


A Culturally Tailored Narrative Decreased Resistance to COVID-19 Vaccination Among Latinas

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Abstract

Purpose: This study tested the relative efficacy of a culturally tailored dramatic narrative promoting COVID-19 vaccination in changing attitudes and behavioral intent among unvaccinated Latinas compared to a nonnarrative control containing similar information.

Design: A pretest-posttest experimental study with unvaccinated Latinas randomly assigned to watch either a dramatic narrative featuring Latina characters countering prevalent myths about COVID-19 vaccines or a nonnarrative film containing similar information (control condition).

Setting: The experiment was hosted online with the films embedded in the survey.

Participants: Three-hundred-ninety adult Latinas living in the United States (mean age = 33.4 years; SD = 11.2) who had not been vaccinated against COVID-19 despite being eligible. At pretest, 57.7% were hesitant and 42.3% were resistant (refusing) to get vaccinated.

Measures: Self-reported measures of engagement with the film, COVID-19 vaccine attitudes, and intent to get vaccinated within 30 days at pretest and posttest.

Results: Resistant women were significantly more engaged in the dramatic narrative than the nonnarrative control film ($P = .03$). Being engaged in a film predicted more positive post-viewing attitudes toward the vaccine ($b = .28$; $P < .001$) and higher intent to get vaccinated ($b = 2.34$, $P < .001$).

Conclusion: Using culturally tailored stories to promote healthy behaviors such as vaccination can be an effective way of reaching resistant audiences.

Keywords

COVID-19, vaccine hesitancy, latina, culturally-tailored, narrative persuasion

Purpose

The public health benefits of vaccination ultimately depend on individual-level behavior. Consequently, messages promoting vaccination generally focus on individual-level factors such as perceived susceptibility to and severity of a particular disease. But prior research has found that messages designed to elevate an individual's perceived risk have a limited effect on vaccine attitudes and behaviors,¹ particularly if one has already formed negative attitudes due to exposure to misinformation.²

An alternate message strategy involves using stories or narratives to create context and meaning around the decision³ to get vaccinated. In fact, narratives have been shown to produce story-consistent beliefs, attitudes, intentions,

and behaviors across several health domains.⁴⁻⁶ Scholars have found that being cognitively and emotionally engaged in a story prevents audience members from dismissing or resisting the persuasive message embedded in the

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narrative.⁷⁻⁹ A systematic review found that narrative messages about vaccines were more effective than statistical messages that present relevant data in an attempt to change attitudes.¹⁰ Further, a pretest-posttest study of young adults exposed to a fotonovela about HPV found that participants who were entertained by the story had more positive attitudes toward the vaccine and increased intent to get vaccinated.¹¹ The purpose of this study was to test the impact of a culturally tailored story containing accurate COVID-19 information on attitudes and behavioral intent among Latinas who were not yet vaccinated.

Methods

Design

A pretest-posttest experiment (the institutional review board at Children's Hospital Los Angeles reviewed the study protocol and deemed the study exempt (Study ID: 21-00152)) tested the ability of a 6-minute film written by, produced by, and featuring Latinos to combat COVID-19 misinformation and encourage vaccination compared to a nonnarrative film that contained similar information. After completing consent and pretest questions about vaccine attitudes and intent, Latina adults who were not yet vaccinated were randomly assigned to watch either the dramatic story *Of Reasons and Rumors*, or *Vax the World*, the nonnarrative control containing similar information. After viewing one of these films, participants completed posttest questions about their level of narrative engagement and repeated measures of attitudes and intent.

Materials

The dramatic story, *Of Reasons and Rumors*, addresses prevalent misinformation circulating among Latino/Hispanic communities, demonstrates empathy for those who have questions, and positions vaccination as a decision that benefits an entire family. The story focuses on two cousins, one who got vaccinated after reading information from reliable sources and one who remains hesitant and has read misinformation, including that the vaccine can alter blood or affect fertility. The control, *Vax the World*, is an entertaining video with information about COVID-19 vaccinations, but it does not include a narrative, emotional appeal, nor is it culturally tailored. The control film emphasizes that most deaths from COVID-19 are among the unvaccinated and it describes the concept of herd immunity. Both films claim that (1) more people need to be vaccinated to stop the spread of the virus, (2) even those previously infected should get vaccinated, and (3) being vaccinated helps protect those who cannot get vaccinated or who are immunocompromised. Educational information is embedded in conversation in the story, whereas the control uses a didactic approach.

Sample

Three hundred and ninety unvaccinated Latina/Hispanic women with a mean age of 33.4 years were recruited by Qualtrics Panel Services. Participants self-reported their COVID-19 vaccine status: 57.7% were **hesitant** (“*I am still waiting to get the vaccine*” or “*I do not know if or when I will get the vaccine*”) while the remaining 42.3% were **resistant** (“*I am not going to get the vaccine*”). Please refer to [Table 1](#) for additional sample characteristics.

Measures

Narrative engagement was measured using a modified version of the narrative transportation scale.^{8,12} The 10 items measured the extent to which viewers were “transported” into the story, on a scale ranging from 1 (not at all) to 10 (a great deal). Factor analysis returned three factors with eigenvalues greater than one (accounting for 72% of total variance): positive engagement, negative engagement, and cognitive reactance. **Positive engagement** included 6 items (Cronbach’s alpha of .90, $M = 4.97$, $SD = 2.37$) such as “*I liked this film*” and “*The scenes affected me emotionally.*” **Negative engagement** included 2 items (Cronbach’s alpha of .62, $M = 4.69$, $SD = 2.47$), “*While watching, my mind wandered*” and “*After watching, I stopped thinking about the scenes I watched.*” **Cognitive reactance** included 2 items (Cronbach’s alpha of .79, $M = 5.90$, $SD = 2.86$),

Table 1. Sample Characteristics.

	Mean (SD)	Range
	33.4 years (11.2 years)	18-71
Age	N	%
Language primarily spoken at home		
English	317	81.3
Spanish	64	16.4
Other	9	2.3
Years of education		
Fewer than 9 years	18	4.6
Between 9 and 12 years	238	61.0
More than 12 years	134	34.4
Annual individual income		
Less than US\$10,000	96	24.6
US\$10,00-US\$29,000	115	29.5
US\$30,000-US\$49,000	93	23.8
US\$50,000-US\$79,000	55	14.1
US\$80,000 or more	31	7.9
Political party		
Democrat	87	22.3
Independent	94	24.1
Republican	79	20.3
Other	5	1.3
No preference	97	24.9
Prefer not to answer	28	7.2

“This film tried to pressure me to think a certain way” and “This film tried to force its opinion on me.”

COVID-19 vaccine attitudes were measured using a modified version of a scale based on the theory of planned behavior.¹³ The 7-item scale responses ranged from 1 (strongly disagree) to 6 (strongly agree). Factor analysis returned two factors with eigenvalues greater than one (accounting for 75.1% of total variance at pretest and 76.9% of total variance at posttest): positive attitudes and negative attitudes. **Positive attitudes** included 5 items, such as “I believe the COVID vaccine could protect me against COVID” and “If I get the COVID vaccine I believe that will help to protect my family and friends.” Cronbach’s alpha for positive attitudes at pretest was .89 ($M = 2.88$, $SD = 1.28$) and for posttest was .90 ($M = 3.17$, $SD = 1.38$). **Negative attitudes** included 2 items, “I fear that any COVID vaccine might cause some unpleasant side effects” and “I worry that any COVID vaccine might cause more harm than COVID itself.” Cronbach’s alpha for negative attitudes at pretest was .80 ($M = 4.71$, $SD = 1.29$) and for posttest was .82 ($M = 4.41$, $SD = 1.40$).

Vaccine intention, “How likely are you to get a COVID-19 vaccine within the next 30 days?”, ranging from 0 (not at all likely) to 100 (extremely likely), was measured at pretest ($M = 19.25$, $SD = 27.88$) and again at posttest ($M = 24.44$, $SD = 31.43$).

Analysis

Analysis of variance included two levels of vaccine status (hesitant or resistant) and two film conditions (dramatic story or nonnarrative control) with a .05 alpha level for statistical significance. Linear regression analysis was conducted with positive engagement and vaccine attitudes as independent variables and cognitive reactance, vaccine attitudes, and vaccine intention as dependent variables. Randomization to the two film conditions was effective; there was no between-group difference in vaccine status ($\chi^2 = 1.13$, $P > .05$), pretest positive attitudes ($t(388) = -.897$, $P > .05$), or pretest negative attitudes ($t(388) = .421$, $P > .05$). Analyses were conducted using STATA 17.0 SE-Standard Edition.

Results

Analysis of variance on positive engagement showed a main effect of vaccine status, $F(1, 374) = 21.77$, $P < .001$, such that women who were hesitant ($M = 5.45$, $SD = 2.25$) were significantly more engaged in either film than those who were resistant ($M = 4.33$, $SD = 2.39$). There was no main effect of film condition. However, there was a significant interaction effect, $F(1, 374) = 4.39$, $P = .03$, such that those who were hesitant were more engaged in the control ($M = 5.55$, $SD = 2.05$) than the dramatic story ($M = 5.33$, $SD = 2.47$) while those who were resistant to vaccination were more engaged with the dramatic narrative ($M = 4.71$, $SD = 2.57$) than the

control ($M = 3.93$, $SD = 2.12$). There were no between-group differences in terms of negative engagement with the films.

Analysis of variance on cognitive reactance showed a main effect of vaccine status, $F(1, 374) = 8.11$, $P = .005$, such that those who were resistant ($M = 6.40$, $SD = 2.84$) had a significantly higher level of cognitive reactance to either film than those who were hesitant ($M = 5.54$, $SD = 2.83$). There was also a main effect of film condition, $F(1, 374) = 6.35$, $P = .012$, such that those who watched the dramatic story ($M = 6.31$, $SD = 2.79$) had a higher level being aware of the persuasive intent of the film than those who watched the nonnarrative control ($M = 5.51$, $SD = 2.88$). There was no interaction effect.

Regression analysis was conducted to understand the mediating impact of positive engagement, cognitive reactance, and vaccine attitudes on intent to get vaccinated after watching a film. Analysis with positive engagement as the predictor showed a significant and negative association with cognitive reactance ($b = -.21$, $SE = .06$, $P < .001$), a significant and positive association with posttest positive vaccine attitudes ($b = .28$, $SE = .02$, $P < .001$), and a significant and positive association with posttest intent to get vaccinated ($b = 2.34$, $SE = .60$, $P < .001$). Further, posttest positive vaccine attitudes were significantly and positively associated with posttest intent to get vaccinated ($b = 11.48$, $SD = 1.10$, $P < .0001$).

Discussion

The purpose of this study was to test the relative efficacy of a culturally-tailored dramatic narrative in promoting COVID-19 vaccination among unvaccinated adult Latinas or Hispanic women compared to a nonnarrative with similar information. The story addressed common misconceptions about the vaccine with empathy and highlighted the impact that vaccination can have on families in order to create meaning around the vaccination decision. Our analysis tested two levels of vaccination status, being hesitant or resistant at pretest. Based on previous narrative persuasion research, we also tested the effect of positive engagement with a film on positive attitudes toward the vaccine and intent to accept vaccination within 30 days.

Women who were resistant to vaccination at pretest were significantly more engaged in the dramatic story than the nonnarrative control film. Being engaged with the story predicted lower resistance to the educational and persuasive content, higher post-viewing positive attitudes toward COVID-19 vaccination, and higher intent to accept vaccination within 30 days. These findings suggest that interventions directed at those who say they are “never” going to get vaccinated may still have impact. Instead of using a didactic approach, such as the control film, a culturally relevant dramatic story may better reach this audience because it can provide emotional reasons for a health behavior, such as wanting to spend time with an elderly loved one. The format of a story also allows depicting someone change their mind about a health behavior, such as the cousin who was previously hesitant but who got vaccinated after reading more information. By modeling that it is acceptable to

have questions and change one's mind after gaining new information, stories may offer an important opportunity to motivate those who have been vaccine resistant to seek more information and re-evaluate their decision.

Limitations

In this single session online study, we were unable to measure actual vaccination status and had to rely on participants' self-reported behavioral intent to be vaccinated. Furthermore, despite having a Spanish-dubbed version of the dramatic narrative, our sample was limited to English-speakers, limiting the generalizability of our results.

Conclusion

This study supports the use of narratives or stories to promote healthy behaviors, such as vaccination, to reach audiences who may be particularly resistant to other persuasive efforts.

So What? (Implications for Health Promotion Practitioners and Researchers)

What is already known on this topic?

Culturally tailored health promotion messages, particularly embedded in stories or narratives, have been shown to be more successful in effecting behavioral change than health promotion interventions that do not involve emotional or cultural cues.

What does this article add?

This article contributes an analysis of health promotion narratives by assessing differences in outcomes between individuals who are hesitant vs resistant to COVID-19 vaccination. Additionally, this article analyzes how interest in and emotional response to the message affects attitudes and behavioral intent.

What are the implications for health promotion practice or research?

By understanding the potential of culturally tailored narratives in health promotion, public health practitioners can more strategically design interventions that can reach individuals who have been resistant to other appeals.

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Author Contributions

Ashley Phelps contributed to the design of the experiment, conducted data analysis, wrote the original draft of the manuscript, and approved the submitted version of the manuscript. Yulissa Rodriguez-Hernandez contributed to the design of the experiment, conducted data analysis, provided review/editing of the manuscript, and approved the submitted version of the manuscript. Sheila T. Murphy contributed to the design of the experiment, provided review/editing of the manuscript, and approved the submitted version of the manuscript. Thomas W. Valente contributed to the design of the experiment, was responsible for funding acquisition and data collection, provided review/editing of the manuscript, and approved the submitted version of the manuscript.

Declaration of Conflicting Interests

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Ethical Approval

The institutional review board at Children's Hospital Los Angeles reviewed the study protocol and deemed the study exempt (Study ID: 21-00152).

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