.03	0.05	-0.53		-0.08	0.06	-1.37		-0.06	0.05	-1.20		-0.04	0.05	-0.80		0.07	0.05	1.59	
Scientific literacy	-0.02	0.02	-1.26		-0.03	0.02	-1.58		-0.02	0.02	-1.32		-0.03	0.02	-2.04	*	0.01	0.02	0.49	
Religiosity	0.05	0.04	1.14		-0.13	0.05	-2.36	*	0.03	0.04	0.71		0.00	0.04	-0.11		-0.04	0.05	-0.88	
Political orientation (7 = right)	-0.02	0.04	-0.46		-0.03	0.05	-0.50		-0.06	0.04	-1.38		0.02	0.05	0.35		0.00	0.04	0.02	
Interest in science	0.10	0.05	1.88		0.07	0.07	0.98		0.18	0.06	3.18	**	0.13	0.04	3.01	**	0.23	0.07	3.32	***
Trust in science	0.13	0.10	1.37		0.17	0.11	1.55		0.20	0.08	2.35	*	0.06	0.08	0.68		0.02	0.09	0.19	
Trust in scientists	-0.10	0.08	-1.18		0.03	0.10	0.26		-0.13	0.08	-1.63		0.03	0.07	0.45		-0.07	0.09	-0.87	
Attention media coverage of science	0.15	0.06	2.57	*	0.23	0.08	2.95	**	0.15	0.06	2.37	*	0.12	0.05	2.49	*	0.31	0.07	4.55	***
Satisfaction media coverage of science	0.02	0.07	0.27		0.04	0.08	0.59		-0.04	0.07	-0.59		0.00	0.06	0.04		0.16	0.07	2.33	*

Note: Unstandardized regression coefficients reported. \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ . Analysis employed survey weights using the R package survey v4.0 (Lumley, 2020).

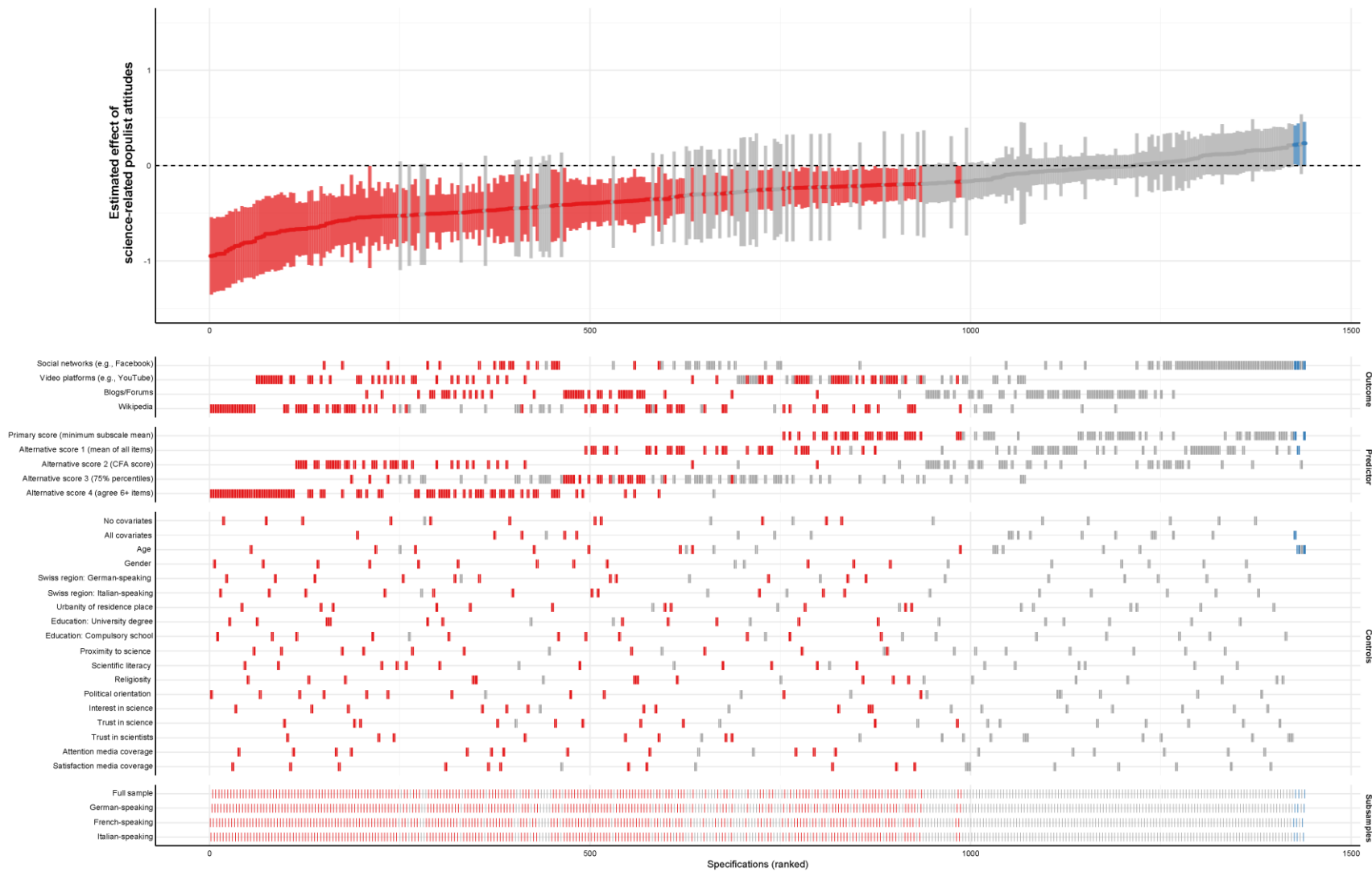
## Supplemental figures



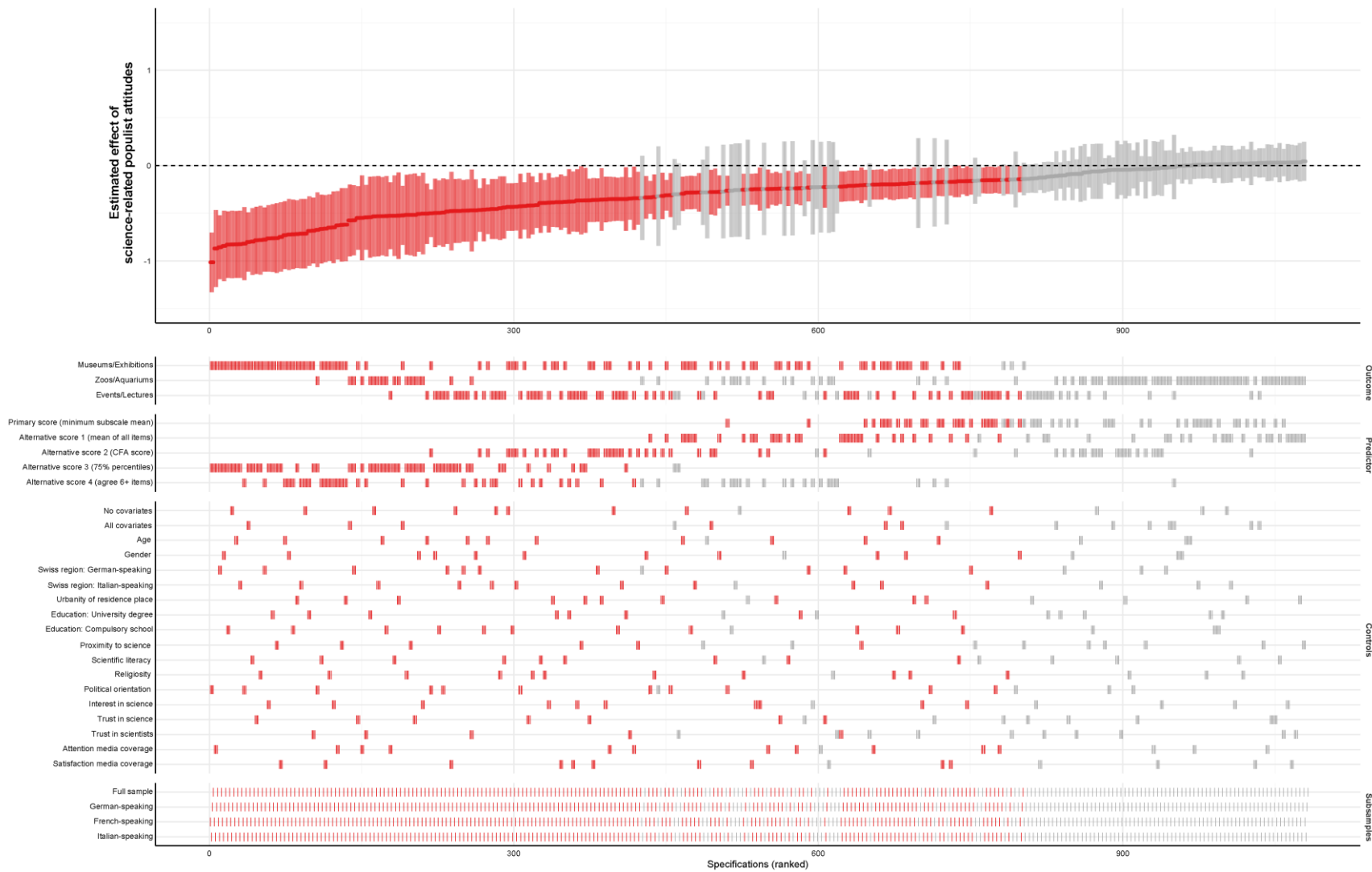
Supplemental figure S1. *Plot of specification curve for multiverse analysis testing the sensitivity of H1-H4 results.*



Supplemental figure S2. *Plot of specification curve for multiverse analysis testing the sensitivity of RQ1 results.*

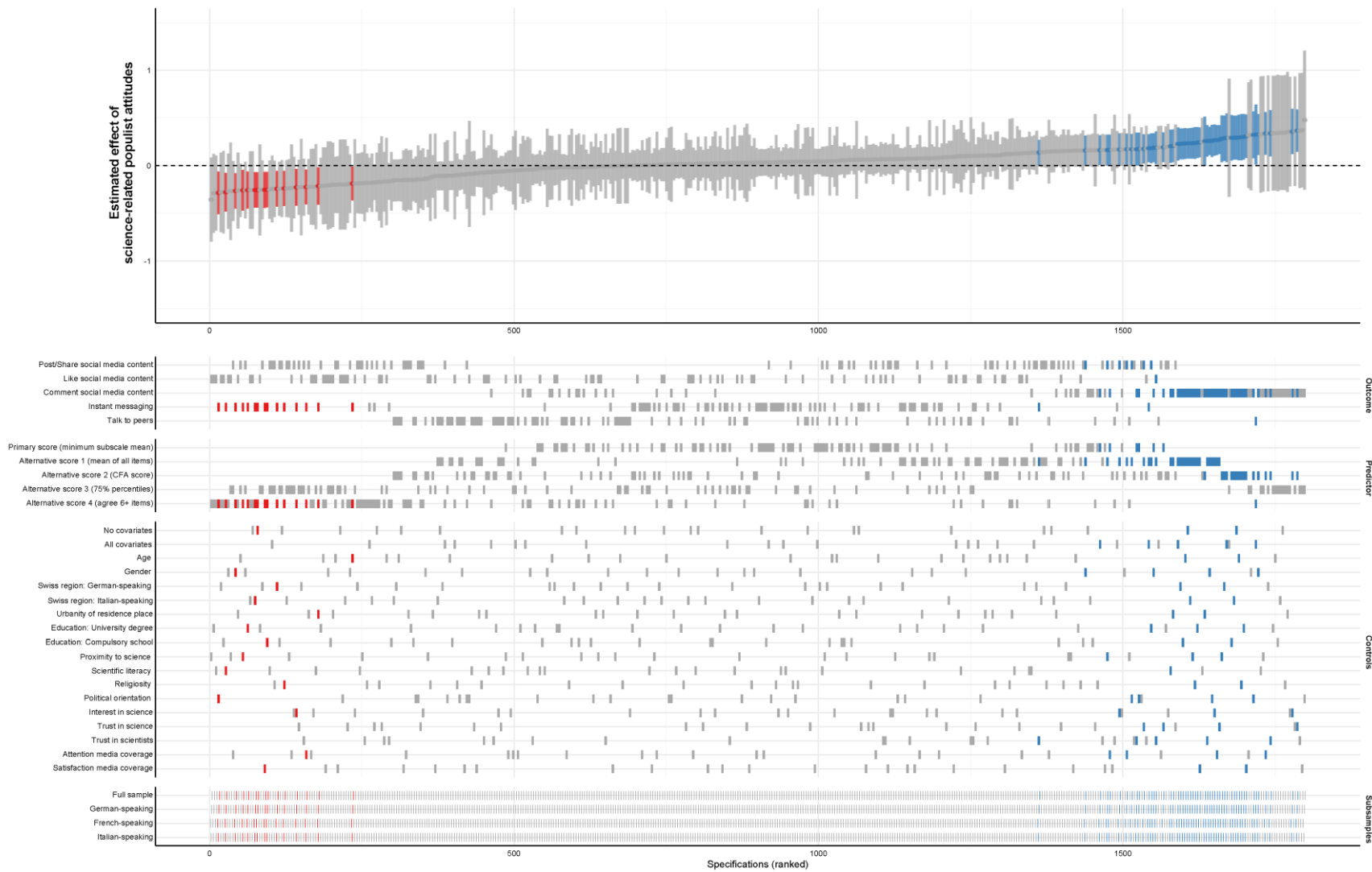


Supplemental figure S3. *Plot of specification curve for multiverse analysis testing the sensitivity of RQ2 results.*



Supplemental figure S4. *Plot of specification curve for multiverse analysis testing the sensitivity of RQ3 results.*





Supplemental figure S5. *Plot of specification curve for multiverse analysis testing the sensitivity of RQ4 results.*

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