Public perceptions of trustworthiness and authenticity towards scientists in controversial scientific fields

Appendix 2: Tables

Table 1. Descriptive statistics and zero-order correlations of relevant variables ($N = 1007$)

		M	SD	Min./ Max. Scale	1	2	3	4	5	6	7	8	9	10	11	12	13
1.	Age	47.00	18.66	18-83	--												
2.	Sex	.51	--	--	-.04	--											
3.	Education	.51	--	--	.04	.01	--										
4.	Perceived trustworthiness overall	5.18	1.29	1-7	.09**	-.02	.14***	--									
5.	Perceived trustworthiness – expertise	5.37	1.36	1-7	.09**	-.03	.15***	.94***	--								
6.	Perceived trustworthiness – integrity	5.06	1.36	1-7	.09**	-.03	.12***	.95***	.83***	--							
7.	Perceived trustworthiness – benevolence	5.11	1.36	1-7	.09**	-.01	.11***	.95***	.82***	.87***	--						
8.	Perceived authenticity overall	4.57	.88	1-7	.17***	-.01	.09**	.65***	.59***	.64***	.61***	--					
9.	Perceived authenticity – connection	4.89	1.07	1-7	.11***	.02	.08*	.68***	.63***	.66***	.64***	.80***	--				
10.	Perceived authenticity – integrity	4.18	1.20	1-7	.15***	-.04	.07*	.31***	.27***	.33**	.30***	.76***	.21***	--			
11.	Science-related media consumption	2.44	1.26	1-8	-.31***	-.15***	.11***	.03	.00	.05	.05	-.07*	.05	-.17***	--		
12.	Science-related media consumption – old-world	2.58	1.28	1-8	-.16***	-.15***	.13***	.05	.02	.07*	.07*	-.02	.08*	-.12***	.93***	--	
13.	Science-related media consumption – new-world	2.30	1.40	1-8	-.41***	-.13***	.08*	.01	-.02	.02	.02	-.11***	.01	-.19***	.94***	.76***	--

Note. *** p < .001. ** p < .01. * p < .05. $N = 1007$. Sex (1=female, 0=male). Education (1=German degree for higher education, 0=no German degree for higher education).

Table 2. Means (M), standard deviation (SD), and one-way analyses of variance regarding perceived trustworthiness and its subscales (expertise, integrity, benevolence) and perceived authenticity and its subscales (connection, integrity) across five experimental conditions (virology, climate science, astrophysics, science of history, science in general), controlling for age, gender, and education.

Measure	Controversial fields				Less controversial fields						F-Test	η^2
	Virology		Climate Science		Astrophysics		Science of History		Science in General			
	M	SD	M	SD	M	SD	M	SD	M	SD		
Perceived trustworthiness overall	5.18	1.46	5.10	1.38	5.16	1.36	5.13	1.11	5.33	1.08	$F(4, 1002)$ =.98	.00
Perceived trustworthiness – expertise	5.37	1.52	5.23	1.44	5.35	1.49	5.20	1.09	5.67	1.16	$F(4, 1002)$ =.4.01 **	.02
Perceived trustworthiness – integrity	5.00	1.53	4.89	1.47	5.12	1.39	5.10	1.23	5.19	1.15	$F(4, 1002)$ =.1.30	.01
Perceived trustworthiness – benevolence	5.17	1.53	5.18	1.42	4.99	1.44	5.09	1.21	5.12	1.18	$F(4, 1002)$ =..75	.00
Perceived authenticity overall	4.54	1.07	4.46	.95	4.67	.82	4.57	.75	4.60	.88	$F(4, 1002)$ =.1.38	.01
Perceived authenticity – connection	4.91	1.19	4.75	1.14	4.88	1.13	4.91	.97	5.01	.89	$F(4, 1002)$ =.1.40	.01
Perceived authenticity – integrity	4.10	1.40	4.12	1.22	4.43	1.14	4.16	1.07	4.10	1.09	$F(4, 1002)$ =.2.83 *	.01

Note. N = 1007. *** $p < .001$. ** $p < .01$. * $p < .05$

Table 3. Means (M), standard deviation (SD), and one-way analyses of variance regarding perceived trustworthiness and its subscales (expertise, integrity, benevolence) and perceived authenticity and its subscales (connection, integrity) across collapsed experimental conditions (controversial fields, less controversial fields, science in general), controlling for age, gender, and education.

Measure	Controversial fields		Less controversial fields		Science in General		F-Test	η^2
	M	SD	M	SD	M	SD		
Perceived trustworthiness overall	5.14	1.42	5.14	1.24	5.33	1.08	$F(2, 1004)$ = 1.77	.00
Perceived trustworthiness – expertise	5.30	1.48	5.28	1.31	5.67	1.16	$F(2, 1004)$ = 6.79 ***	.01
Perceived trustworthiness – integrity	4.95	1.40	5.11	1.31	5.19	1.15	$F(2, 1004)$ = 2.31	.01
Perceived trustworthiness – benevolence	5.18	1.47	5.04	1.33	5.12	1.18	$F(2, 1004)$ = 1.28	.00
Perceived authenticity overall	4.50	1.01	4.62	.79	4.60	.88	$F(2, 1004)$ = 1.53	.00
Perceived authenticity – connection	4.83	1.17	4.89	1.05	5.01	.89	$F(2, 1004)$ = 1.80	.00
Perceived authenticity – integrity	4.11	1.31	4.30	1.11	4.10	1.09	$F(2, 1004)$ = 2.71	.01

Note. N = 1007. *** $p < .001$. ** $p < .01$. * $p < .05$

Table 4. OLS regressions predicting perceived trustworthiness and its subscales (expertise, integrity, benevolence) and perceived authenticity and its subscales (connection, integrity) by science-related media consumption as well as science-related media consumption related to old-world and new-world media, controlling for age, gender, and education.

| | Dependent variables | | | | | | | | | | | | | | | | | | | | |
| | Perceived trustworthiness overall | | | Perceived trustworthiness – expertise | | | Perceived trustworthiness – integrity | | | Perceived trustworthiness – benevolence | | | Perceived authenticity overall | | | Perceived authenticity – connection | | | Perceived authenticity – integrity | | |
	b	SE	ß	b	SE	ß	b	SE	ß	b	SE	ß	b	SE	ß	b	SE	ß	b	SE	ß
Constant	4.63	.17		4.97	.18		4.47	.18		4.45	.18		4.22	.12		4.26	.14		4.17	.16	
Age	.01	.00	.09**	.01	.00	.07*	.01	.00	.09**	.01	.00	.10**	.01	.00	.15***	.01	.00	.13***	.01	.00	.11***
Sex (1=female)	-.03	.08	-.01	-.07	.09	-.02	-.05	.09	-.02	.02	.09	.01	-.02	.06	-.01	.08	.07	.04	-.13	.08	-.05
Education (1=higher)	.33	.08	.13***	.39	.09	.14***	.31	.09	.12***	.27	.09	.10**	.16	.06	.09**	.13	.07	.06*	.20	.07	.08**
Science-related media consumption	.05	.03	.04	.00	.04	.00	.06	.04	.06	.07	.04	.07*	-.02	.02	-.04	.07	.03	.09**	-.14	.03	-.15***
Adjusted R^2	.02			.02			.02			.02			.03			.02			.05		
Constant	4.63	.16		4.95	.17		4.46	.17		4.47	.17		4.14	.11		4.26	.13		4.00	.15	
Age	.01	.00	.08**	.01	.00	.07*	.01	.00	.08**	.01	.00	.09**	.01	.00	.16***	.01	.00	.12***	.01	.00	.14***
Sex (1=female)	-.03	.08	-.01	-.06	.09	-.02	-.04	.08	-.02	.02	.09	.01	-.01	.06	-.00	.08	.07	.04	-.11	.08	-.05
Education (1=higher)	.32	.08	.13***	.39	.09	.14***	.31	.08	.11***	.27	.09	.10**	.16	.06	.09**	.13	.07	.06	-.19	.08	.08*
Science-related media consumption – old-world	.05	.03	.05	.00	.03	.00	.07	.03	.07*	.08	.03	.07*	-.00	.02	-.00	.08	.03	.10**	-.10	.03	-.11***
Adjusted R^2	.02			.02			.02			.02			.03			.02			.04		
Constant	4.67	.18		4.98	.18		4.54	.19		4.49	.19		4.29	.12		4.33	.15		4.23	.16	
Age	.01	.00	.09**	.01	.00	.07	.01	.00	.09*	.01	.00	.10**	.01	.00	.14***	.01	.00	.13***	.01	.00	.08*

Public perceptions of trustworthiness and authenticity towards scientists in controversial scientific fields

Sex (1=female)	-.04	.08	-.01	-.07	.09	-.03	-.06	.09	-.02	.01	.09	.01	-.02	.06	-.01	.07	.07	.03	-.13	.08	-.05
Education (1=higher)	.33	.08	.13 ***	.39	.09	.15	.32	.09	.12 ***	.28	.09	.10 ***	.16	.06	.09 **	.14	.07	.07 *	.19	.07	.08 *
Science-related media consumption – new-world	.03	.03	.03	-.01	.03	-.01	.04	.03	.04	.05	.03	.06	-.04	.02	-.06	.05	.03	.06	-.15	.03	-.17 ***
Adjusted R^2	.02			.02			.02			.02			.03			.02			.05		

Note. N = 1007. Unstandardized and standardized coefficients. *** p < .001. ** p < .01. * p < .05. Sex (1=female, 0=male). Education (1=German degree for higher education, 0=no German degree for higher education).

Table 5. OLS regressions predicting perceived trustworthiness and its subscales (expertise, integrity, benevolence) and perceived authenticity and its subscales (connection, integrity) by science-related media consumption as well as science-related media consumption related to old-world and new-world media within the experimental condition on science in general, controlling for age, gender, and education.

	Dependent variables																				
	Perceived trustworthiness overall			Perceived trustworthiness – expertise			Perceived trustworthiness – integrity			Perceived trustworthiness – benevolence			Perceived authenticity overall			Perceived authenticity – connection			Perceived authenticity – integrity		
	b	*SE*	*ß*	*b*	*SE*	*ß*	*b*	*SE*	*ß*	*b*	*SE*	*ß*	*b*	*SE*	*ß*	*b*	*SE*	*ß*	*b*	*SE*	*ß*
Constant	4.62	.34		5.40	.37		4.50	.37		3.96	.37		4.14	.23		4.14	.28		4.15	.34	
Age	.01	.00	.11	.00	.01	.04	.01	.01	.11	.01	.01	.16*	.01	.00	.21**	.01	.00	.18*	.01	.00	.14*
Sex (1=female)	-.06	.15	-.03	-.09	.17	-.04	-.11	.16	-.05	.02	.16	.01	.09	.10	.06	.17	.13	.09	-.01	.15	-.00
Education (1=higher)	.20	.15	.09	.35	.16	.15*	.12	.16	.05	.14	.16	.06	.16	.10	.11	.19	.12	.11	.13	.15	.06
Science-related media consumption	.13	.07	.15	.00	.07	.00	.14	.07	.15*	.24	.07	.25***	-.04	.05	-.07	.11	.05	.15*	-.22	.07	-.25***
Adjusted *R²*	.02			.01			.02			.05			.05			.03			.09		
Constant	4.67	.32		5.37	.35		4.57	.34		4.06	.35		4.04	.22		4.14	.26		3.91	.32	
Age	.01	.00	.09	.00	.01	.04	.01	.01	.09	.01	.01	.13	.01	.00	.23***	.01	.00	.16*	.01	.00	.19**
Sex (1=female)	-.06	.15	-.03	-.08	.16	-.04	-.11	.16	-.05	.02	.16	.01	.10	.10	.07	.17	.12	.10	.02	.15	.01
Education (1=higher)	.20	.15	.09	.35	.16	.15*	.12	.16	.05	.14	.16	.06	.16	.10	.11	.19	.12	.11	.12	.15	.05
Science-related media consumption – old-world	.12	.06	.15*	.01	.07	.02	.13	.07	.15*	.23	.07	.25***	-.01	.04	-.02	.12	.05	.17*	-.17	.06	-.20**
Adjusted *R²*	.02			.01			.02			.05	.		.05			.04			.07		
Constant	4.70	.35		5.44	.37		4.56	.37		4.09	.37		4.23	.23		4.25	.29		4.19	.34	
Age	.01	.01	.12	.00	.01	.04	.01	.01	.12	.01	.01	.17*	.01	.00	.19*	.01	.00	.17*	.01	.01	.11

Public perceptions of trustworthiness and authenticity towards scientists in controversial scientific fields

Sex (1=female)	-.08	.15	-.04	-.09	.16	-.04	-.13	.16	-.06	-.01	.16	-.00	.08	.10	.05	.15	.13	.08	-.00	.15	-.00
Education (1=higher)	.21	.15	.10	.35	.16	.15*	.13	.16	.06	.15	.16	.06	.17	.10	.11	.20	.12	.11	.13	.15	.06
Science-related media consumption – new-world	.10	.06	.12	-.01	.07	-.01	.12	.07	.14	.19	.07	.21**	-.06	.04	-.11	.07	.05	.11	-.22	.06	-.27***
Adjusted R^2	.01			.01			.01			.03			.06			.02			.09		

Note. n = 209. Unstandardized and standardized coefficients. *** p < .001. ** p < .01. * p < .05. Sex (1=female, 0=male). Education (1=German degree for higher education, 0=no German degree for higher education).

Public perceptions of trustworthiness and authenticity towards scientists in controversial scientific fields

Table 6. OLS regressions predicting perceived trustworthiness and its subscales (expertise, integrity, benevolence) and perceived authenticity and its subscales (connection, integrity) by science-related media consumption as well as science-related media consumption related to old-world and new-world media within the experimental conditions on controversial scientific fields, controlling for age, gender, and education.

	Perceived trustworthiness overall			Perceived trustworthiness – expertise			Perceived trustworthiness – integrity			Perceived trustworthiness – benevolence			Perceived authenticity overall			Perceived authenticity – connection			Perceived authenticity – integrity		
	b	SE	ß	b	SE	ß	b	SE	ß	b	SE	ß	b	SE	ß	b	SE	ß	b	SE	ß
Constant	4.52	.29		4.67	.30		4.33	.31		4.56	.30		4.15	.21		4.27	.24		3.99	.27	
Age	.01	.00	.10	.01	.00	.11*	.01	.00	.09	.01	.00	.08	.01	.00	.10	.01	.00	.08	.01	.00	.08
Sex (1=female)	.01	.14	.00	-.00	.15	-.00	.01	.15	.00	.02	.15	.01	-.03	.10	-.02	.07	.12	.03	-.16	.13	-.06
Education (1=higher)	.44	.14	.15**	.45	.15	.15**	.40	.15	.14**	.45	.15	.15**	.11	.10	.06	.09	.12	.04	.15	.13	.06
Science-related media consumption	.03	.06	.03	.02	.06	.02	.04	.06	.03	.04	.06	.04	.03	.04	.04	.10	.05	.11*	-.05	.06	-.05
Adjusted R^2	.02			.03			.02			.02			.00			.01			.01		
Constant	4.46	.27		4.61	.28		4.25	.29		4.50	.28		4.08	.19		4.26	.22		3.87	.25	
Age	.01	.00	.09	.01	.00	.11*	.01	.00	.09	.01	.00	.08	.01	.00	.10	.00	.00	.07	.01	.00	.09
Sex (1=female)	.02	.14	.01	.00	.15	.00	.02	.15	.01	.03	.15	.01	-.02	.10	-.01	.08	.12	.03	-.15	.13	-.06
Education (1=higher)	.43	.14	.15**	.44	.15	.15**	.39	.15	.13**	.44	.15	.15**	.10	.10	.05	.08	.12	.03	.14	.13	.05
Science-related media consumption – old-world	.06	.06	.05	.04	.06	.03	.07	.06	.06	.06	.06	.05	.06	.04	.07	.12	.05	.13*	-.02	.05	-.02
Adjusted R^2	.03			.03			.02			.02			.01			.01			.01		
Constant	4.62	.29		4.74	.31		4.46	.31		4.66	.31		4.25	.21		4.37	.24		4.10	.27	
Age	.01	.00	.09	.01	.00	.10	.01	.00	.08	.01	.00	.07	.01	.00	.09	.01	.00	.08	.00	.00	.06

Public perceptions of trustworthiness and authenticity towards scientists in controversial scientific fields

Sex (1=female)	-.00	.14	-.00	-.01	.15	-.00	-.01	.15	-.00	.01	.15	.00	-.04	.10	-.02	.06	.12	.02	-.16	.13	.06
Education (1=higher)	.45	.14	.16***	.46	.15	.16**	.42	.15	.14**	.46	.15	.16**	.12	.10	.06	.10	.12	.04	.15	.13	.06
Science-related media consumption – new-world	.00	.06	.00	-.01	.06	-.00	.00	.06	.00	.01	.06	.01	.00	.04	.00	.06	.05	.08	-.07	.05	-.08
Adjusted R^2	.02			.03			.02			.02			.00			.00			.01		

Note. n = 411. Unstandardized and standardized coefficients. *** $p < .001$. ** $p < .01$. * $p < .05$. Sex (1=female, 0=male). Education (1=German degree for higher education, 0=no German degree for higher education).

Table 7. OLS regressions predicting perceived trustworthiness and its subscales (expertise, integrity, benevolence) and perceived authenticity and its subscales (connection, integrity) by science-related media consumption as well as science-related media consumption related to old-world and new-world media within the experimental conditions on less controversial fields.

	Dependent variables																				
	Perceived trustworthiness overall			Perceived trustworthiness – expertise			Perceived trustworthiness – integrity			Perceived trustworthiness – benevolence			Perceived authenticity overall			Perceived authenticity – connection			Perceived authenticity – integrity		
	b	SE	ß	b	SE	ß	b	SE	ß	b	SE	ß	b	SE	ß	b	SE	ß	b	SE	ß
Constant	4.75	.27		5.08	.29		4.64	.29		4.53	.29		4.36	.17		4.31	.23		4.42	.23	
Age	.01	.00	.07	.00	.00	.03	.01	.00	.07	.01	.00	.10	.01	.00	.19***	.01	.00	.15**	.01	.00	.12*
Sex (1=female)	-.05	.13	-.02	-.12	.13	-.05	-.04	.13	-.02	.03	.14	.01	-.05	.08	-.03	.05	.11	.03	-.16	.11	-.07
Education (1=higher)	.29	.13	.12*	.37	.13	.14**	.32	.14	.12*	.18	.14	.07	.20	.08	.13**	.15	.11	.07	.27	.11	.12*
Science-related media consumption	.02	.05	.02	-.02	.06	-.02	.04	.06	.04	.03	.06	.03	-.08	.03	-.12*	.03	.05	.04	-.20	.05	-.24***
Adjusted R^2	,01			.01			.01			.00			.07			.02			.09		
Constant	4.80	.25		5.12	.26		4.68	.26		4.61	.27		4.28	.15		4.33	.21		4.22	.22	
Age	.00	.00	.06	.00	.00	.03	.00	.00	.06	.01	.00	.09	.01	.00	.21***	.01	.00	.15**	.01	.00	.16***
Sex (1=female)	-.05	.13	-.02	-.13	.13	-.05	-.05	.13	-.02	.02	.14	.01	-.04	.08	-.02	.05	.11	.02	-.14	.11	-.06
Education (1=higher)	.30	.13	.12*	.38	.14	.15**	.32	.14	.12*	.18	.14	.07	.20	.08	.13*	.15	.11	.07	.27	.11	.12*
Science-related media consumption – old-world	.00	.05	.01	-.03	.05	-.03	.03	.05	.03	.02	.05	.02	-.06	.03	-.10	.03	.04	.04	-.17	.04	-.19***
Adjusted R^2	.01			.02			.01			.00			.07			.02			.08		
Constant	4.71	.27		5.00	.29		4.64	.29		4.48	.29		4.38	.17		4.32	.23		4.44	.23	
Age	.01	.00	.08	.00	.00	.04	.01	.00	.07	.01	.00	.11	.01	.00	.17**	.01	.00	.15**	.01	.00	.09

Public perceptions of trustworthiness and authenticity towards scientists in controversial scientific fields

Sex (1=female)	-.04	.13	-.02	-.11	.13	-.04	-.04	.13	-.02	.03	.14	.01	-.05	.08	-.03	.05	.11	.02	-.16	.11	-.07
Education (1=higher)	.29	.13	.12*	.36	.13	.14**	.32	.13	.12*	.18	.14	.07	.20	.08	.13*	.16	.11	.07	.25	.11	.11*
Science-related media consumption – new-world	.03	.05	.03	.00	.05	.00	.04	.05	.04	.04	.05	.05	-.07	.03	-.13*	.03	.04	.04	-.19*	.04	-.25***
Adjusted R^2	.01			.01			.01			.01			.07			.02			.09		

Note. n = 387. Unstandardized and standardized coefficients. *** $p < .001$. ** $p < .01$. * $p < .05$. Sex (1=female, 0=male). Education (1=German degree for higher education, 0=no German degree for higher education).