Title: Analytical rationale, pre-registration, and additional analysis appendix for "Alternative science against the corrupt elites? The effects of pseudoscience and censorship accusations in health misinformation"
Authors: Ozan Kuru (1,2), Siyu Zhang (1)
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Note: The material contained herein is supplementary to the article named in the title and published in the Harvard Kennedy School (HKS) Misinformation Review.

Appendix C: Analytical rationale, pre-registration, and additional analysis

Part 1: Analytical rationale

The unrelated Control condition

We had an unrelated, equivalent condition (N = 106) with a reading task on the rules of baseball that included some numerical details (to balance against conditions that varied in numerical content). We did not have a true statistics/accurate information control condition given 1) the ecological validity concerning the whole experiment (censorship accusations do not make sense), 2) this is not a misinformation intervention study (where it is more relevant to have accurate control conditions to check for spillover cynicism effects), 3) outcome was not about misinformation discernment (e.g., between fake and real news headlines etc.). The current study examines the specific features (tactics used) in misinformation messages, and the unrelated control condition provides a comparative benchmark for all outcome variables, especially risk perceptions and behavioral intentions (Guay et al., 2023).

Our design implemented an unrelated control condition to provide a neutral baseline free from health-related priming effects, ensuring that any observed differences reflect exposure to health misinformation itself. Our full-factorial eight experimental conditions provided different versions of health misinformation messages; hence, results are compared both among similar content that varies only in manipulation factors and among more dissimilar content (with respect to the unrelated control condition). As we compare whether and how distinct experimental conditions differ from this unrelated baseline, we can make inferences about the manipulations. This is one advantage of unrelated controls. We note that unrelated controls are also widely used in prior experimental studies on misinformation, including tobacco- and e-cigarette-related studies (see Albarracin et al., 2018; Wright et al., 2021). More broadly, this approach is not uncommon in misinformation research: a systematic review of 64 RCTs (randomized controlled trials) found that 15 (23%) studies used unrelated messages as the control condition (Schmid et al., 2023).

However, an unrelated control also has disadvantages in some circumstances, and the interpretation of effects needs to be communicated carefully. During the design, we carefully weighed the pros and cons of this decision. We struggled to find equivalent health misinformation that would be equidistant from both of the theoretical manipulations (pseudoscience and censorship accusation). In particular, the presence or absence of pseudoscience manipulation makes an unrelated control necessary; using a related health misinformation control condition instead would have introduced the characteristics of the "pseudoscience absent" condition as well, rendering the robust isolation of this effect implausible. In future research in this area, this challenge could be partially addressed by including multiple (at least two) related control conditions, which we ruled out in this work due to design symmetry, sample size, statistical power, and budget constraints. While it is not necessarily a limitation, it is a point that should be carefully communicated in interpreting and contextualizing the effects.

Analytical considerations

For credibility outcomes, we collapsed across vaccine and GMO topics because credibility reflects a general assessment of message believability rather than topic-specific attitudes. The misinformation stimuli were structurally parallel across topics, differing only in substantive issue content, which allowed us to isolate the general effects of pseudoscientific features and censorship accusations on perceived credibility. Pooling across topics also increases statistical precision for detecting these general message effects. At the same time, we acknowledge that vaccine and GMO misinformation may operate somewhat differently across contexts; therefore, issue-specific credibility results are also presented separately in the main text. However, risk perception and behavioral intention were analyzed separately by topic because vaccine and GMO attitudes represent distinct behavioral contexts with different underlying beliefs. For the moderation analyses involving pre-existing individual differences, we estimated three-way interactions using OLS and excluded the control condition because participants in the control group were not exposed to any misinformation; therefore, the moderation mechanisms (how individual differences condition responses to misinformation features) are not applicable or comparable to the experimental conditions.

Part 2: Pre-registration analysis

While our study includes several pre-registered moderators, we prioritized two variables in the main paper: subjective numeracy and science populism. Each of these moderators is theoretically the most proximal and relevant construct, subjective numeracy as the individual difference indexing susceptibility to pseudoscience content, and scientific populism is the individual difference indexing susceptibility to censorship accusations. We also pre-registered two moderators: trust in science and need for cognition (NFC); see Table C1 for descriptive analysis. Trust in science and NFC are reported here.

Trust in science was measured using four items adapted from Nadelson et al. (2014) and O'Brien et al. (2021), rated on a 7-point scale ranging from 1 (Not at all true) to 7 (Extremely true):

- Scientific theories are trustworthy
- Scientific methods are reliable
- Scientific findings and knowledge acquired from science are credible
- Science is a trustworthy way to understand the world we live in

NFC was measured using six items from Cacioppo and Petty (1982), rated on a 7-point scale ranging from 1 (Not at all true) to 7 (Extremely true):

- I would prefer complex to simple problems
- I like to have the responsibility of handling a situation that requires a lot of thinking
- Thinking is NOT my idea of fun (reverse-coded)
- I would rather do something that requires LITTLE thought than something that is sure to challenge my thinking abilities (reverse-coded)
- I really enjoy a task that involves coming up with new solutions to problems
- I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought

In Tables C2 and C3, we present the results for these pre-registered moderators. Trust in science did not significantly moderate the effects of pseudoscientific content. NFC did not significantly moderate the effects of pseudoscientific content, but it moderated the effects of censorship accusations on GMO risk perceptions and GMO consumption intentions. No corresponding NFC × censorship interactions were

observed for credibility or vaccine-related outcomes. Future research could incorporate additional indicators of processing depth to better understand the cognitive mechanisms underlying responses to pseudoscientific content.

Our survey also included a non-pre-registered moderator: objective numeracy. Although this moderator was not pre-registered, we included it to better understand the differences between objective and subjective numeracy (which was pre-registered) in processing misinformation containing statistical information. Regarding the objective numeracy scale (5 items), the initial internal consistency (Cronbach's alpha) was 0.56. We conducted a sensitivity analysis to determine if deleting items could meaningfully improve reliability. Removing one item (d.num3r) only marginally increased the standardized alpha to 0.57. We also tested all possible 3-item combinations (deleting two items), but the highest alpha achieved was only 0.53. It is important to note that a relatively lower alpha is understandable for an objective performance measure like this one. Unlike subjective scales that measure attitudes or feelings through similar questions to tap underlying psychological constructs, objective performance tests consisting of specific math problems do not fully imply consistent performance across all items.

Table C1. *Descriptive results for two moderators.*

Variable	Mean	*SD*	Min	Median	Max	Cronbach Alpha
Trust in science	0.51	0.23	0	0.5	1	0.94
NFC	0.47	0.2	0	0.47	1	0.79

Table C2. *Moderation results for trust in science.*

(Predictors)	M1: Credibility	M2: Vax risk	M3: Vax intention	M4: GMO risk	M5: GMO intention
(Intercept)	*b* = 0.20, *SE* = 0.03 *p* < .001	*b* = 0.43, *SE* = 0.06 *p* < .001	*b* = 0.27, *SE* = 0.06 *p* < .001	*b* = 0.46, *SE* = 0.05 *p* < .001	*b* = 0.43, *SE* = 0.05 *p* < .001
Manip1 (Pseudoscience)	*b* = 0.06, *SE* = 0.04 *p* = .144	*b* = 0.05, *SE* = 0.07 *p* = .530	*b* = -0.15, *SE* = 0.08 *p* = .059	*b* = 0.01, *SE* = 0.07 *p* = .940	*b* = 0.05, *SE* = 0.08 *p* = .497
Trust Science	*b* = 0.28, *SE* = 0.05 *p* < .001	*b* = 0.09, *SE* = 0.10 *p* = .339	*b* = 0.22, *SE* = 0.10 *p* = .034	*b* = 0.10, *SE* = 0.08 *p* = .235	*b* = 0.09, *SE* = 0.09 *p* = .321
Manip2 (Censor)	*b* = -0.04, *SE* = 0.02 *p* = .035	*b* = -0.04, *SE* = 0.03 *p* = .184	*b* = 0.05, *SE* = 0.03 *p* = .134	*b* = -0.02, *SE* = 0.03 *p* = .465	*b* = 0.03, *SE* = 0.03 *p* = .434
Manip3 (GMO)	*b* = 0.03, *SE* = 0.02 *p* = .091	—	—	—	—
Interaction (Trust* Pseudoscience)	*b* = 0.04, *SE* = 0.07 *p* = .593	*b* = -0.04, *SE* = 0.13 *p* = .748	*b* = 0.27, *SE* = 0.14 *p* = .063	*b* = 0.07, *SE* = 0.12 *p* = .539	*b* = -0.24, *SE* = 0.14 *p* = .076
Model fit					
R2	0.107	0.009	0.073	0.02	0.021
F-statistic	18.78	0.93	7.66	1.98	2.12
Model *p*-value	<.001	0.449	<.001	0.097	0.078

Table C3. *Moderation results for NFC.*

(Predictors)	M1: Credibility	M2: Vax risk	M3: Vax intention	M4: GMO risk	M5: GMO intention
Panel A: NFC × Pseudoscientific Content					
(Intercept)	*b* = 0.23 (0.03) *p* < .001	*b* = 0.47 (0.06) *p* < .001	*b* = 0.31 (0.06) *p* < .001	*b* = 0.49 (0.05) *p* < .001	*b* = 0.44 (0.06) *p* < .001
Manip1 (Pseudoscience)	*b* = 0.04 (0.04) *p* = .377	*b* = -0.08 (0.07) *p* = .261	*b* = -0.08 (0.08) *p* = .318	*b* = 0.03 (0.07) *p* = .732	*b* = -0.06 (0.08) *p* = .481
NFC	*b* = 0.24 (0.06) *p* < .001	*b* = 0.03 (0.11) *p* = .765	*b* = 0.17 (0.12) *p* = .170	*b* = 0.05 (0.10) *p* = .637	*b* = 0.07 (0.11) *p* = .497
Manip2 (Censor)	*b* = -0.04 (0.02) *p* = .012	*b* = -0.04 (0.03) *p* = .138	*b* = 0.03 (0.03) *p* = .345	*b* = -0.02 (0.03) *p* = .451	*b* = 0.03 (0.03) *p* = .388
Manip3 (GMO)	*b* = 0.03 (0.02) *p* = .123	—	—	—	—
Interaction (NFC* Pseudoscience)	*b* = 0.09 (0.09) *p* = .286	*b* = 0.24 (0.15) *p* = .108	*b* = 0.14 (0.16) *p* = .392	*b* = 0.04 (0.14) *p* = .795	*b* = -0.02 (0.16) *p* = .902
R2	0.086	0.025	0.028	0.009	0.015
F-statistic	14.76	2.47	2.78	0.87	1.47
Model *p*-value	<.001	0.044	0.026	0.483	0.212
Panel B: NFC × Censorship Accusation					
(Predictors)	**M1: Credibility**	**M2: Vax risk**	**M3: Vax intention**	**M4: GMO risk**	**M5: GMO intention**
(Intercept)	*b* = 0.23 (0.03) *p* < .001	*b* = 0.37 (0.05) *p* < .001	*b* = 0.26 (0.06) *p* < .001	*b* = 0.62 (0.06) *p* < .001	*b* = 0.33 (0.06) *p* < .001
Manip2 (Censor)	*b* = -0.09 (0.04) *p* = .040	*b* = 0.04 (0.08) *p* = .600	*b* = 0.05 (0.08) *p* = .533	*b* = -0.28 (0.07) *p* < .001	*b* = 0.26 (0.08) *p* = .002
NFC	*b* = 0.24 (0.06) *p* < .001	*b* = 0.24 (0.10) *p* = .015	*b* = 0.26 (0.11) *p* = .016	*b* = -0.22 (0.10) *p* = .033	*b* = 0.31 (0.11) *p* = .006
Manip1 (Pseudoscience)	*b* = 0.08 (0.02) *p* < .001	*b* = 0.03 (0.03) *p* = .373	*b* = -0.02 (0.03) *p* = .578	*b* = 0.04 (0.03) *p* = .131	*b* = -0.07 (0.03) *p* = .035
Manip3 (GMO)	*b* = 0.03 (0.02) *p* = .110	—	—	—	—
	b = 0.10 (0.09)	—	—	—	—
		b = -0.18 (0.15)	*b* = -0.05 (0.17)	*b* = 0.54 (0.14)	*b* = -0.47 (0.16)

Interaction (NFC × Censorship)	$p = .245$	$p = .228$	$p = .767$	$p < .001$	$p = .003$
R2	0.086	0.022	0.026	0.044	0.037
F-statistic	14.81	2.18	2.62	4.51	3.74
Model *p*-value	<.001	.070	.035	.001	.005

Note: Panels A and B report separate two-way moderation models. Each model controls for the other experimental manipulation. Standard errors are in parentheses.

Table C4 summarizes and distinguishes departures from the pre-registration from presentational prioritization.

Table C4. *Deviations from and clarifications to the pre-registered analysis plan.*

Original bullet points in the pre-registration (pre-registered hypothesis or design/analysis item, before data collection)	**Eventual implementation and deviation notes (after data collection)**
H1: Misinformation with statistics will be more persuasive.	No deviation. The manuscript uses the more precise term *pseudoscientific content* because the manipulation combined fabricated statistics, a statistical table, formal scientific language, and an unwarranted causal interpretation.
H2: Misinformation with censorship will be more persuasive.	No deviation.
H3: Presence of statistics and censorship combined will be more persuasive (interaction between the two manipulations).	No deviation.
H4: Effects of statistics will be moderated by trust in science, such that individuals higher in trust in science will be more susceptible to the effects of statistics in misinformation.	No deviation. The pre-registered two-way moderation analyses were reported in Appendix C, Part 2. The main text prioritizes subjective numeracy and scientific populism as the moderators most proximal to the manipulations.
H5: Effects of statistics will be moderated by perceived numeracy, such that individuals higher in perceived numeracy will be more susceptible to the effects of statistics in misinformation.	No deviation. The three-way interaction including censorship accusations was an exploratory extension.
H6: Effects of censorship claims will be moderated by scientific populism; the effects of censorship will be stronger among individuals higher in scientific populism.	No deviation. The three-way interaction including pseudoscientific content was an exploratory extension.
RQ: How does need for cognition influence processing of statistics and censorship claims?	No deviation. The pre-registered two-way moderation analyses were reported in Appendix C, Part 2. The main text prioritizes subjective numeracy and scientific populism as the moderators most proximal to the manipulations.

Original bullet points in the pre-registration (pre-registered hypothesis or design/analysis item, before data collection)	Eventual implementation and deviation notes (after data collection)
Key dependent variables: Perceived message credibility, vaccination- and GMO-related risk perceptions, and behavioral intentions.	No deviation.
Experimental conditions: One unrelated control and eight misinformation conditions crossing topic, statistics, and censorship claims.	No deviation.
Planned analyses: ANCOVA and OLS models testing main effects, interactions, and theoretical moderators.	Analysis clarification. Because the randomized experimental cells were balanced, unadjusted ANOVA and OLS models were emphasized as the primary analyses.
Exclusion criteria: Failure of either attention check, the accuracy pledge, or the speeding criterion.	No deviation.
Sample size: N = 900 good completes.	No deviation.
Objective numeracy.	Not pre-registered. Objective numeracy was added as an exploratory measure. Because the scale showed low internal consistency, its reliability assessment and the decision not to emphasize it are discussed in Appendix C, Part 2.

Note. The pre-registration is available at https://aspredicted.org/FJW_MCH.

Part 3: Additional analysis

To ensure the robustness of our findings, we conducted supplementary analyses of perceived risks associated with GMOs and vaccinations using three distinct analytical approaches. These two variables were selected for additional analysis because they were the dependent variables measured at both pre-test and post-test. For risk perceptions, we measured both post-test levels and post–pre-test difference scores ($M_{vaccine}$ = .06, SD_{vaccine} = .22, M_{GMO} = .10, SD_{GMO} = .29).

1. Model 1 (Main Manuscript Analysis): This model utilizes only post-test scores as the dependent variables (DVs) to examine main effects.
2. Model 2 (Difference Scores): This model employs ANOVA with post-test minus pre-test difference scores as the DVs. It should be noted that the pre-test used a single-item set to minimize participant fatigue and potential (pre)testing effects. However, recent research shows such pre-tests rarely induce bias (Sheagley & Clifford, 2025). Specifically:
    - GMO Risk Pre-test: How risky do you think the side effects of eating genetically modified foods are? (7-point Likert scale: 1 [Not at all risky] to 7 [Extremely risky]).
    - Vaccination Risk Pre-test: How risky do you think the side effects of COVID-19 vaccines are? (7-point Likert scale: 1 [Not at all risky] to 7 [Extremely risky]).
3. Model 3 (ANCOVA): To account for within-individual variance, we conducted an ANCOVA using pre-test scores as covariates and post-test scores as the DVs.

The results, summarized in Table C5, demonstrate that our findings are largely consistent across all three models. Regarding the main effects, consistent with our main analysis, we did not find any significant treatment effects on the perceived risk of vaccination (See Figure C1 for a difference-score visualization). Regarding moderation analyses, no significant interaction effects were found for the GMO issue. While the difference score and ANCOVA models revealed some additional patterns, we have opted to report the post-test-only model in the main manuscript. This decision was made because the pre-test measures captured only specific dimensions of risk perception, whereas the post-test measures provided a more comprehensive assessment.

Table C5. *Additional results for main effects and moderation.*

Section	DV	Post-test DV only	DIFF (difference scores)	ANCOVA
Main effects	Perceived risks of GMO	Control - Pseudo_NoCens: lower Control - Pseudo_Cens: lower	Control - NoPseudo_NoCens: lower Control - Pseudo_NoCens: lower Control - Pseudo_Cens: lower NoPseudo_Cens - Pseudo_NoCens: lower	Control - NoPseudo_NoCens: lower Control - Pseudo_NoCens: lower Control - Pseudo_Cens: lower NoPseudo_Cens - Pseudo_NoCens: lower
Moderation	Perceived risks of vaccine (subjective numeracy)	(Three-way interaction) Pseudo-Cens-Numeracy		

Note: Pseudo_NoCens = Pseudoscientific content without Censorship; Pseudo_Cens = Pseudoscientific content with Censorship; NoPseudo_Cens = No pseudoscientific content with Censorship; Control = Control Group. Blue text (e.g., Control - Pseudo_NoCens) indicates consistent results across all three analytical methods. Orange text indicates new patterns that emerged only in the difference score and ANCOVA methods. Red text indicates inconsistencies among Post DV, the difference score, and the ANCOVA methods. For all comparisons (e.g., A - B: lower), the first condition showed lower values than the second condition.

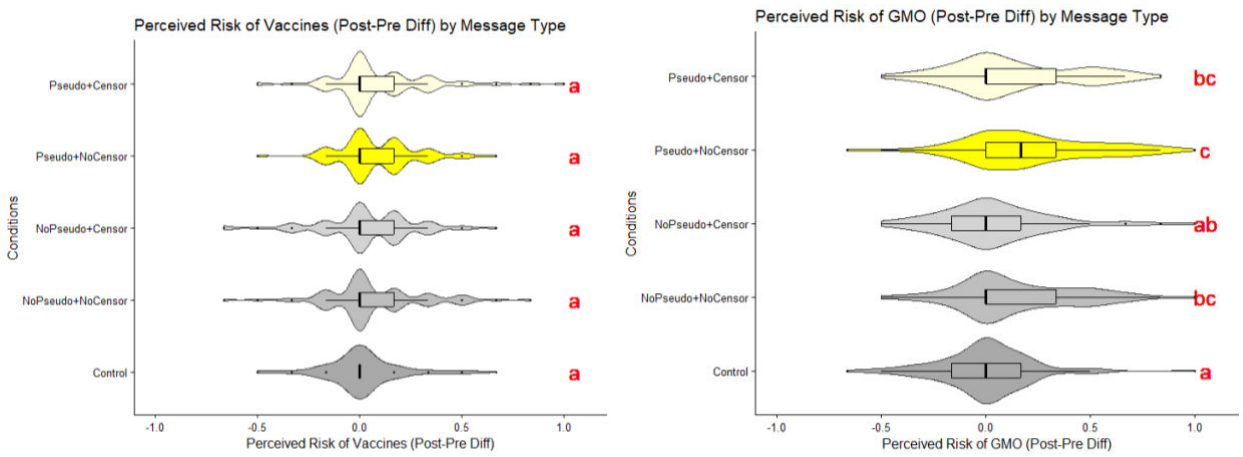

Figure C1. Perceived risk(diff). *Conditions sharing a common letter are not significantly different (*p *> .05), while those with distinct letters differ significantly (*p *< .05).*

Part 4: Collapsed analysis for the moderation effect (Control as the reference group)

We conducted supplementary moderation analyses using a collapsed five-level factor, with the control condition as the reference group. This approach allows us to assess how moderators interact with each experimental condition relative to the control condition, rather than estimating the moderation of the factorial design's main effects in isolation. Consistent with our primary analysis, we focus on subjective numeracy and science populism as moderators.

The results are presented in Table C6, which is largely consistent with our main manuscript. For vaccination risk, subjective numeracy significantly moderated the effect of pseudoscientific content without censorship accusation relative to control, b = 0.52, SE = 0.19, p = .007. For vaccination intention, science populism significantly moderated the effect of pseudoscientific content without censorship accusation relative to control, b = 0.72, SE = 0.26, p = .007. For the GMO intention, science populism significantly moderated the effects of no pseudoscientific content with a censorship accusation (b = −0.56, SE = 0.25, p = .027) and of pseudoscientific content without a censorship accusation b = −0.66, SE = 0.25, p = .009) relative to the control.

Table C6. *Moderation effects of subjective numeracy and science populism on experimental condition (vs. Control).*

DV	Moderator	Condition	*b*	*SE*	*t*	*p*	CI_low	CI_high	adj_R2
Credibility	Subjective numeracy	noPseudo × noCens	-0.006	0.131	-0.043	0.966	-0.262	0.251	0.058
		noPseudo × Cens	-0.005	0.132	-0.038	0.97	-0.263	0.253	
		Pseudo × noCens	0.202	0.132	1.527	0.127	-0.058	0.461	
		Pseudo × Cens	-0.048	0.132	-0.366	0.715	-0.309	0.212	
	Science populism	noPseudo × noCens	0.248	0.164	1.506	0.133	-0.075	0.571	0.153
		noPseudo × Cens	0.299	0.163	1.834	0.067	-0.021	0.619	

DV	Moderator	Condition	*b*	*SE*	*t*	*p*	CI_low	CI_high	adj_R2
		Pseudo × noCens	0.231	0.163	1.41	0.159	-0.09	0.551	
		Pseudo × Cens	0.276	0.171	1.609	0.108	-0.061	0.612	
Perceived risks of vaccine	Subjective numeracy	noPseudo × noCens	0.197	0.175	1.126	0.261	-0.147	0.542	0.018
		noPseudo × Cens	0.254	0.185	1.374	0.17	-0.109	0.618	
		Pseudo × noCens	0.524	0.193	2.723	0.007	0.146	0.903	
		Pseudo × Cens	-0.079	0.177	-0.447	0.655	-0.427	0.269	
	Science populism	noPseudo × noCens	0.108	0.22	0.489	0.625	-0.324	0.54	0.114
		noPseudo × Cens	-0.17	0.22	-0.774	0.439	-0.602	0.262	
		Pseudo × noCens	0.028	0.221	0.127	0.899	-0.406	0.462	
		Pseudo × Cens	0.235	0.253	0.929	0.353	-0.262	0.732	
Vax intention	Subjective numeracy	noPseudo × noCens	-0.045	0.198	-0.226	0.822	-0.434	0.344	0.028
		noPseudo × Cens	0.006	0.209	0.028	0.977	-0.405	0.417	
		Pseudo × noCens	0	0.218	0.001	0.999	-0.427	0.428	
		Pseudo × Cens	0.139	0.2	0.694	0.488	-0.254	0.532	
	Science populism	noPseudo × noCens	0.104	0.263	0.397	0.692	-0.413	0.622	0.015
		noPseudo × Cens	0.489	0.263	1.857	0.064	-0.028	1.007	
		Pseudo × noCens	0.719	0.264	2.722	0.007	0.2	1.238	
		Pseudo × Cens	0.125	0.303	0.412	0.68	-0.47	0.72	
Perceived risks of GMO	Subjective numeracy	noPseudo × noCens	0.129	0.184	0.7	0.485	-0.233	0.491	0.024
		noPseudo × Cens	0.07	0.179	0.392	0.695	-0.281	0.421	
		Pseudo × noCens	0.322	0.176	1.834	0.067	-0.023	0.667	
		Pseudo × Cens	0.038	0.19	0.202	0.84	-0.336	0.413	
	Science populism	noPseudo × noCens	-0.249	0.23	-1.08	0.281	-0.702	0.204	0.067

DV	Moderator	Condition	*b*	*SE*	*t*	*p*	CI_low	CI_high	adj_R2
		noPseudo × Cens	0.089	0.224	0.396	0.692	-0.351	0.529	
		Pseudo × noCens	-0.012	0.225	-0.052	0.958	-0.454	0.431	
		Pseudo × Cens	-0.151	0.234	-0.647	0.518	-0.611	0.308	
GMO intention	Subjective numeracy	noPseudo × noCens	0.062	0.206	0.303	0.762	-0.342	0.467	0.021
		noPseudo × Cens	0.073	0.199	0.366	0.714	-0.319	0.464	
		Pseudo × noCens	-0.195	0.196	-0.993	0.321	-0.58	0.19	
		Pseudo × Cens	-0.116	0.213	-0.547	0.585	-0.534	0.301	
	Science populism	noPseudo × noCens	0.023	0.259	0.09	0.929	-0.485	0.531	0.054
		noPseudo × Cens	-0.556	0.251	-2.213	0.027	-1.05	-0.062	
		Pseudo × noCens	-0.664	0.253	-2.626	0.009	-1.161	-0.167	
		Pseudo × Cens	-0.35	0.262	-1.332	0.183	-0.865	0.166	

Note: Each cell reports the interaction coefficient (b) between experimental condition and moderator from a separate OLS regression model, with Control as the reference group. noPseudo × noCens = no pseudoscientific content, no censorship accusation; noPseudo × Cens = no pseudoscientific content with censorship accusation; Pseudo × noCens = pseudoscientific content without censorship accusation; Pseudo × Cens = pseudoscientific content with censorship accusation. Credibility was modeled using the full sample (N = 900); Vax Risk and Vax Intention were modeled using vaccine-domain participants plus the control group (N = 503); GMO Risk and GMO Intention were modeled using GMO-domain participants plus the control group (N = 503). SE = standard error; CI = 95% confidence interval; adj. R^2 reported per model.

Part 5: Further discussion on potential psychological mechanisms and applied recommendations

In this study, our main focus was on identifying the effects of two important aspects of pseudoscience and censorship accusations in sophisticated health misinformation, with a focus on the "persecuted hero narrative." We also tested the theoretically relevant moderators (pre-existing individual differences) to understand the conditions and contextual effects of these messages. However, we did not investigate the underlying psychological/cognitive mechanisms behind these effects, which could be examined using mediators; this can be addressed in future research. Agreeing with the reviewer's points during the peer review process, we think that heuristic versus systematic processing is highly relevant for exploring cognitive mechanisms. We examined the need for cognition (NFC) as a potential moderator of responses to pseudoscientific content. NFC is a construct closely related to depth of processing. However, it is more of a general individual difference than a situational occurrence, unlike the systematic vs. heuristic routes in dual-processing models. We did not observe significant interaction effects for NFC with pseudoscientific content (see Appendix C, Part 2). At the same time, we did not directly measure other indicators of processing depth, such as counterarguing. Therefore, we are unable to make direct inferences/claims about the cognitive mechanisms underlying these message/media effects. Our moderators provide us with some insights, but they do not focus on individuals' elaboration likelihood when they encounter this type of misinformation. One plausible interpretation is that high subjective numeracy-related

overconfidence likely leads to heuristic/peripheral processing (reliance on cues and facilitation of snap judgments rather than careful attention), thereby producing these effects (greater susceptibility to pseudoscience). However, this is just one possibility, and we did not elaborate on this in the hypothesis/pre-registration, so we do not want to present it as the paper's central theoretical framing. These theoretical mechanisms should be investigated in future work in this line of research.