

Narrative Messages, Information Seeking and COVID-19 Vaccine Intention: The Moderating Role of Perceived Behavioral Control

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Abstract

Purpose: The main purposes of the current study are to examine 1) the influence of narrative vs statistics messages on COVID-19 related information seeking and COVID-19 vaccine intention and 2) the moderating role of perceived behavioral control (PBC).

Design: Data for a between-subject randomized experiment were collected online. The manipulation messages were presented as screenshots from the CDC's Facebook page.

Setting: The participants were recruited from Amazon MTurk.

Subjects: A total of 300 subjects participated in the study, who were 18 years and above ($M = 38.40$).

Measures: Intention to seek information, COVID-19 vaccine intention, and PBC.

Analysis: To test the hypotheses, we utilized Hayes's (2014) PROCESS for SPSS (Model 1). For intention to seek information, the main effect of the message manipulation (narrative vs statistics) [$b = -2.10$, $t(300) = -4.14$, $P < .001$] and the interaction [$b = .41$, $t(300) = 3.88$, $P < .001$] were significant. For vaccine intention, the main effects of message manipulation [$b = 1.64$, $t(300) = -2.61$, $P < .005$] and the interaction [$b = .34$, $t(300) = 2.64$, $P < .005$] were significant.

Results: Our research found that narrative messages were more persuasive for both information seeking and vaccine intention. But this was true only in the case of individuals whose PBC was low.

Conclusions: Our findings have critical implications for vaccine promotion research.

Keywords

COVID-19 vaccine intention, information seeking intention, perceived behavioral control, narrative vs statistics, exemplification theory, experiment

Purpose

As of December 2021, the COVID-19 pandemic has swept across the world, infecting over 200 million and killing over 5 million people worldwide.¹ Copious medical research has been devoted to developing the COVID-19 vaccination to help fight against the COVID-19 pandemic. Within less than 2 years, more than 300 COVID-19 vaccine candidates have been proposed, 117 are at various stages of clinical development, and 18 have been approved for use globally.²⁻⁴ Abundant clinical evidence published in scientific journals has supported the efficacy of the vaccine, which is often reported as relative risk reduction.⁵⁻⁹ For instance, prior research documented that “ranking by reported efficacy gives relative risk reductions of 95% for the Pfizer–BioNTech,

94% for the Moderna–NIH, 91% for the Gamaleya, 67% for the J&J, and 67% for the AstraZeneca–Oxford vaccines.”¹⁰

Although the vaccine is not 100% effective and the coronavirus is still mutating, most recent research showed that even if vaccinated individuals get infected, the breakthrough

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cases are less likely to develop serious illness, to be hospitalized, and to die compared to unvaccinated people.¹¹ The safety of the vaccine has also been widely confirmed through clinical trials worldwide.^{7,12-14} Accumulated evidence suggested that while the majority would experience minor side effects such as injection-site pain, severe allergic reactions are extremely rare and curable.¹⁵ Moreover, current vaccinations for COVID-19 will likely work for new variants such as the latest Omicron infections.¹⁶ Despite these supportive scientific findings, in countries such as the U.S. where the COVID-19 vaccine is widely available, the governmental and health organizations are facing enormous challenges including vaccine hesitancy and refusal to get people vaccinated.¹⁷ For instance, CDC found that although many adolescents and adults have started the vaccine series, the vaccine coverage lags behind the goal to achieve herd immunity.^{18,19} In such a situation getting the right information about the vaccine and promoting the vaccine with messages that may positively resonate with people is crucial for the fight against the COVID-19 virus.

Recent studies have examined message promotions regarding the COVID-19 crisis²⁰ and investigated the predictors of the COVID-19 vaccine behavior.^{21,22} In the current study, we use theory-driven messages to examine the impact of narrative vs statistical content on people's intention to seek information and to get the COVID-19 vaccine. We rely on exemplification theory^{23,24} to understand the influence of these promotional messages. In a nutshell, exemplification theory explains the difference between narrative messages, statistical information, and how these two types of content can impact individuals' attitudes and behavior in research related to health communication, as well as studies specific to vaccination.²³⁻²⁶

Prior research has also shown that a multitude of variables may condition such message effects.²⁷ One such variable is perceived behavioral control (PBC).²⁸ Using these concepts from the literature, we attempt to understand the influence of message content on two dependent variables—intention to seek information about the COVID-19 vaccine and vaccine intention. The main purposes of the current study are to examine the 1) influence of narrative vs statistics messages on COVID-19 related information seeking and COVID-19 vaccine intention and 2) moderating role of PBC. We employed data from an online experiment and used the PROCESS model 1²⁹ to examine these relationships. Although our data was collected before the COVID-19 vaccines became available, our findings are relevant as the messages used in the study are theory-driven and as discussed above, despite the dynamic nature of the pandemic the effectiveness of the vaccines against the virus remain consistent.¹⁶

Exemplification Theory

Exemplification theory explicates that the understanding of message recipients would be facilitated if someone's experiences

are narrated in the message, which are also known as "exemplars."²⁴ Based on the theory, previous studies²³ found that incorporation of exemplar in messages was effective in strengthening the recipients' perception of risk. Participants exposed to narrative exemplars develop a stronger sense of narrative engagement. Indeed, multiple scholars have used different models to decipher how narrative communication works. A few common models are extended elaboration likelihood model,³⁰ transportation-imagery model,³¹ and entertainment overcoming resistance model.³² This research shows the importance of engagement with the message in narrative communication.

A variety of studies have incorporated exemplification in health research and have shown the advantages of narrative messages.^{25,33} Most recently, two new studies have provided evidence supporting the power of narrative messages.^{34,35} Research that specialized in vaccine communication have also supported the effectiveness of including exemplars in healthcare promotional messages.^{36,37} It is important to note that there are some studies that have inconclusive findings regarding narrative vs statistics messages.^{26,37} However, a majority of research,^{25,33,39} including meta-analyses,⁴⁰⁻⁴⁴ highlight the persuasive power of narratives.

Intention to Seek Information

Different online platforms have become convenient sources of health information for an increasing number of people.^{45,46} Health-related information is the most typically searched information across platforms on the internet.⁴⁷ Different social media factors,⁴⁸ such as sharing,⁴⁹ makes it easy for people to find health information. As information seeking is a coping strategy that can lead to important outcomes in relations to behavioral changes,^{50,51} the behavior of seeking health information deserves scholarly attention. The health information acquired helps people to feel more capable and confident in their personal health management^{52,53} and contributed to their decision-making processes.⁵⁴ Although health information seeking has become commonplace, predictors beyond demographic characteristics and their relationships are not widely studied.^{55,56}

Prior studies⁵⁷⁻⁵⁹ have demonstrated that the format of messages contributes to the behavioral intention of information seeking. Bartsch and Schneider⁵⁷ found that narrative messages were more likely to encourage emotional engagement in message recipients, contributing to elaboration in cognitive process and truth-seeking intention. Another study carried out by Luong et al.⁵⁹ echoed these findings and demonstrated that viewing narrative messages led to stronger intention in information seeking for the audience. Duan et al.⁵⁸ also found that animated and live-action narratives for genetically modified foods encouraged information seeking in the audience. Considering the persuasive power of narratives in multiple attitudes and behavior^{25,35} as well in case of information seeking,⁵⁷⁻⁵⁹ we propose the following hypothesis for the current study:

H1. Participants in the narrative message condition will show higher intention to seek information relevant to the COVID-19 vaccine compared to participants in the statistics condition.

Vaccine Intention

Vaccine hesitancy remains rampant and anti-vaccination attitude has been on the rise.^{38,60} Numerous studies have endeavored to address vaccine hesitancy and develop strategies to promote vaccine intention.⁶¹⁻⁶⁴ Scholars have specifically examined various message-based strategies. Multiple studies have indicated that messages focusing on the negative consequences for not getting vaccinated are potentially more effective compared to messages highlighting the benefits of getting vaccinated.^{65,66} Research has also revealed that narrative-based messages that describe one's experience facilitate vaccine intention.³⁶

A growing body of systematic reviews and meta-analyses has further buttressed the positive effects of promotional strategies on vaccine intention and behavior.⁶⁷⁻⁶⁹ For instance, in synthesizing 70 peer-reviewed studies in HPV vaccination promotion, Xiao et al.⁶⁹ revealed that among controlled studies, research using message strategies (e.g., loss-framed or narrative-based) was significantly more effective in boosting vaccination-related outcomes including attitude, intention, and behavior. Moreover, a variety of other studies have shown the advantage of using narrative messages to bolster vaccine intention.^{24,36} Thus, we propose:

H2. Participants in the narrative message condition will show higher COVID-19 vaccine intention compared to participants in the statistics condition.

Perceived Behavioral Control

Perceived behavioral control (PBC) has been defined as "people's perceptions of the degree to which they are capable of, or have control over, performing a given behavior."⁷⁰ PBC is formed by a set of control beliefs about internal factors such as skills and power as well as external factors such as resources and opportunities, which may facilitate or hinder behavior intention and enactment.⁷¹ PBC is crucial in behavior change and behavioral prediction—it not only promotes positive health intentions but also facilitates the persistence of a recommended health behavior.⁷⁰

In the field of vaccination promotion, the positive influence of PBC on vaccination-related outcomes has been repeatedly tested.²⁸ Contradictory evidence emerged from prior research. Some studies have found PBC to be one of the critical components in vaccination promotion.^{72,73} In surveying 739 young college adults, Gerend and Shepherd⁷² demonstrated PBC's indispensable contribution to behavioral prediction and change in vaccination promotion. However, others have suggested that PBC is not important.⁷⁴

Given the inconsistent predictive validity of PBC, some scholars advocated for the role of PBC as a moderator regarding health intentions and behaviors.⁷⁵⁻⁷⁷ Specifically, Britt et al.⁷⁵ showed that even though individuals have a positive attitude about getting vaccinated, their vaccine intention is likely to be impaired if they lack PBC. Likewise, PBC also significantly moderated the positive attitude on the intention to seek more information about the vaccine on social media. As discussed above, past studies have shown the persuasive power of narratives.^{25,33} Thus, in light of the reviewed literature, we continue this line of research to examine the moderating role of PBC in the context of COVID-19 vaccination promotion and propose our final set of hypotheses. The conceptual model is presented in Figure 1.

H3. The positive relationship between the narrative message and intention to seek information about the COVID-19 vaccine will be moderated by individual's levels of perceived behavioral control such that those with higher PBC and are exposed to the narrative condition will show higher intention to seek information relevant to the COVID-19 vaccine.

H4. The positive relationship between the narrative message and COVID-19 vaccine intention will be moderated by individual's levels of perceived behavioral control such that those with higher PBC and exposed to the narrative condition will show higher COVID-19 vaccine intention.

Methods

Sample

Data for this study were collected with an online experiment using the Qualtrics software. The participants were recruited from Amazon MTurk, after Institutional Review Board from a large University in the United States had considered the study as exempted. MTurk is commonly used by researchers since the subjects are from a national participant pool, and its data validity is considered equivalent to experiments conducted in the laboratory.⁷⁸ MTurk is a crowd-sourced online platform that provides convenience samples. MTurk is a popular platform for data collection as past studies have found that MTurk samples are comparable to traditional representative samples.^{79,80} Indeed, Berinsky et al.⁷⁹ found that samples from MTurk are more representative than other convenience samples. Data were collected in July 2020. Each participant received USD 1.50 for their participation. A total of 300 subjects participated in the study, who were 18 years and above ($M = 38.40$). Male participants consisted of 56% of the total sample, and the majority were Caucasians (55.7%). We conducted a power analysis using GPower⁸¹ with F set at .25, α err prob at .05, and power $(1-\beta)$ at .95. The analysis showed a minimum sample size of 210 required for the study. Thus, the sample size of 300 is appropriate for our study.

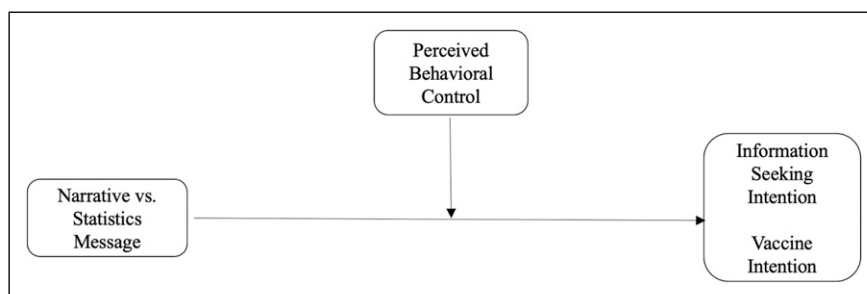


Figure 1. The conceptual model.

Design

Our study used a between-subject randomized experiment consisting of 4 conditions: narrative vs statistics and descriptive vs injunctive norms. In the current study, we recoded the conditions as narrative versus statistics.¹ The participants answered a few pre-test questions. After that they were randomly selected to one of the conditions. The randomization was performed by the Qualtrics software. Each participant was exposed to one message. After the exposure to the manipulation message, the participants answered the post-test questions. The manipulation messages for the study were presented to the participants as screenshots from the CDC's Facebook page. The post was about the COVID-19 vaccination. The CDC post discussed the COVID-19 vaccination and recommended that the readers get vaccinated when the vaccine is available. The stimulus materials were adapted from past research.³⁶ The researchers also read older posts from the CDC on other vaccines such as the flu to construct the manipulation messages. The narrative condition described how an individual was hospitalized due to COVID-19 and why they would take the vaccine when available. The statistics condition, on the other hand, described the COVID-19 pandemic with the help of multiple statistical details. Before the manipulation messages were finalized, they were tested with students ($N = 13$). The testing was primarily qualitative; asking the participants to give feedback on the messages. The questions asked the participants about the believability of the content, what they liked or disliked about the posts, as well as if the content depicts the story about an individual or provided statistical information. Example of feedback from the students included comment about the image or including examples of severity of the disease. The feedback was used to revise the manipulation messages. [Appendix 1](#) contains the final stimulus materials.

Measures

Intention to seek information: Intention to seek information was adapted from prior research^{82,83} and measured with 4 Likert scale items ranging from “extremely unlikely” (0) to “extremely likely” (6) ($M = 4.50$, $SD = 1.01$, $\alpha = .83$). Items included “I intend to learn more about the COVID-19 vaccine online (e.g., CDC’s website) or from health clinics when it

becomes available,” “I am willing to find more information about the COVID-19 vaccine online (e.g., CDC’s website) or from health clinics when it becomes available,” “I will ask my friends and family members about the COVID-19 vaccine when it becomes available,” and “I plan to get more information about the COVID-19 vaccine online (e.g., CDC’s website) or from my doctor when it becomes available.”

COVID-19 vaccine intention: Vaccine intention was adapted from previous studies,²⁶ and was measured using a three-item Likert scale ranging from “extremely unlikely” (0) to “extremely likely” (6) ($M = 4.52$, $SD = 1.28$, $\alpha = .87$). Items included: “how likely would you be to get the COVID-19 vaccine, as soon as it is available,” “if you were faced with the decision of whether to get the COVID-19 vaccine, today,” and “how likely is it that you would choose to get the vaccine.”

Perceived behavioral control: This variable was adapted from past studies⁷⁰ and captured with the help of 3 items on a Likert scale ranging from “extremely unlikely” (0) to “extremely likely” (6) ($M = 4.64$, $SD = .95$, $\alpha = .72$). Items included: “Getting the COVID-19 vaccine, when it is available, is up to me,” “I am confident in my ability to get the COVID-19 vaccine when it is available,” and “I think I will be able to get the COVID-19 vaccine when it is available.”

Covariates: Aside from age (average age 38.40 years), gender (44% female), and ethnicity (55.7% white), following prior research (e.g., Nan, 2012a; 2012b), we controlled for flu vaccination status. Due to the political nature of the COVID-19 pandemic,⁸⁴ we also added party ID as a covariate. Party ID was measured by asking participants to describe their party affiliation on a Likert scale ranging from “strong Republican” (0) to “strong Democrat” (6) (52.7% Republican). For flu vaccination status, participants indicated whether they received a regular flu vaccine or shot in the past 12 months with a yes (53.3%) or no (46.7%) answer. Descriptions for demographics and covariates are shown in [Table 1](#).

Analysis

To test the hypotheses, the responses to the questions for each measure were summed and treated as a single value, the values for the measures were then entered to Hayes’s²⁹ PROCESS for SPSS (Model 1) for analysis. PROCESS Model 1 is

appropriate for this analysis. SPSS macro PROCESS utilizes regression-based statistics and it is especially developed to examine a wide range of models such as moderation, mediation, and moderated-mediation models.²⁹ Other than helping

to estimate moderation models such as the proposed model for the current study, PROCESS also helps with the visualization of the data. PROCESS provides solutions which are statistically robust to probe the interactions with multicategorical as well as continuous variables Hayes²⁹.

Table 1. Demographics of the Sample and Covariates of the Current Study.

Age (M)	38.40, %
Gender (female)	44
Ethnicity	
Caucasian	70.6
Native American	8.0
Asian	2.3
Hispanic	7.7
African American	10.1
Caucasian	1.3
Flu vaccination status (yes)	53.3
Party ID (republican)	52.7

Table 2. Interaction Effect of Narrative and Perceived Behavioral Control, Predicting Information Seeking Intention, and COVID-19 Vaccine Intention Respectively.

Interaction	b	SE	t	P
Information seeking intention				
Narrative x perceived behavioral control	.41	.11	3.88	<.001
COVID-19 vaccine intention				
Narrative x perceived behavioral control	.34	.13	2.64	<.005

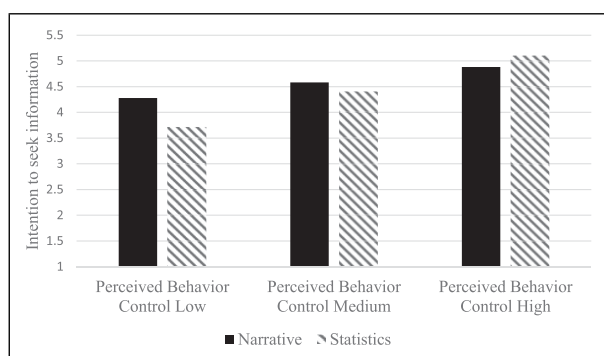


Figure 2. Interaction between message manipulation and perceived behavioral control for intention to seek information about COVID-19 vaccination.

Results

For both the dependent variables intention to seek information and vaccine intention, the covariates did not show any significant relationships. The findings for the first dependent variable intention to seek information about the COVID-19 vaccine show a significant overall model $F(8, 300) = 15.26, P < .001, R^2 = .30$. The main effect of the message manipulation (narrative vs statistics) was $[b = -2.10, t(300) = -4.14, P < .001]$ significant supporting H1. The interaction between message manipulation and PBC was also significant $[b = .41, t(300) = 3.88, P < .001]$ supporting H3 (Table 2). The conditional effects of PBC were higher for participants in the narrative condition by one standard deviation below the mean $[b = -.57, t(300) = -3.95, P < .001]$ compared to those at the mean $[b = -.17, t(300) = 1.73, P < .08]$ and above the mean $[b = .21, t(300) = 1.5, P = .12]$. Specifically, the interaction pattern shows that the message manipulations (narrative vs statistics) did not matter for information seeking intention for individuals with higher PBC. These individuals were high on information seeking intention irrespective of the message. However, in case of the individuals who scored low on PBC, exposure to the narrative message increased their intention to seek information (Figure 2). Conditional effects are shown in Table 3.

Next, we examined the effects of message manipulation and moderating role of PBC on our second dependent variable intention to get the COVID-19 vaccine. The overall model is significant $F(8, 300) = 17.90, P < .001, R^2 = .33$. H2 was supported as the main effects of message manipulation (narrative vs statistics) was significant $[b = 1.64, t(300) = -2.61, P < .005]$. The interaction between narrative vs statistics message and PBC was also significant $[b = .34, t(300) = 2.64, P < .005]$, supporting H4 (Table 2). The conditional effects of PBC were higher for participants in the narrative condition by one standard deviation below the mean $[b = -.35, t(300) = -1.99, P < .05]$ compared to those at the mean $[b = -.02, t(300) = -.18, P = .85]$ and above the mean $[b = .30, t(300) = 1.76, P < .08]$. Specifically, the interaction pattern shows that the message manipulations (narrative vs statistics) did not impact vaccine intention for individuals with higher PBC. These individuals were

Table 3. Conditional Effects of Perceived Behavioral Control on the Relationship Between Narrative and Information Seeking Intention.

Perceived Behavioral Control	b	SE	T	p	95% CI
One SD below mean	-.57	.14	-3.95	<.001	-.85, -.29
At the mean	-.17	.10	-1.74	.08	-.37, .02
One SD above mean	.21	.14	1.55	.12	-.06, .50

high on COVID-19 vaccine intention irrespective of the message. However, in case of the individuals who scored low on PBC, exposure to the narrative message increased their intention to get the COVID-19 vaccine (Figure 3). Conditional effects are shown in Table 4.

Discussion

Our study set out to understand the relationship among narrative vs statistics promotional message, individuals' PBC, and intention to seek information and vaccinate in the case of COVID-19. Our findings contribute to prior research, Britt et al.,⁷⁵ providing evidence for the importance of PBC in pandemic-related vaccination.

The findings have important implications for theory and vaccine promotion research. Prior research on narrative vs statistics message has not always been conclusive.^{26,85,86} Our results show the importance of narrative messages but only for people who were low on PBC. Thus, the inconclusive nature of prior research could be due to the contingent effects of different variables such as PBC. Viewed as a combination of self-efficacy and perceived control, PBC represents an individual's perceptions of control over a behavior not only in the face of external barriers (i.e., resource, time, and money) but also in the face of internal confidence (i.e., ability) in performing the given behavior.^{70,71} Much research has indicated that low PBC could interfere with the strength of positive attitude and intention about getting vaccinated.^{28,75} Our finding, however, shows the promising effect of narratives in motivating individuals with low PBC to seek changes and overcome barriers.

Admittedly, this study is not a field experiment, rather, it applied critical theoretical components to practices in an online experimental setting. As such, although the stimuli mimicked authentic Facebook posts from health organizations, participants may be less convinced of the message content since it lacks authenticity or become more receptive of the content if they decoded the study's persuasive intention. Therefore the practical implications should be interpreted with caution. That being said, two takeaways derived from the findings merit attention from health organizations and practitioners in vaccine promotion. First, health organizations could cooperate with local and national clinics to identify and categorize unvaccinated individuals based on the level of self-efficacy and perceived control about the COVID-19 vaccination. For those with a positive attitude but little-to-no resource or confidence, other than providing readily accessible clinical resources and health information, campaigning with narrative-based messages may also be particularly important. Second, health organizations could also highlight credible sources to get information about the COVID-19 vaccine. It is important to note that our findings are consistent across two variables; intention to seek information and vaccine intention. Seeking information about the COVID-19 vaccine is important to make an informed decision about getting the vaccine. Considering the uncertainty surrounding the pandemic and the novel nature of the vaccine, seeking information about the vaccine is critical. Our findings show the importance of narrative messages to facilitate both information seeking and vaccination.

As with all research, our study comes with some caveats. Our experimental design included narrative versus statistics messages, but prior research has shown the importance of a hybrid condition.²⁶ Future research should include a hybrid and a control condition to better understand these relationships. We examined the messages in terms of one social media platform and one source. Future research should examine different social media platforms to understand the social media affordances of each platform and how they might impact these results. Future research can also examine other sources such as WHO or local health organizations to examine if there are any source effects. Our data were collected in the summer of 2020, when the vaccine was not yet available. As a result, some of our findings may change in the current context as the COVID-19 crisis has been a dynamic situation. However, we do think our findings are important for present and future vaccination efforts because the messages we use in our study are theoretically driven. Past research^{25,33} has shown the power of narrative messages in multiple contexts and our study supports

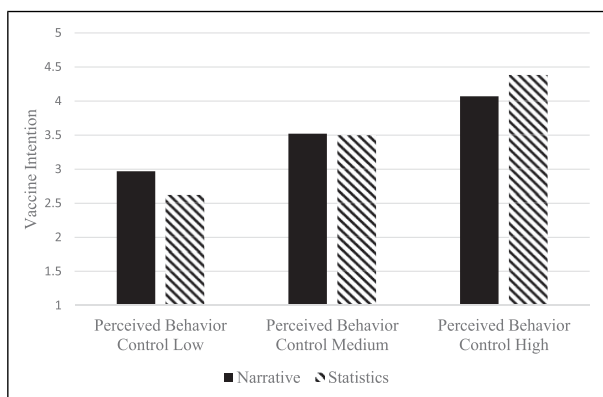


Figure 3. Interaction between message manipulation and perceived behavioral control for COVID-19 vaccine intention.

Table 4. Conditional Effects of Perceived Behavioral Control on the Relationship Between Narrative and COVID-19 Vaccine Intention.

Perceived Behavioral Control	<i>b</i>	<i>SE</i>	<i>T</i>	<i>p</i>	95% CI
One SD below mean	-.35	.18	-1.99	<.05	-.71, -.004
At the mean	-.02	.12	-.18	.85	-.27, .22
One SD above mean	.30	.18	1.76	.08	-.04, .65

those results and extends these past findings. Referencing the situation of influenza, different combinations of virus subtypes can cause a pandemic and it is possible that the responsible subtypes differ for different flu seasons.⁸⁷ Nevertheless, flu vaccine studies are of scholarly importance regardless of the subtypes that are being focused. The studies shed light on the underlying theoretical mechanism in impacting consumers. Although our study was conducted before the availability of COVID-19 vaccine, the messages used in the study did not present information that is contradictory to the medical knowledge related to the disease after almost 2 years. The importance of the theory-driven messages for health organizations and individuals remain the same even though the context of the vaccine has made much progress since data collection. Although the COVID-19 situation is dynamic with new variants developing around the world, the efficacy of the vaccines is not likely to change,¹⁶ which means the effectiveness of vaccine promotional messages also remain the same. The testing of the manipulation messages was done with students, which was a different demographic from our final sample. However, the feedback from the initial testing was useful for some of the basic logistics of the message such as the image. The data for the study was collected from MTurk, which means the sample was not representative.

Despite some of these limitations, the study contributes to the field of vaccination promotion by examining the differentiated persuasive effects of narrative and statistics in promoting COVID-19 vaccination. Findings not only add to previous literature regarding the message effects in vaccination promotion but also demonstrate the importance and

direction of tailored intervention in the context of COVID-19 vaccination promotion.

So What?

What is Already Known?

Message promotion such as using narratives are effective strategies in health promotion.

What Does This Article Add?

Using theoretically driven messages our research found that narrative messages were more persuasive for both information seeking and vaccine intention. But this was true only in the case of individuals whose perceived behavioral control was low. The inconclusive nature of narrative research may be explained by variables such as perceived behavioral control.

What are the Implications for Health Promotion Practice or Research?

Our findings show the importance of narrative messages to facilitate both information seeking and vaccination. For individuals with a positive attitude but little-to-no resource or confidence, other than providing readily accessible clinical resources and health information, campaigning with narrative-based messages may also be particularly important.

Appendix I

Facebook Post for Statistics Condition



Facebook Post for Narrative Condition



Declaration of Conflicting Interests

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Clinical Ethical Approval and Approval Number

Washington State University IRB approval prior to data collection. IRB # 18373. The WSU Human Research Protection Program (HRPP) has determined that the study satisfies the criteria for Exempt Research.

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