# Promoting COVID-19 Booster Vaccines in Macao: A Psychological **Reactance Perspective**

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Cite this study:

Xiang, H., Li, Y., & Guo, Y. (2023). Promoting COVID-19 booster vaccines in Macao: A psychological reactance perspective. Social Science & Medicine, 332, 116128.

https://doi.org/10.1016/j.socscimed.2023.116128

# SOCIAL **SCIENCE**

#### Rational

The booster vaccine plays a key role in ending COVID-19 crisis. However, promoting COVID-19 booster vaccination often interferes with individuals' freedom of choice and leads to psychological reactance.

### **Objective**

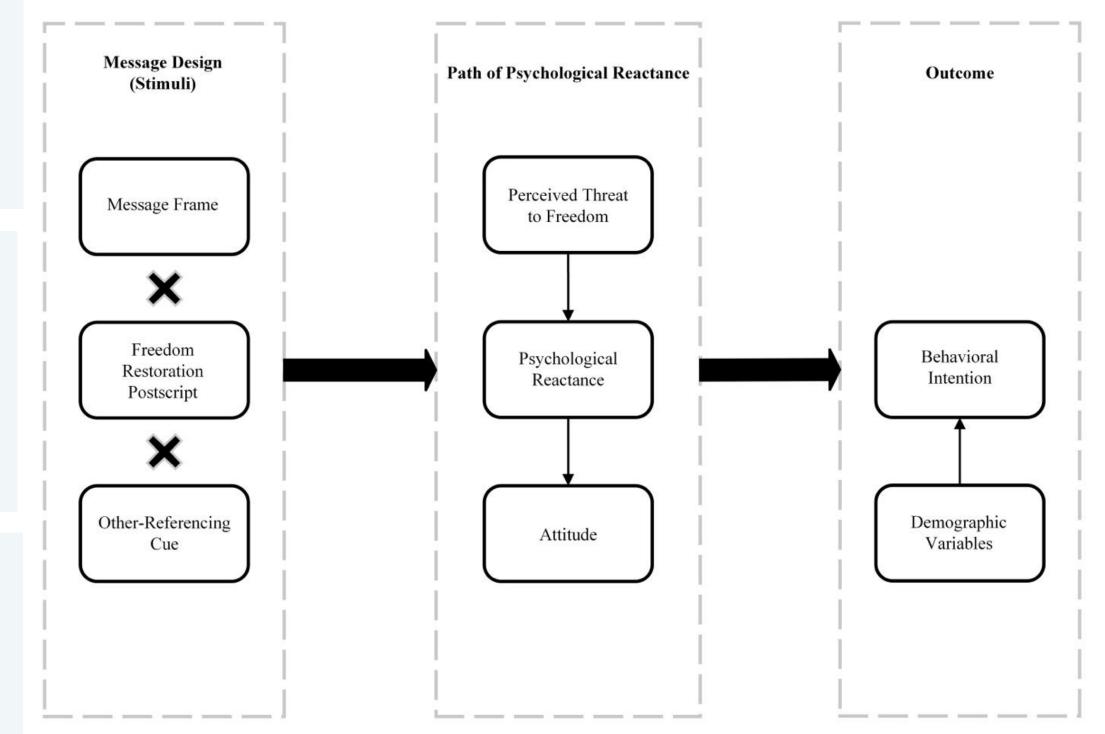
To promote the public's intention to receive COVID-19 booster dose, this study aimed to investigate the effectiveness of different message designs from psychological reactance theory's perspective.

#### Method

A 2  $\times$  2 factorial experiment was conducted in Macao in January 2022 (N = 469). Partial least squares structural equation modeling and a complementary three-way ANOVA were performed to examine the effects of message frame (gain frame vs. loss frame), freedom restoration postscripts (present vs. absent), and other-referencing cues (present vs. absent) on reducing psychological reactance.

#### Results

The present study has successfully broadened the scope of the psychological reactance theory by examining its applicability to the context of COVID-19 booster vaccination promotion. Our findings indicate that the gain-framed promotion messages tend to be the most effective in reducing perceived reactance. However, freedom restoration postscripts, other-referencing cues, and mixed message design were found to be ineffective in alleviating reactance. Besides, the insignificance of direct effect from message frame to intention suggests that the message design itself cannot influence people's vaccination intentions; rather, it must rely on reducing perceived threat, reactance, and further improving vaccination intentions.

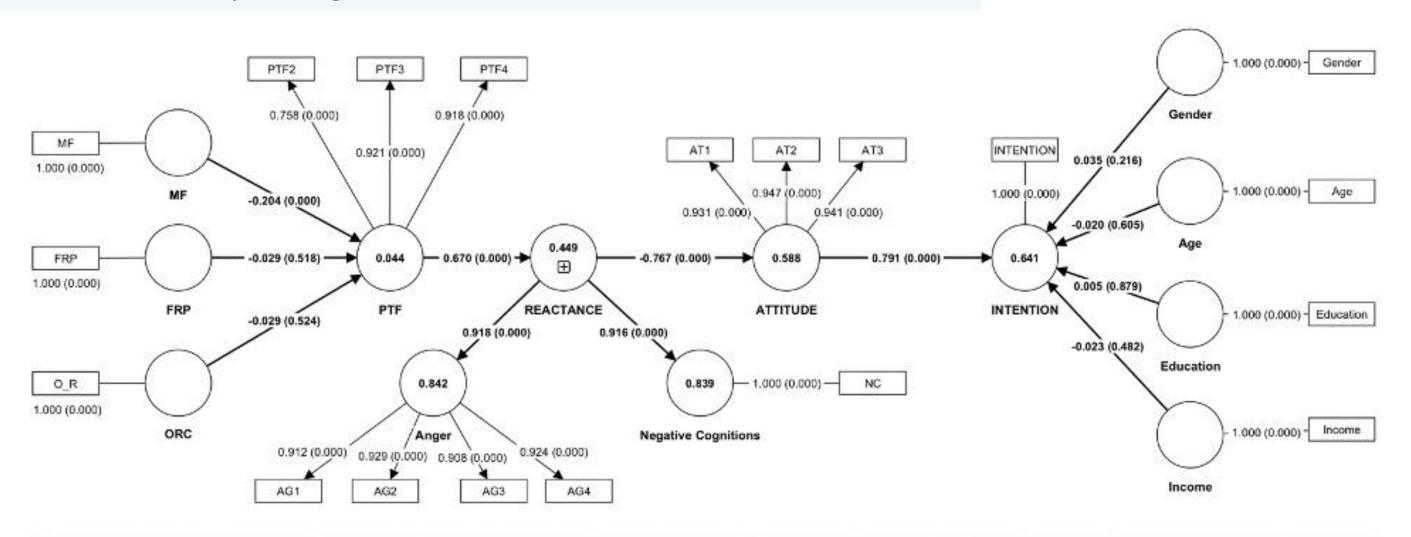


#### **Conclusions**

Our study offered valuable insights from psychological reactance perspective, identifying message features that can be effective in health promotions. Furthermore, message design specifically aimed at reducing the threat to freedom may yield unexpected persuasive effects, an aspect currently overlooked in health promotion strategies.

## **Keywords**

COVID-19, Vaccine, Health Promotion, Message Design, Psychological Reactance Theory, Prospect Theory, PLS-SEM, Macao



Note: MF = Message Frame, FRP = Freedom Restoration Postscript, ORC = Other-Referencing Cue,

PTF = Perceived Threat to Freedom.