
Effective Strategies to Counter Science Denialism in Public

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Debates are...



...highly attractive

Benoit, McKinney, & Holbert, 2001; Patterson, 2002

...persuasive

An & Pfau, 2006; Jamieson and Birdsell, 1988; Lanoue and Schrott, 1989; Schrott, 1990

...naturally combative

Science deniers are...



...highly present in media

Davies, Chapman & Leask 2002, Scullard, Peacock & Davies 2010

...persuasive

Betsch et al. 2010; Jolley & Douglas 2014

...highly combative



Best practice guidance //

How to respond to vocal vaccine deniers in public



5 x 5 Matrix of Rebuttal

		topic rebuttal				
rebuttal strategies		Threat of disease	Safety	Alternatives	Trust	Effectiveness
technique rebuttal	Selectivity	<p>Science denier: Mr. Miller</p> <p>The lack of safety is an important issue of the dysomeria vaccine. The side effects and risks of the vaccine are incalculable. As a patient, you do not know how the body reacts to the vaccine before administration. Even if you feel healthy immediately after the shot, harmful substances may have entered your body. Doctors cannot guarantee in advance that there will not be any complications. In my opinion, you cannot expect any fellow citizen to vaccinate as long as the vaccine is not 100% safe. Surely it is not too much to ask that a product that is injected into a healthy human body is 100% safe.</p> <p>Science advocate: Mr. Smith</p> <p>Mr. Miller demands 100% safety from the vaccine against dysomeria. In science, this argument is called “impossible expectation”. It is an impossible expectation because science can never guarantee 100% safety for any medical product, neither for aspirin nor for heart surgery. Any treatment poses a residual risk of complications for patients either during or after treatment. The scientific evidence is clear; the vaccine against dysomeria is a safe way to avoid the disease. The risk of dysomeria by far exceeds the risk of vaccination. And please let me add the following regarding the safety of the vaccine: We follow a very strict protocol to ensure the high quality of vaccines in the United States. This is also demonstrated by the fact that every batch of the vaccine against dysomeria is constantly monitored and independently screened by official control laboratories</p>				
	Impossible expectation					
	Conspiracy theories					
	Misrepresentation /False Logic					
	Fake experts					



Goal of the studies: Empirical evaluation

nature
human behaviour

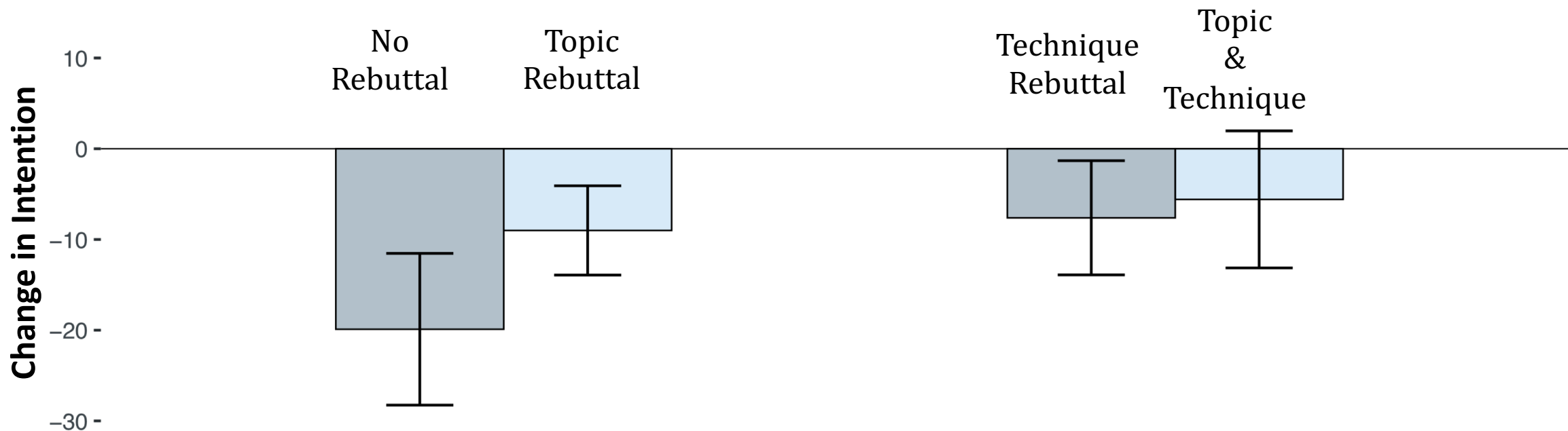
ARTICLES

<https://doi.org/10.1038/s41562-019-0632-4>

Effective strategies for rebutting science denialism in public discussions

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Results: Experiment 1 from 6



Result 1:

Deniers damage attitudes and intentions

Result 2:

Technique OR Topic rebuttal mitigates the damage

Result 3:

No evidence that complex messages are needed

Result 4:

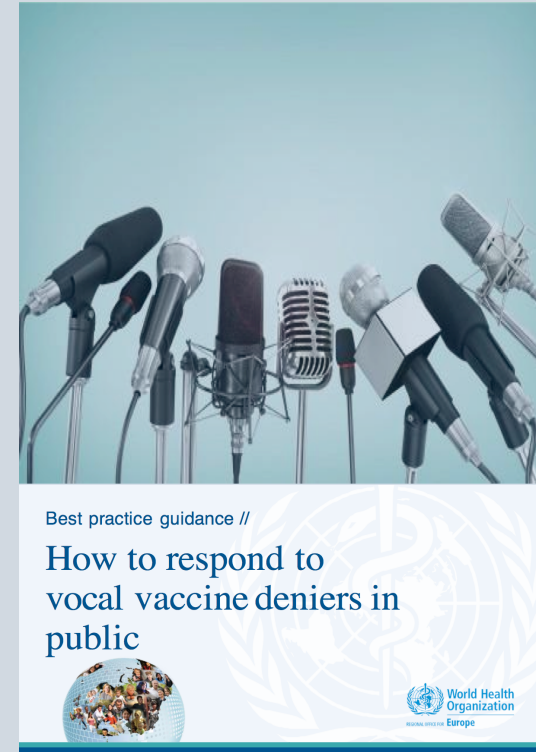
No evidence of backfire

Conclusion

- › Messages of science denialism cause damage.
- › Rebuttal approaches mitigate the damage.
- › Rebuttal is effective even in vulnerable groups.

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Thank you!
