How Do Religious and Political Beliefs Predict COVID-19 Vaccination Behavior Among U.S. College Students? A Study Using the Health Belief Model

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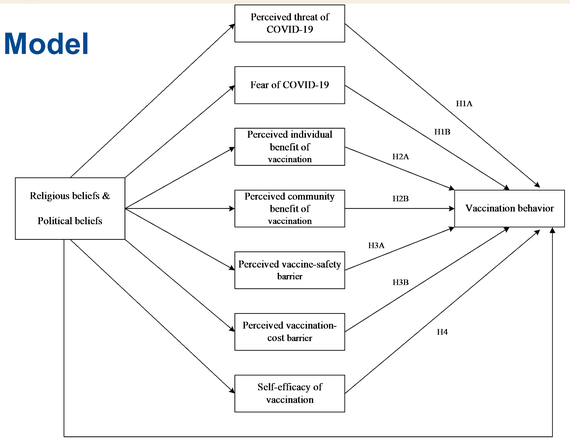
Background

- On May 4, 2022, the number of deaths in the U.S. due to the COVID-19 pandemic reached one million (Chuck & Siemaszko, 2022).
- Most existing studies have focused on intentions to receive a COVID-19 vaccine (Hayashi et al., 2022; Lama et al., 2022) or similar decision-related variables which are used as proxies for the actual vaccine-intake behavior.
- Intense debate over whether vaccination is safe or even necessary (Wolf, 2021)
- Polarized views toward vaccination have spread rapidly (Tavernise, 2021)
- Influence of religious or political beliefs on vaccination behavior needs more rigorous investigation

Model



Hypotheses and Research Question

H1: A. Perceived threat of COVID-19 and B. Fear of COVID-19 positively predict vaccination behavior.

H2: A. Perceived individual benefit of vaccination and B. Perceived community benefit of vaccination positively predict vaccination behavior.

H3: A. Perceived vaccine-safety barrier and B. Perceived vaccination-cost barrier negatively predict vaccination behavior.

H4: Self-efficacy of vaccination positively predicts vaccination behavior.

RQ1: Is the relationship between A. religious beliefs or B. political beliefs and vaccination behavior mediated by any HBM construct or fear of COVID-19?

Method

- An online survey from Sept 1 to Oct 1 in 2021
- Measured all variables in the hypothesized model along with demographic factors

Sample

- 411 participants; average age was 21.7
- 77.9% of female participants
- 45.5% of participants were White, 19.0% were Black/African American, 25.5% were Hispanic/Latino
- 66.7% of participants received at least one shot of a COVID-19 vaccine.

Measures

Measuring items, means, standard deviations (SDs), and reliabilities (when applicable) of major variables

Variables	Measuring Items	Range	Mean	SD	Reliability (α)
Perceived threat of COVID-19 = Square root of (perceived susceptibility × perceived severity) (Chen & Liu, 2021)	(1) What do you think is the chance that you would contract COVID-19 sometime in the future? Please use a scale from 0 to 100%, where 0 means zero chance and 100% means 100% chance (measuring perceived susceptibility); (2) If you contracted COVID-19 sometime in the future, how severe do you think your illness would be? Please use a scale from 0 to 100%, where 0 means not severe at all and 100% means extremely severe" (measuring perceived severity) (Chen & Liu, 2021).	0-100	31.19	20.54	Not applicable (N/A)
Fear of COVID-19	During the past month, how often have you felt ..... about contracting COVID-19 sometime in the future? (1) Frightened; (2) Scared; (3) Anxious (Chu & Liu, 2021). Response scales ranged from 1 = Never to 7 = Always.	1-7	3.08	1.64	0.975
Perceived individual benefit of vaccination	Getting myself vaccinated will ..... (1) keep me from getting COVID-19 or a variant; (2) prevent me from getting seriously ill even if I do get COVID-19 or a variant; (3) help me get back to my normal life (Chen & Liu, 2021). Response scales ranged from 1= Strongly disagree to 7 = Strongly agree.	1-7	4.57	1.75	0.887
Perceived community benefit of vaccination	Getting myself vaccinated will ..... (1) keep other people from getting COVID-19 or a variant; (2) prevent other people from getting seriously ill even if they do get COVID-19 or a variant; (3) help other people get back to their normal lives (Chen & Liu, 2021). Response scales ranged from 1= Strongly disagree to 7 = Strongly agree.	1-7	4.50	1.88	0.925
Perceived vaccine-safety barrier	(1) COVID-19 vaccines will cause serious side effects; (2) COVID-19 vaccines will cause long-term health problems (Chu & Liu, 2021). Response scales ranged from 1= Strongly disagree to 7 = Strongly agree.	1-7	3.90	1.38	0.901
Perceived vaccination-cost barrier	Getting myself vaccinated against COVID-19 ..... (1) will be time-consuming; (2) will take a lot of effort (Chen & Liu, 2021). Response scales ranged from 1= Strongly disagree to 7 = Strongly agree.	1-7	2.26	1.52	0.946
Self-efficacy of vaccination	(1) I know how to get myself vaccinated against COVID-19; (2) I know what I need to do to get myself vaccinated against COVID-19; (3) I am confident in my ability to get myself vaccinated against COVID-19 (Chen & Liu, 2021). Response scales ranged from 1= Strongly disagree to 7 = Strongly agree.	1-7	6.25	1.12	0.902
Religious beliefs	How would you describe your religious beliefs? Response scales are: 1 = I don't believe in any religion; 2 = I am not very religious; 3 = I am religious; 4 = I am very religious; 5 = I am extremely religious (Mathur, 2012).	1-5	2.73	0.92	N/A
Political beliefs	How would you describe your political belief? Response scales are: 1 = Progressive; 2 = Liberal; 3 = Moderate; 4 = Conservative; 5 = Very conservative (Saad, 2022).	1-5	2.88	0.98	N/A
Vaccination behavior	I have received ..... COVID-19 vaccine. Response scales are: 0 = 0 shot of any; 1 = 1 shot of any (Bazargan et al., 2022).	0-1	0.67	0.47	N/A

Findings

- The hypothesized model provided an excellent fit to the data.
- The model accounted for 44.4% of the variance in vaccination behavior.
- Perceived individual benefit, perceived vaccine-safety barrier, perceived vaccination-cost barrier, and political beliefs are significant and direct predictors of vaccination behavior.
- Effects of religious beliefs on COVID-19 vaccination behavior are completely, and effects of political beliefs on COVID-19 vaccination behavior are partially, mediated by perceived individual benefit and the two barrier variables.

Discussion

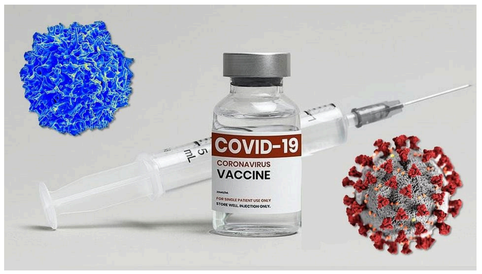
- Neither perceived threat of COVID-19 nor fear of COVID-19 is significantly related to vaccination behavior.
- Individual benefit perception of vaccination is a significant and positive predictor of vaccination behavior.
- Community benefit perception of vaccination is non-significant.
- Perceived vaccine-safety barrier is a significant and negative predictor of vaccination.
- Perceived vaccination-cost barrier is also a significant and negative predictor of vaccination.
- Self-efficacy about vaccination is not related to vaccination behavior.
- Political beliefs are a direct and negative predictor of vaccination behavior, while the direct effect of religious beliefs on vaccination behavior is non-significant.

Practical Implications

- Vaccination campaigns emphasizing the threat of COVID-19 or using fear appeals are unlikely to have much effect on young adults.
- Highlight the individual benefits of vaccination
- Additional strategies should be considered to reduce vaccination barriers.
- Vaccination campaigns should especially target those who are more religious or politically conservative.

Limitations & Future Research Directions

- The sample was a group of young adult college students.
- All measures were based on self-reports.
- The correlational nature of the study design



Graphic created by M.E. Newman, Johns Hopkins Medicine

Conclusion

- The proposed model was more comprehensive.
- Perceived individual benefit is a positive predictor (and the strongest predictor), while perceived vaccine-safety barrier, perceived vaccination-cost barrier, and political beliefs are negative predictors of vaccination behavior.
- Political beliefs are a much stronger predictor than religious beliefs.
- Participants who are more religious or more politically conservative tend to perceive less individual benefit and greater barriers to vaccination, making them less likely to get vaccinated.

References

- Chuck E, Siemaszko C. Covid's toll in the U.S. reaches a once unfathomable number: 1 million deaths. 2022.
- Hayashi Y, Romanowich P, Hantula DA. Predicting intention to take a COVID-19 vaccine in the United States: Application and extension of theory of planned behavior. Am J Health Promot. 2022;36(4):710-713.
- Lama Y, Budenz A, Gaysynsky A, Iles IA, Sylvia Chou WY. Factors associated with COVID-19 behavioral intentions: Findings from an online survey. Am J Health Promot. 2022;36: 1183-1192
- Wolf ZB. (2021). Covid-19 vaccine debate takes a strange turn.
- Tavernise S. Vaccine skepticism was viewed as a knowledge problem. It's actually about gut beliefs.. 2021.

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