Impacts of misinformation on the translation of science with the public

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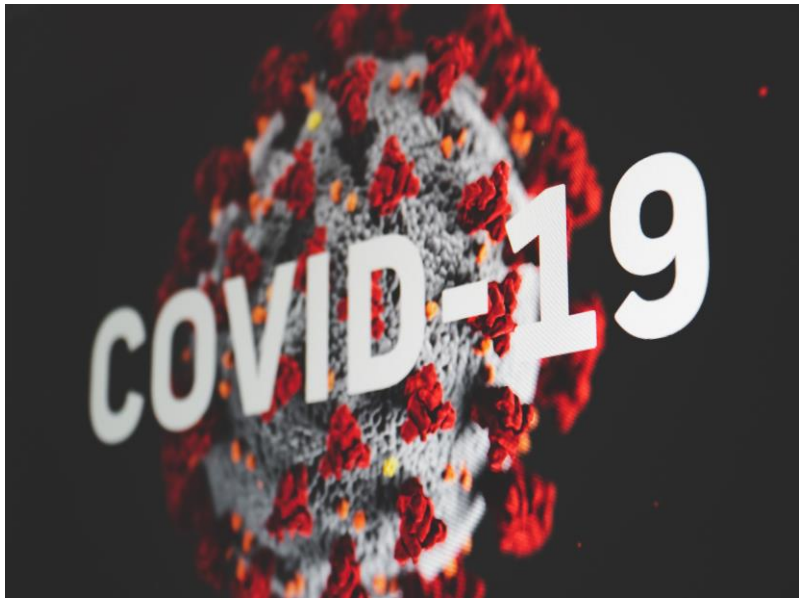
Acknowledgment of Country

I would like to start today with recognition of the Wulgurukaba and Bindal peoples, the traditional owners and custodians of the lands in which this research and presentation was prepared. I pay my respects to their Elders, past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples

Problem

Photo by Melissa Bradley on Unsplash



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Why do people fall for misinformation?

People are generally more susceptible to misinformation which:

- Contains cognitive elements (i.e. statistics)

Accuracy perceptions are generally being driven by:

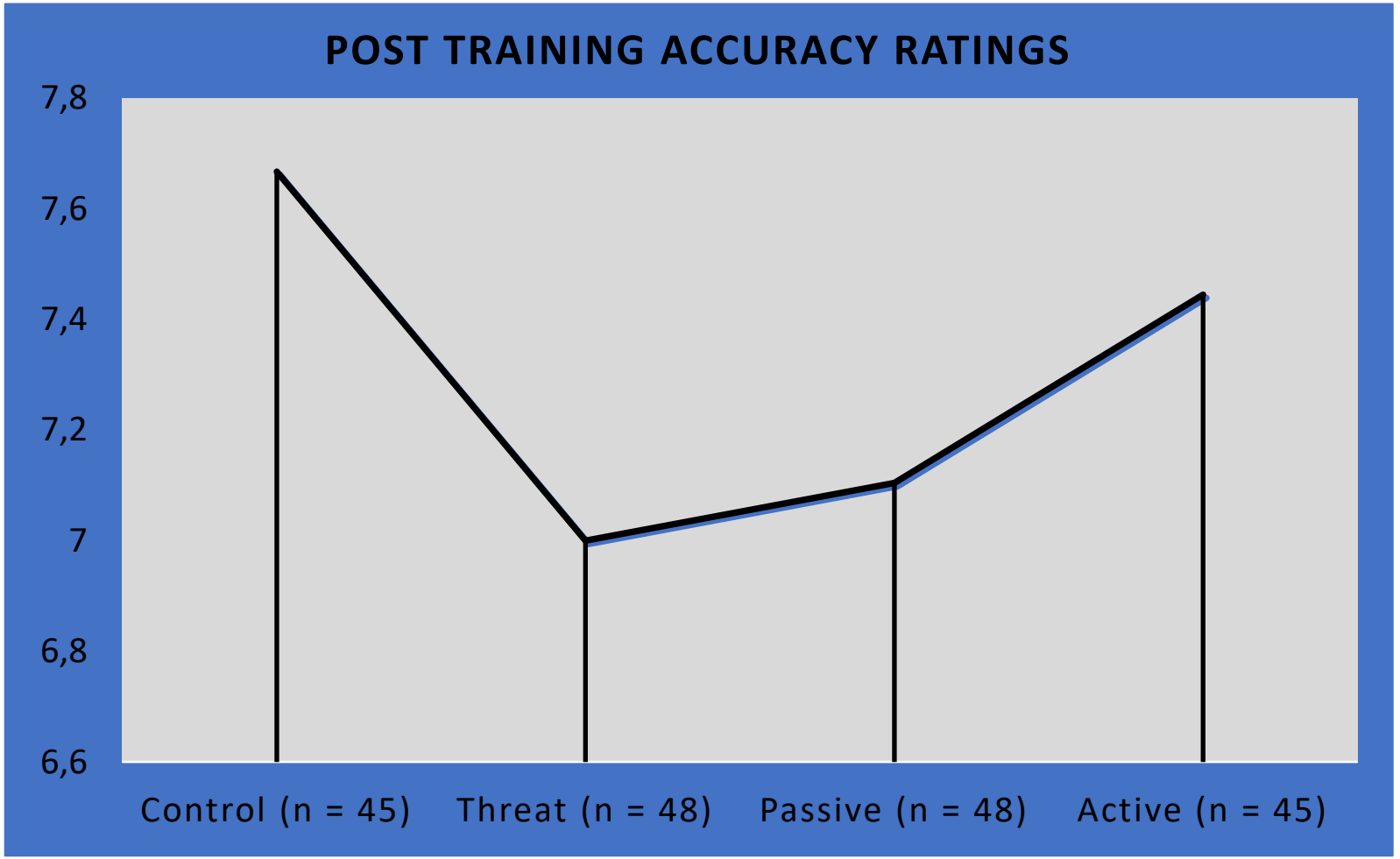
- Emotions
- Existing attitudes and beliefs

Inoculation Theory (McGuire, 1964)

- Basic format of an inoculation message
    1. Threat
    2. Correction

- Inoculation messages can be delivered in a variety of formats
    - Active versus Passive (van der Linden & Roozenbeek pioneering gamification)

Results



$F = 0.46$; $p = .710$; $\eta^2 = .008$

Study 3

Aim: Evaluate the effectiveness of an inoculation intervention which indirectly addresses misinformation about GMOs.

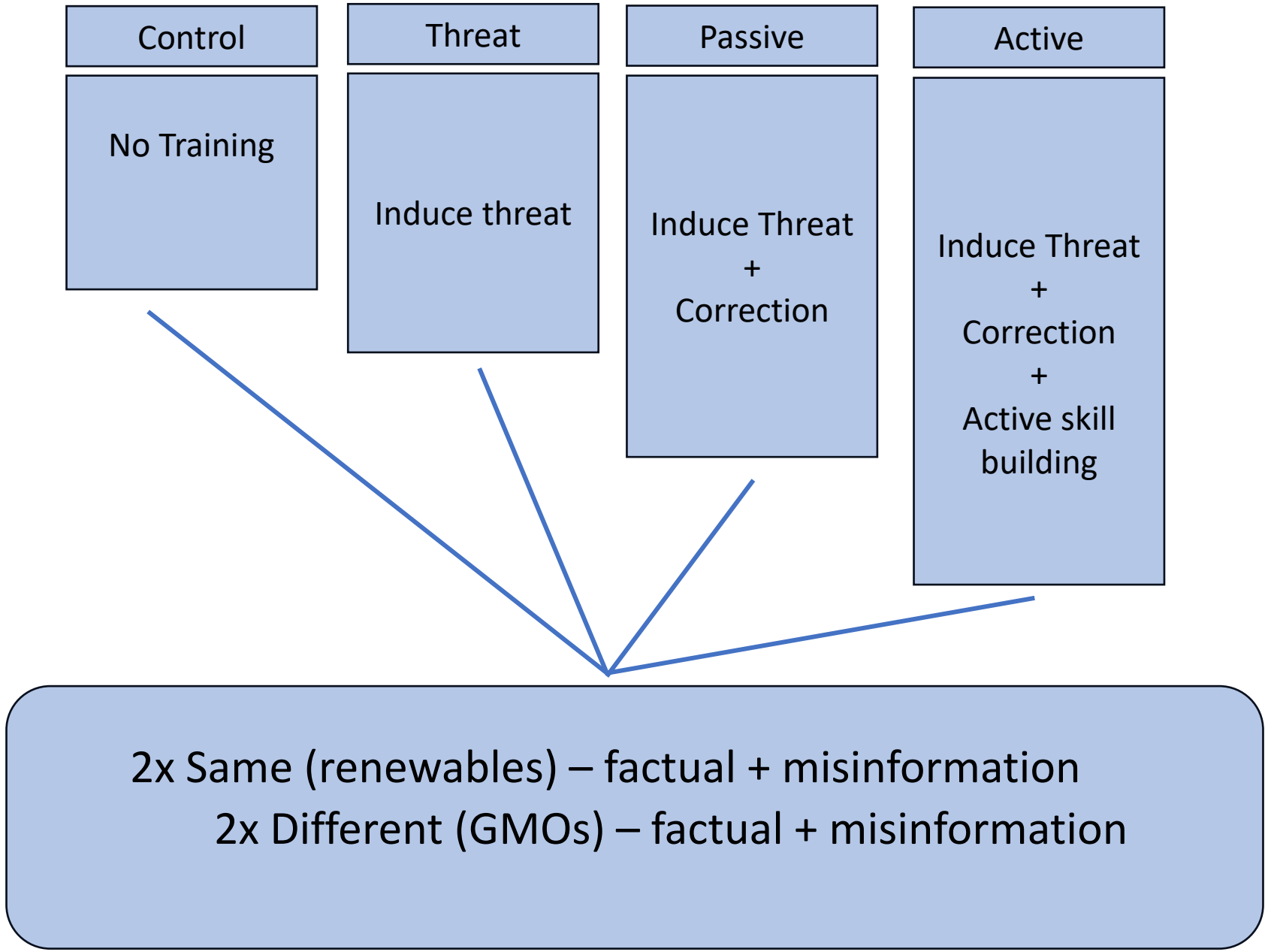
i.e. evaluated whether addressing misinformation about renewable energy provides individuals with the tools to identify misinformation about GMOs

Online experiment

Mixed Design

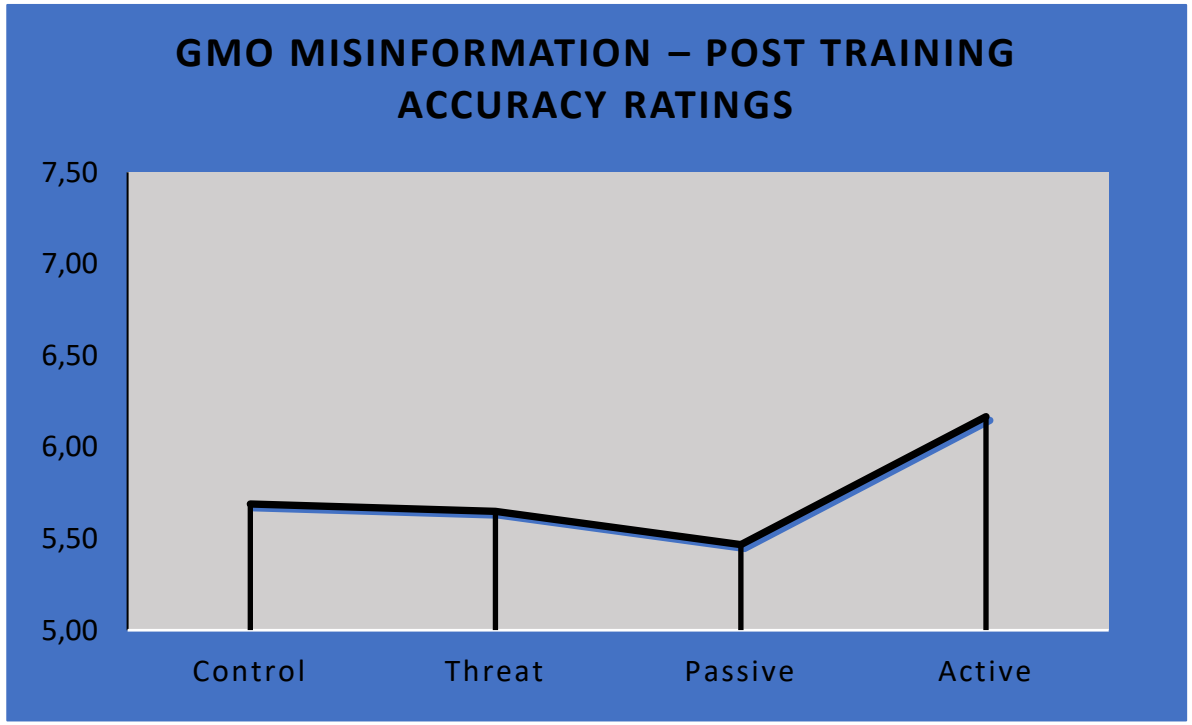
350 Participants

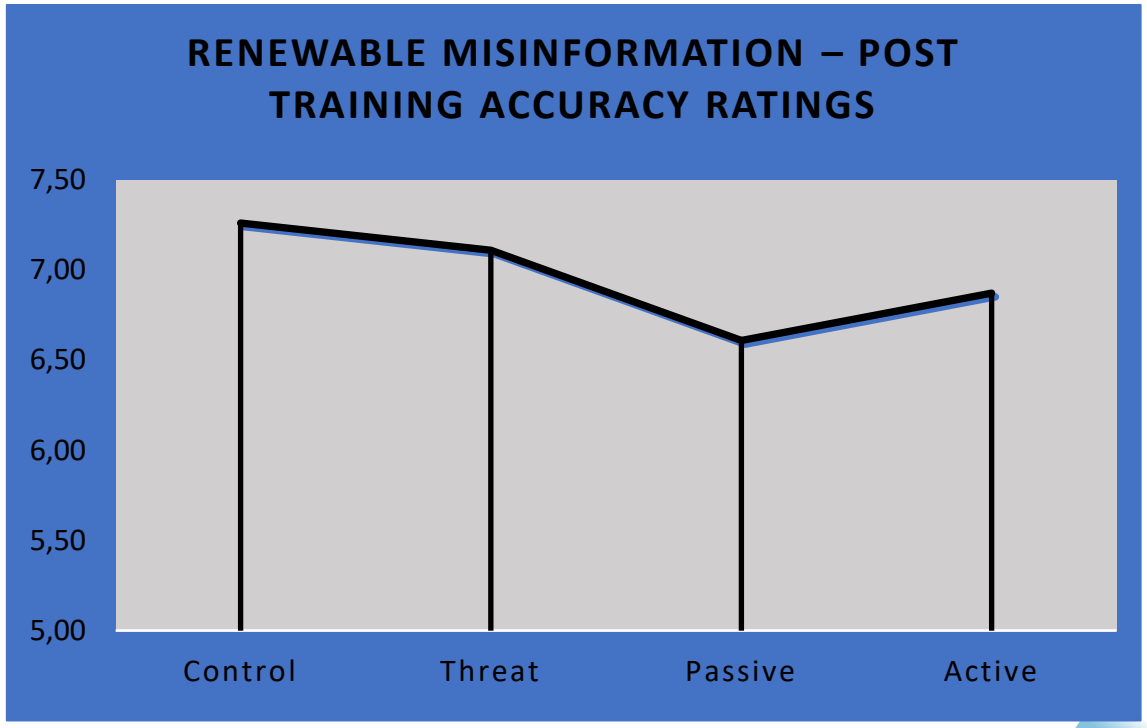
Australian sample


Control
Threat
Passive
Active
No Training
Induce threat
Induce Threat
+
Correction
Induce Threat
+
Correction
+
Active skill building
2x Same (renewables) – factual + misinformation
2x Different (GMOs) – factual + misinformation

Results – Effectiveness of Inoculation

Low scores = Not at all accurate, High scores = Very accurate; Range = 2-14



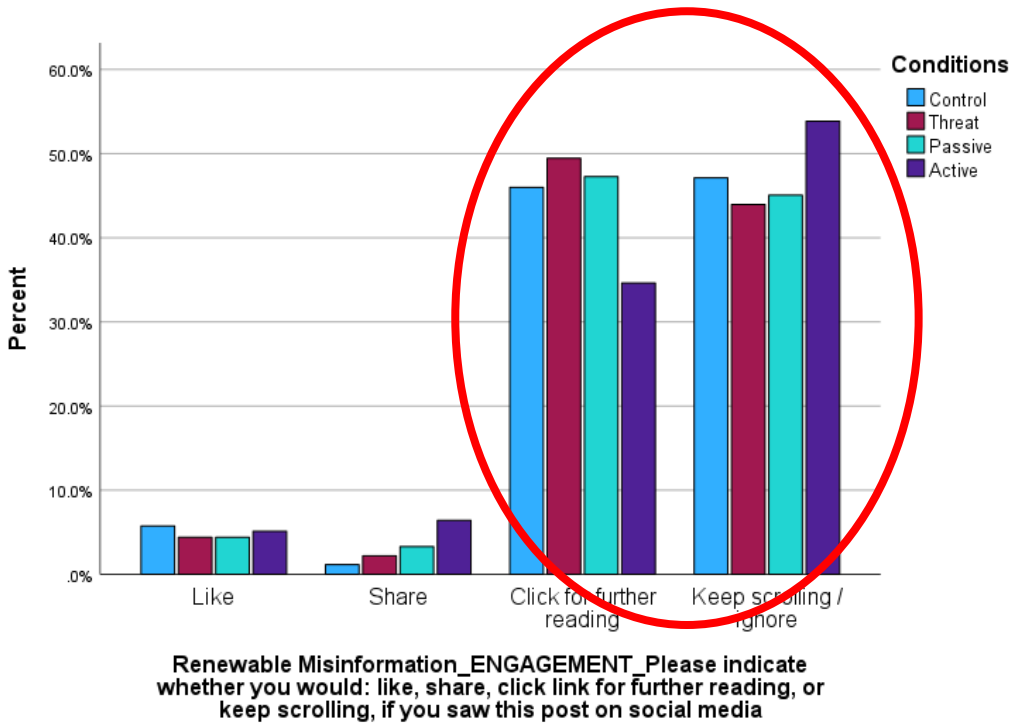


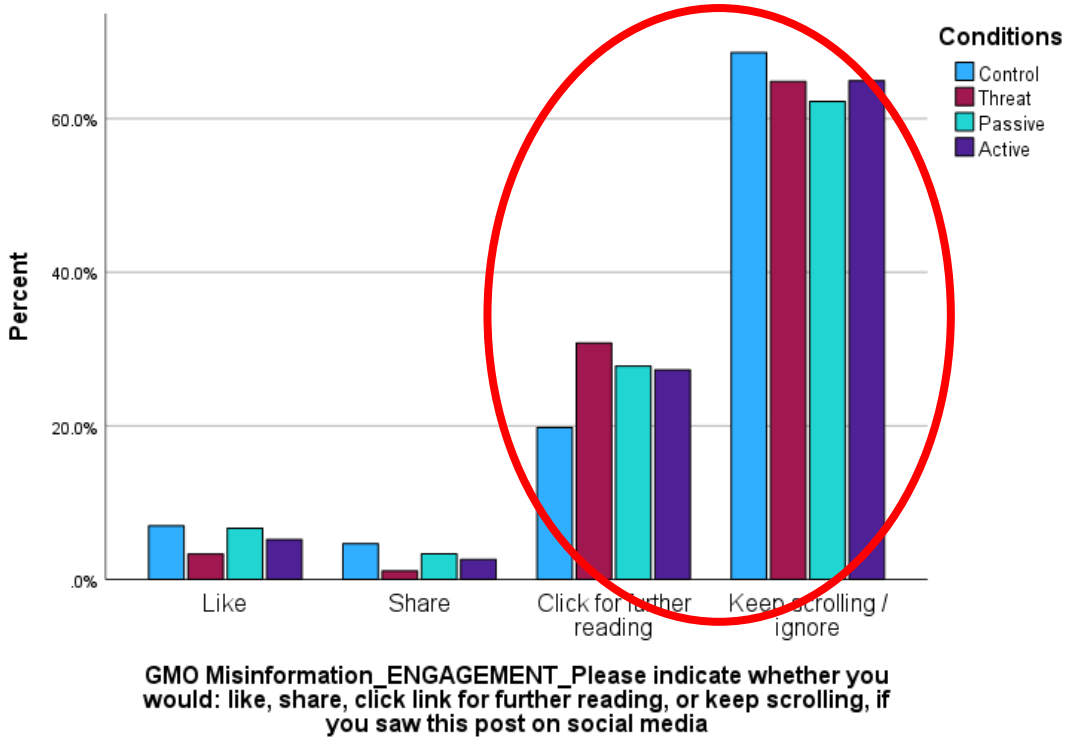
$F = 0.68$; $p = .556$; $\eta^2 = .006$

$F = 0.91$; $p = .436$; $\eta^2 = .008$

Cross protection supported. t (347) = -6.62, $p < .001$

Results – Effectiveness of Inoculation cont.





χ^2 (9, N = 347) = 7.60, p = .572

χ^2 (9, N = 344) = 5.83, p = .757

Take home message

- For very contentious topics whereby people have lots of negative attitudes and emotions, a direct inoculation approach may not be effective

- The effectiveness of an indirect approach warrants further investigation

Thank you!

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