

Introduction

- Over a year since the first COVID-19 vaccine was administered (12/14/2020), yet only 60% of the United States population has been fully vaccinated, according to the CDC. Many Americans are still at high risk without the protection of vaccine, much to their own choosing.
- We believe those who continue to deny vaccination have deeply rooted attitudes that fall along political and/or moral lines (a process called moralization), much as they have in the past (Amin et al., 2017). This makes them more difficult to change.
- This process of moralization occurs by linking belief about something not with a means-to-an-end but a matter of right and wrong (Rozin, 1999).
- Moral reframing is one effective approach to attitude change. Reframing a message targeting the moral basis of attitudes can be more persuasive than non-moral messages (Luttrell et al., 2019).
- Moral reframing has proven effective in similar studies related to other protective measures (e.g., mask-wearing, social-distancing) but not with COVID-19 vaccines (Kaplan et al., 2021).

Research Question:

Can health messaging be reframed along moral lines to change firmly held attitudes toward vaccination?

Hypothesis

- Vaccine hesitant will have more positive attitudes toward COVID-19 vaccines and boosters when exposed to Liberty and Purity messaging conditions compared to those who saw the *pure*-Science or Control messages.

Method

Participants

- 232 Loyola Chicago Undergraduate Students*
*survey is still on going

Procedure

Part 1: Participants first answer questions from a series of surveys (est. time 15 mins):

- Surveys: Moral Foundations Questionnaire (20-items), Trust in Science (21-items), Vaccine Hesitancy Scale (14-items), and demographics.

Part 2: Participants are randomly assigned to one of four conditions. They were exposed health messages, then reported COVID-19 vaccine booster attitudes/intentions:

- Conditions: Purity (shaped by the psychology of disgust and contamination), Liberty (shaped by resistance to control), *pure*-Science, control.
- Booster Attitudes/Intentions:
 - "Please indicate your attitudes..."
 - "How likely are you to get a booster shot..."
 - "Feelings towards an annual booster shot..."

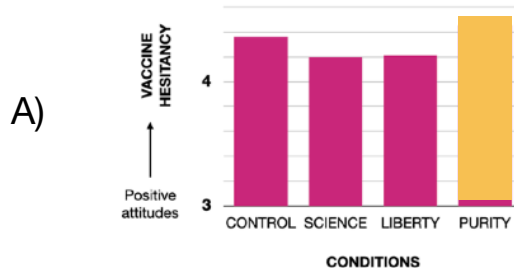
Results

Analysis

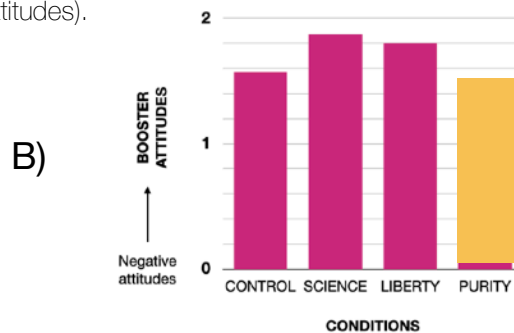
- Data was cleaned (e.g., excluding incompletes and failed attention checks). Sample size, $N = 172$.
- One-way ANOVA to analyze scores for all four messaging conditions and comparing them across vaccine hesitancy and booster attitudes.
- Attitudes measured using adapted Vaccine Hesitancy Scale (14 items; $\alpha = .942$) (Akel et al., 2021).

Main Findings

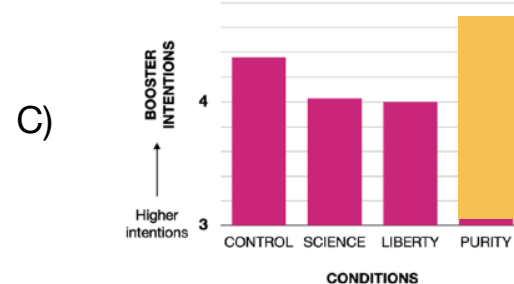
- Purity condition ($M = 4.45$, $SD = .35$) had lowest level of vaccine hesitancy ($F(3, 165) = 2.23$, $p = .087$).**
- Comparison of Vaccine Hesitancy across conditions (higher score represents more positive vaccine attitudes, or lower hesitancy).



- Purity condition ($M = 1.23$, $SD = .73$) had the more positive attitudes toward vaccine booster ($F(3, 165) = 2.55$, $p = .057$).**
- Comparison of Booster Attitudes across conditions (higher score represents more negative booster attitudes).



- Purity condition ($M = 4.63$, $SD = .60$) had the highest level of intentions towards boosters ($F(3, 165) = 2.49$, $p = .062$).**
- Comparison of Booster Intentions across conditions (higher score represents higher intentions).



- The other three conditions showed no effect
**Results were not significant, however, they trend in the predicted direction and the survey is ongoing.

Discussion

- This investigation provides further evidence that moral reframing is an effective and ethical persuasion technique in the area of health communication.
- As expected, vaccine attitudes were related to underlying moral concerns, though it is surprising, given previous research, that the Liberty condition had no effect.
- These results suggest that beliefs around the COVID-19 vaccines have become moralized, thus linking vaccine attitudes to specific moral concerns.
- The world has changed drastically in the last few decades. So too has science and medicine's place in it. But what hasn't changed are people's values. We believe the results of this study offer new insight to health communication.
- These findings can add new insight to health communication on college campuses and the young adults and can improve the impact of vaccine messaging and promotion—for boosters (both timely and important) but also broader health messaging beyond the scope of this study.

Limitations

- Sampling method did not ensure equal representativeness, therefore negating generalizability of this result with a wider population.
- Health guidelines and regulation were fluid and changing throughout this study and it is unclear how the mandates affected attitudes and future intentions.

Future Study

- Parents with children under 11 yrs old
- CDC reports (as of 3/7/2022), 33% of children ages 5-11 compared to 68% of children ages 12-17 have received at least one COVID-19 vaccine dose.
- This population may be more amenable and the implications regarding children health (and development) have late consequences.

References

- Akel, K. B., Masters, N. B., Shih, S. F., Lu, Y., & Wagner, A. L. (2021). Modification of a vaccine hesitancy scale for use in adult vaccinations in the United States and China. *Human vaccines & immunotherapeutics*, 17(8), 2639–2646. <https://doi.org/10.1080/21645515.2021.1884476>
- Amin, A.B., Bednarczyk, R.A., Ray, C.E., Melchiori, K. J., Graham, J., Huntsinger, J. R., Omer, S. B. (2017). Association of moral values with vaccine hesitancy. *Nat Hum Behav* 1, 873–880 <https://doi.org/10.1038/s41562-017-0256-5>
- Kaplan, J., Vaccaro, A., Henning, M., & Christov-Moore, L. (2021). Moral reframing of messages about mask-wearing during the COVID-19 pandemic.
- Luttrell, A., Philipp-Muller, A., & Petty, R. E. (2019). Challenging Moral Attitudes With Moral Messages. *Psychological Science*, 30(8), 1136–1150. <https://doi.org/10.1177/0956797619854706>
- Rozin, P. (1999). The Process of Moralization. *Psychological Science*, 10(3), 218–221. <https://doi.org/10.1111/1467-9280.00139>