Taylor & Francis
Taylor & Francis Group

Journal of Health Communication
International Perspectives

ISSN: 1081-0730 (Print) 1087-0415 (Online) Journal homepage: www.tandfonline.com/journals/uhcm20

The "Whole-Of-Society" Approach for Misinformation Correction: How Expert Didactic TikTok Videos Motivate Citizen Fact-Checking and Vaccine Promotion

Gaofei Li, Mengyu Li & Sijia Yang

To cite this article: Gaofei Li, Mengyu Li & Sijia Yang (2025) The "Whole-Of-Society" Approach for Misinformation Correction: How Expert Didactic TikTok Videos Motivate Citizen Fact-Checking and Vaccine Promotion, Journal of Health Communication, 30:10-12, 356-368, DOI: 10.1080/10810730.2025.2503179

To link to this article: https://doi.org/10.1080/10810730.2025.2503179

Journal of Health Communication, 30: 356–368, 2025

ISSN: 1081-0730 print/1087-0415 online
DOI: https://doi.org/10.1080/10810730.2025.2503179

Routledge
Taylor & Francis Group

The "Whole-Of-Society" Approach for Misinformation Correction: How Expert Didactic TikTok Videos Motivate Citizen Fact-Checking and Vaccine Promotion

GAOFEI LI, MENGYU LI, and SIJIA YANG

School of Journalism and Mass Communication, University of Wisconsin-Madison, Madison, Wisconsin, USA

This study employs an experimental design to examine the effects of expert didactic corrective TikTok videos on motivating people's intentions to engage in citizen fact-checking and vaccine promotion. Our findings reveal that participants who watched expert didactic debunking videos, compared to those viewing layperson testimonial videos, reported higher intentions to correct others' misperceptions of COVID-19 vaccines and promote COVID-19 vaccines to those who have not completed the recommended vaccination. The impacts of expert didactic videos on fact-checking and vaccine-promoting intention are mediated by participants' perceived expertise of the video's source. Our findings contribute to the theoretical understanding of how multimodal correction messages motivate individuals' intentions for interpersonal behavioral outcomes. Practically, our research emphasizes the "whole-of-society" approach to combating health misinformation on video-based platforms such as TikTok.

KEYWORDS

health misinformation, multimodal correction, COVID-19, TikTok, perceived expertise

Since the onset of the COVID-19 pandemic in 2020, social media has been a pivotal channel for the dissemination of public health information (Southwick et al., 2021). While social media platforms have facilitated communication between health organizations and the public regarding COVID-19, they have also become fertile grounds for pandemic-related misinformation (Allington & Dhavan, 2020), particularly those regarding COVID-19 vaccines, which results in increased vaccine hesitancy (Kricorian et al., 2022; Lee et al., 2022).

One promising strategy for mitigating misinformation on social media is to promote citizen fact-checking—a bottom-up, non-institutional approach where ordinary citizens directly engaging with people who propagate misinformation to protect the online information environment (Bautista et al., 2023; Bode & Vraga, 2018; Micallef et al., 2020; Vraga & Bode, 2018). Prior research showed that exposure to citizen fact-checking can diminish beliefs in misinformation on health issues (Bode et al., 2020; Vraga & Bode, 2017; Walter & Murphy, 2018) and motivate further citizen fact-checking behaviors (Tully et al., 2020). The US Surgeon General, Vivek H. Murthy (2021), has urged the public and health-care professionals to join these efforts. To enhance the effectiveness of citizen fact-checking, further research is needed to explore strategies for engaging users and overcoming their reluctance to debunk misinformation (Tandoc et al., 2020; Tully et al., 2020).

Building upon existing research on textual misinformation and correction strategies (e.g., Arif et al., 2017; Y. Sun et al., 2022; Tandoc et al., 2020), this study extends to multimodal correction messages on TikTok, a popular short-video platform containing substantial health misinformation (Baghdadi et al., 2023; Basch et al., 2021; van Kampen et al., 2022). To the best of our knowledge, no prior research has yet experimentally tested multimodal correction strategies that may facilitate behavioral outcomes to combat health misinformation on this platform. This study examines how TikTok videos created by medical experts and public health professionals influence people's intentions to engage in citizen fact-checking and vaccine promotion.

Although the narrative literature tends to emphasize testimonials' persuasive advantages over didactic messages (e.g., Moyer-Gusé, 2008; Murrar & Brauer, 2019), we argue that perceived medical expertise is crucial for motivating interpersonal actions like correcting misperceptions and advocating for vaccines (e.g., Biswas et al., 2006; Goldsmith et al., 2000; Kareklas et al., 2015). Therefore, it is important to empirically test whether expert TikTok correction videos, even those employing a didactic style, may retain the benefits of motivating citizens' intentions to fact-check and promote vaccines,

Address correspondence to SIJIA YANG, School of Journalism and Mass Communication, University of Wisconsin-Madison, 821 University Ave. Madison, WI 53706, USA sijia.yang@alumni.upenn.edu
*The first two authors contributed equally.

presumably through enhancing perceived expertise. Specifically, this study aims to (1) evaluate the impact of expert-produced didactic videos (versus layperson testimonial videos) on individuals' intentions to (a) correct others' vaccine-related misperceptions (i.e., citizen fact-checking) and by extension (b) to promote COVID-19 vaccines; (2) investigate whether perceived source expertise mediates these effects.

Combatting COVID-19 Misinformation on TikTok

Misinformation and anti-vaccine content regarding COVID-19 vaccines proliferate on TikTok (Baghdadi et al., 2023; Basch et al., 2021; van Kampen et al., 2022). These videos, often characterized by humor, playacting, and engaging audio tracks (Yang et al., 2023), spread false claims about vaccine side effects, efficacy, and safety (Lundy, 2023; Yang et al., 2023). This widespread misinformation leads to vaccine hesitancy and reduces behavioral intentions to receive vaccines (Kricorian et al., 2022; Lee et al., 2022). It underscores the imperative for additional research into innovative strategies to counter the deleterious impacts of video-based misinformation.

Traditional top-down institutional fact-checking approaches, while crucial, face limitations on decentralized content platforms like TikTok. TikTok's algorithm exposes users to misinformation without active searching, accelerating its spread (Zhao, 2021). Even with interventions like warning labels, many harmful videos remain undetected and unlabeled on TikTok (Ling et al., 2023).

In contrast, motivating ordinary citizens to engage in fact-checking provides a bottom-up and user-driven solution, potentially enhancing the timely identification and correction of misinformation, especially on platforms like TikTok, known for their powerful and easy-to-use toolkit that supports multimedia production. TikTok has streamlined the creation and dissemination of audiovisual content, thereby enhancing the effectiveness and impact of citizen fact-checking efforts, compared with traditional text- or image-based formats (Josephson et al., 2020). TikTok's emphasis on visual elements encourages ordinary users to blend various creative components, such as text overlays, graphics, and audio. By integrating information across different modalities within a single video, ordinary citizens such as health-care professionals and experts can effectively convey complex arguments and present information that is otherwise mentally demanding in a more accessible and understandable manner (Cohn, 2019). Therefore, this study centers on one of the promising strategies on TikTok to encourage public participation in fact-checking and vaccine-promoting behaviors: medical experts' didactic corrections.

Enhancing Fact-Checking Engagement: The Impact of Expert Didactic Corrections

TikTok videos created by health professionals specifically for correcting misinformation and disseminating public health content have emerged as a popular solution for debunking health-related misconceptions (O'Donnell et al., 2023). Health-care professionals such as physicians, nurses, therapists, and registered dietitians—collectively termed "medfluencers" (medical influencers)—have regularly shared formal health information and advice on social media like TikTok (Mayat et al., 2022). Specific to COVID-19 vaccination, despite the relatively small portion of health experts among TikTok creators, pro-vaccine and neutral videos were more likely to be posted by health professionals than general users, and TikTok videos from health professionals (versus general users) received more public engagement on TikTok (Yang et al., 2023).

A prevailing persuasive strategy employed by medical experts and professionals on online platforms is to correct misinformation through presenting medical facts, scientific data, statistical evidence, and data visualizations in an informative and didactic manner (Buitrago & Martín-García, 2021; E. Zhang et al., 2022). A notable observation is that nearly all YouTube videos by medical experts feature a doctor or specialist providing detailed information about a disease directly to the camera, with 50% addressing prevalent misconceptions (Buitrago & Martín-García, 2021). This didactic format is also common in medical podcasts, targeting both physicians and the general public (E. Zhang et al., 2022).

Despite the widespread adoption of the didactic style by medical experts in real-world scenarios, little is known about its potential to stimulate interpersonal behavioral outcomes related to citizen fact-checking, including correcting misperceptions and advocating for the COVID-19 vaccine. To advance understanding in this understudied yet practically important area, this study examines how expert-led didactic versus layperson testimonial TikTok videos influence citizen fact-checking, focusing on perceived expertise as a key mediator. The next section elaborates on the theoretical role of perceived expertise in motivating citizen fact-checking.

Perceived Expertise as a Key Mechanism in Motivating Citizen Fact-Checking

As one dimension of source credibility, perceived expertise refers to the source's ability to provide accurate information (Hovland et al., 1953). The evaluation of expertise often occurs in the online environment through cues (Metzger & Flanagin, 2013; Metzger et al., 2010). The debate over the use of "Dr" versus "Mr" has been acknowledged in previous literature (Crisci & Kassinove, 1973; Sundar, 2008), suggesting that participants are more inclined to accept the recommendations when the source is identified as "Dr" rather than "Mr." Moreover, users often associate expertise with credibility, forming generalizations based on their past experiences (Sundar, 2008). Information on TikTok is disseminated through multimodal short videos with music, sound, speech, images, and acting (Lundy, 2023), which provides a wider range of cues to facilitate the audience's assessment of the source's expertise, sincerity, or trustworthiness while simultaneously consuming the content, ultimately shaping users' evaluations of the information and their willingness to act upon it.

Given the critical role of perceived expertise in shaping audience evaluations and behaviors, we argue that didactic corrective videos by medical experts on TikTok are particularly effective in motivating citizen fact-checking through both direct and indirect pathways. Directly, they enhance

fact-checking by providing clear, evidence-based information that increases informational utility. Indirectly, they strengthen perceptions of source expertise, boosting message credibility and empowering individuals to intervene against misinformation.

One direct pathway through which expert-led didactic videos motivate citizen fact-checking is by providing clear, evidence-based information that enhances informational utility. In correcting medical misinformation, individuals must feel assured that their beliefs are medically validated. Thus, informational utility is critical, as citizen fact-checkers need confidence in their medically accurate knowledge before correcting others (Pal et al., 2020; Yu et al., 2023). Expert videos fulfill this need by offering detailed explanations that clarify why misinformation is false, rather than simply denying it (Chan et al., 2017). By emphasizing structured factual content, expert-led videos promote higher perceived utilitarian value and directly motivate fact-checking. In contrast, layperson testimonial videos, while appealing, are often perceived as less informative (Skovsgaard & Hopmann, 2020), offering lower informational utility and reducing their effectiveness in encouraging corrective actions (Kim, 2015).

While the provision of clear, evidence-based information represents a direct mechanism motivating citizen fact-checking, didactic expert videos may also influence fact-checking behaviors indirectly by enhancing perceived expertise. We posit that on TikTok, didactic corrective videos crafted by medical experts are more likely to convey discernible cues of expertise to viewers compared to testimonial videos from laypersons. First, health professionals and experts typically make expertise cues in their online presence distinguishable through the inclusion of credentials, titles, and/or qualifications, effectively signaling their depth of knowledge and experience in the field (Kanthawala & Peng, 2021). Conversely, layperson testimonial videos typically emphasize personal experiences rather than formal expertise, which may make cues of authoritative knowledge less salient to viewers.

Second, the didactic approach, characterized by a structured and informative presentation, aligns with traditional expectations of expertise, mirroring the communication style often associated with authoritative figures in the medical field (e.g., Hoddinott & Pill, 2000). In contrast, layperson testimonials may lack an explicit educational framework, relying more on personal narrative and diminishing perceived expertise. Narratives, compared to didactic messages, effectively immerse the recipient in a storyline, fostering identification with characters and reducing counterarguing (Moyer-Gusé, 2008; Murrar & Brauer, 2019; Ratcliff & Sun, 2020). However, this approach is less effective when debunking misconceptions in specialized fields; corrections from authoritative sources are found more effective in dispelling misconceptions than those from non-expert individuals (Vraga & Bode, 2017; Vraga et al., 2022; J. Zhang et al., 2021).

Drawing from previous research on source cues (e.g., J. Sun & Pan, 2025), the perception of heightened expertise in a video source can foster social outcomes such as citizen fact-checking of COVID-19 vaccine misinformation and promotion of COVID-19 vaccine for two reasons. First, exposure to correction from a highly knowledgeable and credible source tends to result in fewer misperceptions (Kareklas et al., 2015; Vraga & Bode, 2017), an increased perception of the COVID-19 vaccines' effectiveness (Bautista et al., 2023), and an increased perception of the severity of not receiving COVID-19 vaccine. These perceptions may motivate them to take a more active role in corrective actions to combat misinformation and caution others about the danger (Kirkpatrick et al., 2021; Y. Sun et al., 2022). Second, previous research has demonstrated a link between perceived expertise and source competence (e.g., Pornpitakpan, 2004; Wilson & Sherrell, 1993). The perception of source competence, in turn, may be translated into individuals' confidence in correcting others' misbeliefs or promoting vaccination using information from sources with high levels of competence.

Building on existing literature, we pose the following hypotheses and outline our theoretical framework in Figure 1:

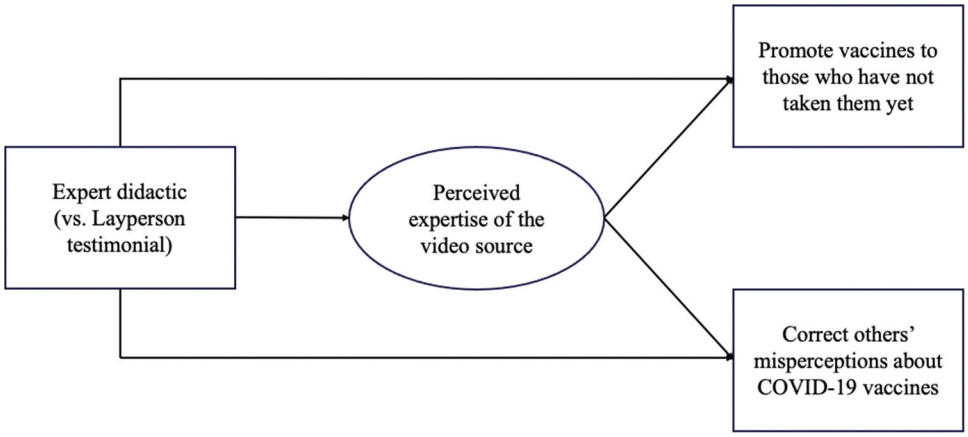

Figure 1. Theoretical framework.

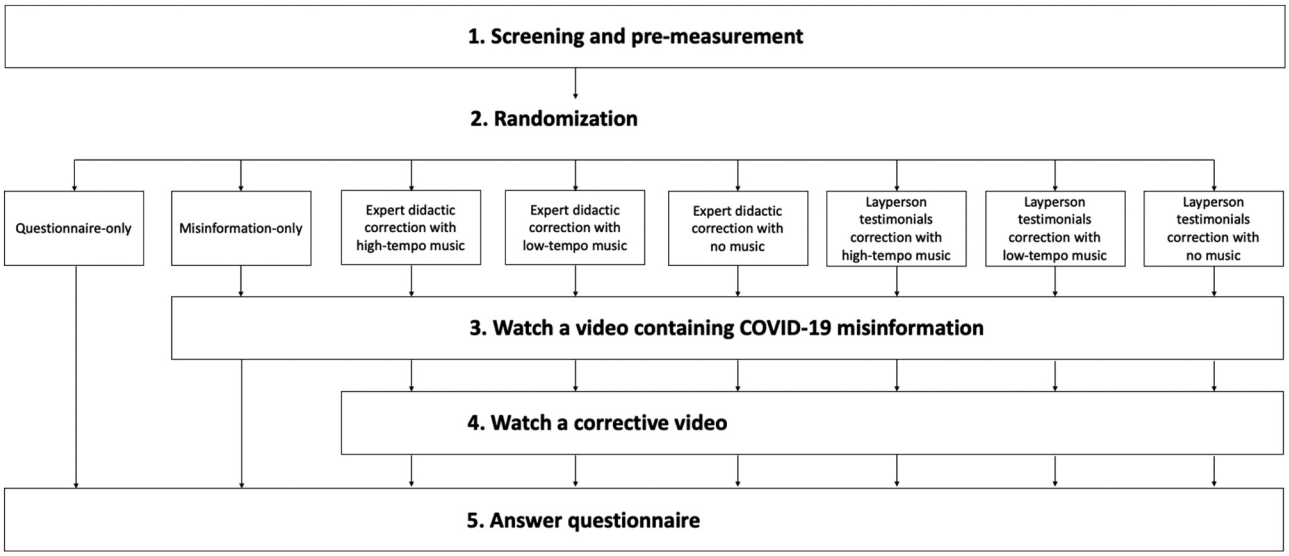

Figure 2. Flow diagram of experimental designs.

Expert didactic debunking videos, compared with layperson testimonial debunking videos, are more effective in increasing individuals' intentions (H1a) to correct misconceptions regarding COVID-19 vaccines and (H1b) to promote COVID-19 vaccines.

Exposure to expert didactic videos (vs. layperson testimonial videos) leads to higher levels of perceived expertise of the source presented in the video.

Perceived expertise of the source presented in the video mediates the effects of exposure to expert didactic videos (vs. layperson testimonial videos) on people's intentions to correct others' misperceptions of COVID-19 vaccines (H3a) and promote COVID-19 vaccines (H3b).

Method

The data reported here are part of a larger project. Additional findings on the effects of TikTok corrections and background music on COVID-19 vaccine misperceptions are reported elsewhere (Li et al., 2024). Materials related to this paper are available in the Open Science Framework repository.[1]

Procedure and Sample

For the original study, we recruited 873 participants who were or whose partner was currently pregnant, breastfeeding, or planning to have babies in the near future from Lucid in August 2022. Using a between-participants design, the study employed a 2 (debunking information type: expert didactic vs. layperson testimonial) × 3 (music tempo: no music, low tempo, high tempo) design, plus two control groups (misinformation only and questionnaire only), and successfully passed the randomization check (chi-square = 118.31, $p = .129$).

The sample of the current study is composed of 623 participants assigned to the six treatment conditions. The two control conditions were excluded from the current analysis as the primary objective of this study is to compare two types of debunking videos (i.e., expert didactic vs. layperson testimonial) in terms of their effects on intentions for citizen fact-checking and vaccine promotion, while testing the mediating mechanism through perceived expertise of the featured character. The core outcome variables and this mediating variable were not measured in the two control conditions since there were no debunking videos displayed. Demographic statistics of the sample can be found in Appendix A. Additionally, music tempo did not significantly interact with debunking video type and this factor was therefore collapsed in subsequent analyses as it was not central to the current research focus.

As shown in Figure 2, all participants first completed screening questions and pre-treatment covariate measures (see Appendix B). Participants in the seven experimental groups then watched a COVID-19 misinformation video, followed by a debunking video tailored to their assigned condition: one of six combinations of video type (expert didactic vs. layperson testimonial) and background music (no music, low-tempo, or high-tempo). The questionnaire-only control group did not view any videos.

After viewing the corrective video, participants rated the source's perceived expertise, then answered questions on their intentions to promote vaccines and correct misinformation, along with demographic information. Other intrapersonal outcomes (e.g., information recall, counterarguing, and misperceptions) were measured but are reported elsewhere.

[1] https://osf.io/zw2qh/?view_only=5734b0ebc1d44f42b46896929768669a

Message Stimuli

To mitigate case-category confounding (Slater et al., 2015), we curated a total of 45 videos from TikTok using keyword-based scraping (see Appendix C) and manual screening. These comprised 15 videos with misinformation related to the detrimental effects of COVID-19 vaccines on fertility, 15 videos for the deployment of expert didactic correction, and 15 videos designed to feature layperson testimonials for correction.

The expert didactic correction videos were created and uploaded by female healthcare professionals and experts, with 5 videos from researchers, 7 videos from doctors, and 3 videos from nurses. These experts debunked vaccine-infertility misinformation utilizing factual information, the most up-to-date scientific evidence, and occasional data visualizations, rather than personal anecdotes or stories. In contrast, the layperson testimonial videos showcase women sharing positive experiences receiving COVID-19 vaccines while pregnant. For consistency and to avoid confounds related to video length, all 45 videos were edited to a similar duration (around 50–90 seconds), without any original background music. Details on the original design's music manipulation are in Appendix D.

Manipulation Check

To confirm that expert didactic and layperson testimonial videos were perceived differently regarding the inclusion of personal stories and experiences among the two collapsed groups, participants rated their level of agreement (1 = strongly disagree, 5 = strongly agree) with the following three statements: "The video I watched describes details about someone's personal experiences related to COVID-19 vaccination;" "The video conveyed someone's thoughts and feelings regarding how COVID-19 vaccination affected their own pregnancy experiences;" "The main character featured in this video appears to be a pregnant woman or a mom who has recently given birth" ($\alpha = .81$, $M = 3.26$, SD = 0.99). The result showed that, in comparison to participants exposed to expert didactic videos, those watched layperson testimonial videos reported significantly higher agreement with the provided scale ($F(1, 621) = 119.8$, $p < .001$).

Measures

Citizen Fact-Checking Intentions

Participants indicated their intentions to correct others when they hold misperceptions of the COVID-19 vaccine ($M = 2.90$, SD = 1.41) on a scale ranging from 1 (not at all) to 5 (very much).

Vaccine Promotion Intentions

Vaccine promotion intentions are operationalized through a single question gauging individuals' willingness to promote COVID-19 vaccines to those who have not taken it yet ($M = 2.70$, SD = 1.48) on a scale from 1 (not at all) to 5 (very much).

Perceived Source Expertise

According to Ohanian's validated scale (Ohanian, 1990), participants were asked to rate whether they think the source of the video is an expert, experienced, knowledgeable, qualified, and skilled or not, using a 7-point semantic differential scale ($\alpha = .94$, $M = 4.19$, SD = 1.76). Responses were averaged to form a single score, with higher values indicating higher levels of perceived expertise of the source of the correction video.

Covariates

To enhance the precision of estimation, we controlled for a range of covariates in the reported analyses. The covariates included are demographic variables (i.e., age, gender, ethnicity, education level, income, partisanship, and rurality), epistemic beliefs (Garrett et al., 2017), participants' daily use of TikTok, fact-checking experience, and perceptions related to COVID-19 such as perceived safety and effectiveness of COVID-19 vaccines (Nan et al., 2012), perceived susceptibility to COVID-19, and the occurrences of COVID-19 infections of themselves and people around them. More details about measurement and descriptive statistics of the aforementioned variables are reported in Appendix A and B.

Statistical Analysis

To test H1 and H2, we conducted multiple regression analyses with robust standard errors to examine the effects of debunking video type on perceived expertise and participants' intentions to correct COVID-19 vaccine misperceptions and promote vaccination. To improve estimation efficiency, analyses were conducted with and without covariates, including music tempo conditions. Reported results are based on conditional models; unconditional model results are shown in Table 1.

Regarding H3, we employed structural equation modeling with the lavaan package in R, using 10,000 bootstrapped samples to assess estimation uncertainties. Within our model, the mediator (perceived expertise of the video source) regressed on information type (expert didactic correction videos versus layperson testimonial videos), which was coded into a dummy variable. The perceived expertise, along with the information type dummy variable, was then regressed on the two outcome variables—intentions to correct others' misperceptions and promote COVID-19 vaccines. The perceived expertise of the video source was a latent variable constituted by the five items on the scale. Covariates were introduced to predict both the mediator and the outcomes for stronger causal inference (Imai et al., 2010).

Results

Our findings revealed an overall significant effect of correction video types on increasing people's intentions to correct others' COVID-19 vaccine misperceptions, which supported H1a. Table 1 shows that compared to layperson testimonials, expert didactic correction videos were linked to an increase of 0.26 in reported intentions to correct other people's misperceptions of COVID-19 vaccines without accounting for covariate effects

Table 1. Effects of video types on perceived expertise of video sources and intentions to promote vaccine and correct others' misperceptions of COVID-19 vaccines

	Perceived expertise b [95% CI]		Promote vaccines to others b [95% CI]		Correct others' misbeliefs b [95% CI]	
$N = 623$	Unconditional	Conditional	Unconditional	Conditional	Unconditional	Conditional
Covariates	No	Yes	No	Yes	No	Yes
Expert didactic	0.35*	0.36**	0.20	0.21*	0.25*	0.26*
(vs. Layperson testimonial)	[0.07, 0.62]	[0.10, 0.62]	[−0.03, 0.44]	[0.01, 0.41]	[0.03, 0.47]	[0.06, 0.46]
Constant	4.00***	3.52***	2.59***	2.40***	2.77***	2.77***
	[3.80, 4.20]	[2.97, 4.08]	[2.31, 2.76]	[1.98, 2.82]	[2.61, 2.94]	[2.32, 3.22]
F Statistic	6.20*	5.87***	2.92	18.96***	4.85*	10.59***
	(df = 1; 621)	(df = 28; 594)	(df = 1; 621)	(df = 28; 594)	(df = 1; 621)	(df = 28; 594)

(95% CI [0.03, 0.47], $p = .027$). This effect remained significant after controlling for the covariates, with an increase of 0.26 (95% CI [0.06, 0.46], $p = .010$).

In contrast, types of correction videos only significantly impacted people's reported intentions to promote vaccines to others in the conditional model (b = 0.21, 95% CI [0.01, 0.41], $p = .038$), but not in the unconditional model (b = 0.20, 95% CI [−0.03, 0.44], $p = .088$). As expected, the coefficients in the two models were similar. Given the randomized design, we still conclude that expert didactic videos improved intentions for vaccine promotion, supporting H1b.

Additionally, people perceived expert didactic content with higher levels of expertise compared to layperson testimonials, showing an increase of 0.35 (95% CI [0.07, 0.62], $p = .013$) without covariates. After adjusting for covariates, this main effect remained significant, with an increase of 0.36 (95% CI [0.10, 0.62], $p = .006$). While the effect size appears modest, the significant results nonetheless indicate the impact of expert didactic videos on increasing individuals' intentions to correct others' misperceptions on COVID-19 vaccines, especially given the variability of content features and the characteristics of the content creators in the current stimuli pool. Therefore, H2 is supported, suggesting that exposure to expert didactic videos (versus layperson testimonial videos) leads to higher levels of perceived expertise of the source presented in the video.

We then examined the indirect effects of correction video types on misperception correction intentions and vaccine promotion intentions through perceived expertise, as proposed in H3a and H3b. The statistics show a good model fit of the mediation model (χ^2 (125) = 200.94, $p < .001$; CFI = 0.98; TLI = 0.96; RMSEA = .03; SRMR = .01). As shown in Figure 3, the effects of expert didactic correction videos on misperception correction intentions and vaccine promotion, in comparison to those of layperson testimonial correction videos, are mediated by the perceived expertise of the correction video's source after controlling for covariates ($b_{misperception\ correction} = 0.04$, 95% $CI_{bootstrapped}$ [0.01, 0.09]; $b_{vaccine\ promotion} = 0.07$, 95% $CI_{bootstrapped}$ [0.01, 0.14]). The results of the mediation analysis suggest that the perceived expertise of the information source fully mediates the effects of correction video types on vaccine

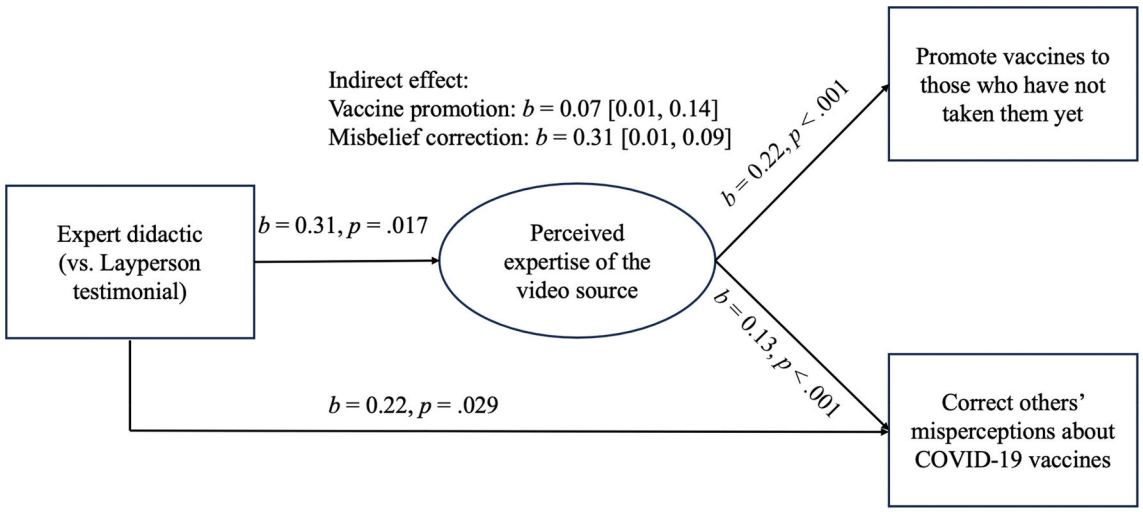

Figure 3. SEM results.

promotion intentions, while partially mediates the relationship between correction video types and misperception correction intentions. Thus, H3a and H3b are supported.

Discussion

This study aims to improve understanding of the properties of video-based messages that encourage individuals' participation in citizen fact-checking. Our findings revealed that compared to layperson testimonials, expert didactic correction videos on TikTok positively impact people's perceived expertise of the corrective information source. Furthermore, these expert correction videos, compared to testimonials, enhance people's intentions to correct others' misbeliefs about COVID-19 vaccines and promote COVID-19 vaccines. We also explored a potential underlying mechanism and found that perceived expertise mediated the effects of correction videos on these intentions.

Theoretically, this study addresses a gap in health misinformation research by studying video-based misinformation correction, its social consequences including citizen fact-checking and vaccine promotion, and the underlying mechanism through perceived expertise. Expanding on O'Donnell et al. (2023) descriptive research on expert didactic corrective videos' prevalence on TikTok, our study provides strong evidence for their effectiveness in combating health misinformation. Importantly, we move beyond prior research focusing on intrapersonal misperception correction by highlighting the social outcomes of debunking videos—motivating citizen fact-checking and vaccine advocacy. This enriches our understanding of expert didactic corrective videos, revealing their potential to foster positive community-level responses to health misinformation.

Furthermore, our results align with the source credibility theory (Hovland et al., 1953) as we observed that participants exposed to expert didactic videos showed a higher intention to correct misperceptions and promote COVID-19 vaccines, through the perceived expertise of the health professionals. These findings are consistent with prior research suggesting the impact of perceived expertise in enhancing the vaccine intentions with the source's expertise cues (Kareklas et al., 2015) and its mediating role in the relationship between exposure to correction and intentions to receive vaccines (Bautista et al., 2023). While testimonials might be seen as advantageous over didactic messages (e.g., Moyer-Gusé, 2008; Murrar & Brauer, 2019), our findings suggest that this may not be the case when considering correction on video-based social media platforms. The didactic style of information presentation in the video is effective in increasing the perceived source credibility, further motivating citizen fact-checking and vaccine-promoting behaviors.

The present study broadens existing literature on source credibility by examining citizen fact-checking to combat misinformation, moving beyond solely addressing misbelief reduction. Our research underscores the shift toward encouraging interpersonal behaviors to help mitigate the adverse effects of misinformation spread, and emphasizes the impact of perceived expertise in enhancing intentions for corrective and vaccine-promoting actions. It is crucial to note that, despite the significant mediating effects of perceived expertise, other potential motivators for citizen action likely exist. Given limitations inherent to mediation analyses (Imai et al., 2010), our analyses cannot rule out alternative unexplored mediating pathways. Given the influential role of general social media users, efforts should focus on motivating citizen engagement in fact-checking and vaccine promotion, such as leveraging the impact of emotions in TikTok videos on information acceptance and behavior change.

Practical implications of this study are twofold. First, this study offers practical takeaways for health professionals. They are encouraged to create and deliver debunking messages on video-based platforms to motivate public participation in correcting health misinformation. Utilizing a didactic corrective style incorporating statistically supported medical information in an easily understandable manner could be an effective persuasive technique. Additionally, health-care professionals can enhance perceived expertise and credibility of their videos by making their credentials more visible to the public, such as displaying medical diplomas or professional titles in their videos and profiles. Medical experts' participation in online health-related fact-checking, though outside their regular job responsibilities, is even more important to counter rapid-spreading videos endorsing vaccine hesitancy, often created and disseminated by those with similar medical credentials. Otherwise, voices grounded in science and facts might lose the online battleground to soundbites amplifying hesitancy and falsehoods.

From the standpoint of social media platforms, partnering with health organizations is crucial to ensuring a consistent flow of accurate and evidence-based information. Additionally, video-based platforms can empower health-care professionals to create didactic videos more efficiently and effectively by offering pre-made video templates and design assets tailored for health-related content, including customizable infographics, charts, and icons. That said, given the pivotal role of recommendation algorithms in influencing the overall reach and exposure of any video (Bhandari & Bimo, 2022; Cappella et al., 2015), we encourage future research to study the effects of content features and the implications of recommendation algorithms, such as how certain content features, along with the characteristics of the content creator (e.g., gender, location in the network, size of followers), might better trigger algorithmic recommendation.

While the study offers valuable insights, limitations exist. First, we utilized TikTok videos created by real users and observed the prevalence of the employment of a didactic format among medical experts, whereas lay creators predominantly share personal and testimonial narratives, as shown in prior research on other video-based social media platforms (e.g., Buitrago & Martín-García, 2021). Thus, our expert-didactic and layperson-testimonial conditions cannot distinguish the specific effects of corrective information style (didactic versus testimonials) and source (medical experts versus laypeople). Consequently, even though this approach captures the platform's actual content practices and enhances external validity, we lack evidence on whether the advantages of expert didactic

messages stem from the source or the message format itself. Our findings speak to their combined effects rather than the respective impacts of each component. It is important to note that experts can use other persuasive techniques besides didacticism, like narratives (e.g., personal or fictional anecdotes) in some contexts such as cancer screening (Scaglioni et al., 2024). Additionally, while we controlled factors like video length and content creator gender, other details such as communicators' age, cultural background, and visuals (e.g., backgrounds and color schemes) were not strictly controlled. We opted for a design that used a relatively large number of video stimuli per condition, rather than a single video, to help mitigate case-category confounding. This approach prioritizes generalizability to real-world scenarios but cannot eliminate all possible confounds related to the numerous dimensions along which video content could vary. In the interest of transparency, we released the entire stimuli pool as well as a replication dataset for readers who might want to conduct additional checks.

We encourage future studies to isolate these effects using more controlled stimuli with more diverse content creator characteristics (e.g., age and gender), such as creating original video stimuli and using a factorial design to evaluate message format and source separately, explore more nuanced features in debunking messages (e.g., scenarios where an expert debunks misinformation video originally created by another perceived expert), and minimize the influence of other details in the video.

Second, mediation analyses cannot establish causality (Imai et al., 2010). To mitigate potential confounding in our reported mediation analyses, we incorporated a large set of pre-treatment covariates. While our primary conclusions remain mostly consistent across multiple analyses, readers need to approach the results with caution. It is also crucial to acknowledge that the current study focused on assessing behavioral intentions rather than actual behaviors. While measuring intentions offers valuable diagnostic insights (O'Keefe, 2021), it is imperative for future research to enhance the robustness of our findings by collecting actual behavioral data. Finally, the current study investigated the specific impact of COVID-19 vaccines on fertility within a particular group of population. Future research should consider expanding the scope of investigation to encompass additional COVID-19 vaccine-related topics and a broader population.

Conclusion

During the COVID-19 pandemic, widespread misinformation on TikTok negatively impacted public health. This study experimentally tested the effectiveness of TikTok videos by medical experts versus laypeople in promoting citizen fact-checking and vaccine advocacy. Results showed that expert-produced videos increased participants' intentions to correct COVID-19 vaccine misconceptions and promote vaccination, with effects mediated by perceived expertise of the video's source. Theoretically, the study advances misinformation research by highlighting interpersonal outcomes of correction exposure on TikTok. Practically, we underscore the role of "med-influencers" in advancing a "whole-of-society" approach to combating health misinformation.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by funding from the John S. and James L. Knight Foundation [Award Number: MSN231314] and the National Science Foundation through the Convergence Accelerator Track F: Course Correct: Precision Guidance Against Misinformation [Agency Tracking Number: 2230692; Award Number: MSN 266268]. Additional support for this research was provided by the Office of the Vice Chancellor for Research and Graduate Education at the University of Wisconsin-Madison with funding from the Wisconsin Alumni Research Foundation [Award Number: MSN231886].

ORCID

Gaofei Li http://orcid.org/0009-0008-3661-6276
Mengyu Li http://orcid.org/0000-0002-7606-9659
Sijia Yang http://orcid.org/0000-0003-4209-9881

References

Allington, D., & Dhavan, N. (2020). *The relationship between conspiracy beliefs and compliance with public health guidance with regard to COVID-19*. Centre for Countering Digital Hate.

Arif, A., Robinson, J. J., Stanek, S. A., Fichet, E., Townsend, P., Worku, Z., & Starbird, K. (2017). A closer look at the self-correcting crowd: Examining corrections in online rumors. *Proceedings of the ACM Conference on Computer Supported Cooperative Work* (pp. 155–168). https://doi.org/10.1145/2998181.2998294

Baghdadi, J. D., Coffey, K. C., Belcher, R., Frisbie, J., Hassan, N., Sim, D., & Malik, R. D. (2023). #Coronavirus on TikTok: User engagement with misinformation as a potential threat to public health behavior. *JAMIA Open*, *6*(1), ooad013. https://doi.org/10.1093/jamiaopen/ooad013

Basch, C. H., Meleo-Erwin, Z., Fera, J., Jaime, C., & Basch, C. E. (2021). A global pandemic in the time of viral memes: COVID-19 vaccine misinformation and disinformation on TikTok. *Human Vaccines & Immunotherapeutics*, *17*(8), 2373–2377. https://doi.org/10.1080/21645515.2021.1894896

Bautista, J. R., Zhang, Y., & Gwizdka, J. (2023). *Correcting vaccine misinformation on social media: Effect of social correction methods on vaccine skeptics' intention to take COVID-19 vaccine*. New Media & Society. https://doi.org/10.1177/14614448231169697

Bhandari, A., & Bimo, S. (2022). Why's everyone on TikTok now? The algorithmized self and the future of self-making on social media. *Social Media+ Society*, *8*(1), 20563051221086241. https://doi.org/10.1177/20563051221086241

Biswas, D., Biswas, A., & Das, N. (2006). The differential effects of celebrity and expert endorsements on consumer risk perceptions. The role of consumer knowledge, perceived congruency, and product technology orientation. *Journal of Advertising*, *35*(2), 17–31. https://doi.org/10.1080/00913367.2006.10639231

Bode, L., & Vraga, E. K. (2018). See something, say something: Correction of global health misinformation on social media. *Health Communication*, *33*(9), 1131–1140. https://doi.org/10.1080/10410236.2017.1331312

Bode, L., Vraga, E. K., Tully, M., Sangraula, A., Smith, M. C., & Quinn, S. C. (2020). Not just conspiracy theories: Vaccine opponents

and proponents add to the COVID-19 'infodemic' on Twitter. *Harvard Kennedy School Misinformation Review*, *1*. https://doi.org/10.37016/mr-2020-026

Buitrago, Á., & Martín-García, A. (2021). YouTube doctors confronting COVID-19: Scientific-medical dissemination on YouTube during the outbreak of the coronavirus crisis. *International Journal of Environmental Research and Public Health*, *18*(21), 11229. https://doi.org/10.3390/ijerph182111229

Cappella, J. N., Yang, S., & Lee, S. (2015). Constructing recommendation systems for effective health messages using content, collaborative, and hybrid algorithms. *Annals of the American Academy of Political and Social Science*, *659*(1), 290–306. https://doi.org/10.1177/0002716215570573

Chan, M. P. S., Jones, C. R., Hall Jamieson, K., & Albarracín, D. (2017). Debunking: A meta-analysis of the psychological efficacy of messages countering misinformation. *Psychological Science*, *28*(11), 1531–1546. https://doi.org/10.1177/0956797617714579

Cohn, N. (2019). Visual narratives and the mind: Comprehension, cognition, and learning. In K. D. Federmeier & D. M. Beck (Eds.), *The psychology of learning and motivation: Knowledge and vision* (pp. 97–127). Elsevier Academic Press. https://psycnet.apa.org/doi/10.1016/bs.plm.2019.02.002

Crisci, R., & Kassinove, H. (1973). Effect of perceived expertise, strength of advice, and environmental setting on parental compliance. *Journal of Social Psychology*, *89*(2), 245. https://doi.org/10.1080/00224545.1973.9922597

Garrett, R. K., Weeks, B. E., & Lozano, S. (2017). Epistemic beliefs' role in promoting misperceptions and conspiracist ideation. *PLoS One*, *12*(9), e0184733. https://doi.org/10.1371/journal.pone.0184733

Goldsmith, R. E., Lafferty, B. A., & Newell, S. J. (2000). The influence of corporate credibility on consumer attitudes and purchase intent. *Corporate Reputation Review*, *3*(4), 304–318. https://doi.org/10.1057/palgrave.crr.1540122

Hoddinott, P., & Pill, R. (2000). A qualitative study of women's views about how health professionals communicate about infant feeding. *Health Expectations*, *3*(4), 224–233. https://doi.org/10.1046/j.1369-6513.2000.00108.x

Hovland, C. I., Janis, I. L., & Kelley, H. H. (1953). *Communication and Persuasion*. Yale University Press.

Imai, K., Keele, L., & Tingley, D. (2010). A general approach to causal mediation analysis. *Psychological Methods*, *15*(4), 309–334. https://doi.org/10.1037/a0020761

Josephson, S., Kelly, J., & Smith, K. (Eds.). (2020). *Handbook of visual communication: Theory, methods, and media* (2nd ed.). Routledge.

Kanthawala, S., & Peng, W. (2021). Credibility in online health communities: Effects of moderator credentials and endorsement cues. *Journalism and Media*, *2*(3), 379–396. https://doi.org/10.3390/journalmedia2030023

Kareklas, I., Muehling, D. D., & Weber, T. J. (2015). Reexamining health messages in the digital age: A fresh look at source credibility effects. *Journal of Advertising*, *44*(2), 88–104. https://doi.org/10.1080/00913367.2015.1018461

Kim, H. S. (2015). Attracting views and going viral: How message features and news-sharing channels affect health news diffusion. *Journal of Communication*, *65*(3), 512–534. https://doi.org/10.1111/jcom.12160

Kirkpatrick, A. W., Park, M., Domgaard, S., Zhao, W., Steinberg, C., & Hsu, Y. (2021). Vaccine videos and information sharing: The effects of framing, evidence type, and speaker expertise. *Journal of Health Communication*, *26*(9), 608–617. https://doi.org/10.1080/10810730.2021.1983892

Kricorian, K., Civen, R., & Equils, O. (2022). COVID-19 vaccine hesitancy: Misinformation and perceptions of vaccine safety. *Human Vaccines & Immunotherapeutics*, *18*(1), 1950504. https://doi.org/10.1080/21645515.2021.1950504

Lee, S. K., Sun, J., Jang, S., & Connelly, S. (2022). Misinformation of COVID-19 vaccines and vaccine hesitancy. *Scientific Reports*, *12*(1), 13681. https://doi.org/10.1038/s41598-022-17430-6

Li, M., Li, G., Yang, S., & Stromer-Galley, J. (2024). Correction by distraction: How high-tempo music enhances medical experts' debunking TikTok videos. *Journal of Computer-Mediated Communication*, *29*(5), zmae007. https://doi.org/10.1093/jcmc/zmae007

Ling, C., Gummadi, K. P., & Zannettou, S. (2023). "Learn the facts about COVID-19": Analyzing the use of warning labels on TikTok videos. In Y.-R. Lin, M. Cha, & D. Quercia (Eds.), Proceedings of the International AAAI Conference on Web and Social Media, Cyprus, Palo Alto, California USA, June 5–8, 2023 (Vol. 17. pp. 554–565). AAAI Press. https://doi.org/10.1609/icwsm.v17i1.22168

Lundy, M. (2023). TikTok and COVID-19 vaccine misinformation: New avenues for misinformation spread, popular infodemic topics, and dangerous logical fallacies. *International Journal of Communication*, *17*, 3364–3387.

Mayat, N. Y., Edwards, S. L., & Guckian, J. (2022). Is social media changing how we become healthcare professionals? Reflections from some practitioners. In M. E. L. Brown, V. Mario & G. M. Finn (Eds.), *Applied philosophy for health professions education: A journey towards mutual understanding* (pp. 279–292). Springer. https://doi.org/10.1007/978-981-19-1512-3_19

Metzger, M. J., & Flanagin, A. J. (2013). Credibility and trust of information in online environments: The use of cognitive heuristics. *Journal of Pragmatics*, *59*, 210–220. https://doi.org/10.1016/j.pragma.2013.07.012

Metzger, M. J., Flanagin, A. J., & Medders, R. B. (2010). Social and heuristic approaches to credibility evaluation online. *Journal of Communication*, *60*(3), 413–439. https://doi.org/10.1111/j.1460-2466.2010.01488.x

Micallef, N., He, B., Kumar, S., Ahamad, M., & Memon, N. (2020, December). The role of the crowd in countering misinformation: A case study of the COVID-19 infodemic. *2020 IEEE International Conference on Big Data* (pp. 748–757). IEEE. https://doi.org/10.1109/BigData50022.2020.9377956

Moyer-Gusé, E. (2008). Toward a theory of entertainment persuasion: Explaining the persuasive effects of entertainment-education messages. *Communication Theory*, *18*(3), 407–425. https://doi.org/10.1111/j.1468-2885.2008.00328.x

Murrar, S., & Brauer, M. (2019). Overcoming resistance to change: Using narratives to create more positive intergroup attitudes. *Current Directions in Psychological Science*, *28*(2), 164–169. https://doi.org/10.1177/0963721418818552

Murthy, V. H. (2021). Confronting health misinformation: The U.S. Surgeon General's advisory on building a healthy information environment. Retrieved May 19, 2022 from https://www.hhs.gov/sites/default/files/surgeon-general-misinformation-advisory.pdf

Nan, X., Xie, B., & Madden, K. (2012). Acceptability of the H1N1 vaccine among older adults: The interplay of message framing and perceived vaccine safety and efficacy. *Health Communication*, *27*(6), 559–568. https://doi.org/10.1080/10410236.2011.617243

O'Donnell, N., Jerin, S. I., & Mu, D. (2023). Using TikTok to educate, influence, or inspire? A content analysis of health-related EduTok videos. *Journal of Health Communication*, *28*(8), 539–551. https://doi.org/10.1080/10810730.2023.2234866

Ohanian, R. (1990). Construction and validation of a scale to measure celebrity endorsers' perceived expertise, trustworthiness, and attractive-

ness. *Journal of Advertising*, *19*(3), 39–52. https://doi.org/10.1080/00913367.1990.10673191

O'Keefe, D. J. (2021). Persuasive message pretesting using non-behavioral outcomes: Differences in attitudinal and intention effects as diagnostic of differences in behavioral effects. *Journal of Communication*, *71*(4), 623–645. https://doi.org/10.1093/joc/jqab017

Pal, A., Chua, A. Y., & Goh, D. H. L. (2020). How do users respond to online rumor rebuttals? *Computers in Human Behavior*, *106*, 106243. https://doi.org/10.1016/j.chb.2019.106243

Pornpitakpan, C. (2004). The persuasive effect of circadian arousal, endorser expertise, and argument strength in advertising. *Journal of Global Marketing*, *17*(2–3), 141–172. https://doi.org/10.1300/J042v17n02_07

Ratcliff, C. L., & Sun, Y. (2020). Overcoming resistance through narratives: Findings from a meta-analytic review. *Human Communication Research*, *46*(4), 412–443. https://doi.org/10.1093/hcr/hqz017

Scaglioni, G., Chiereghin, A., Squillace, L., De Frenza, F., Kregel, J. M., Bazzani, C., Mezzetti, F., & Cavazza, N. (2024). Didactic and narrative persuasion: An experiment to promote colorectal cancer screening. *Applied Psychology Health and Well-Being*, *16*(2), 497–514. https://doi.org/10.1111/aphw.12501

Skovsgaard, M., & Hopmann, D. N. (2020). Handle with care: How exemplars affect the perceived appeal and informativeness of news stories. *Journalism Studies*, *21*(8), 1146–1165. https://doi.org/10.1080/1461670X.2020.1737565

Slater, M. D., Peter, J., & Valkenberg, P. (2015). Message variability and heterogeneity: A core challenge for communication research. *Communication Yearbook*, *39*(1), 3–31. https://doi.org/10.1080/23808985.2015.11679170

Southwick, L., Guntuku, S. C., Klinger, E. V., Seltzer, E., McCalpin, H. J., & Merchant, R. M. (2021). Characterizing COVID-19 content posted to TikTok: Public sentiment and response during the first phase of the COVID-19 pandemic. *Journal of Adolescent Health*, *69*(2), 234–241. https://doi.org/10.1016/j.jadohealth.2021.05.010

Sun, J., & Pan, W. (2025). Self-correction or other-correction: The effects of source consistency and ways of correction on sharing intention of health misinformation correction. *Health Communication*, *40*(3), 361–371. https://doi.org/10.1080/10410236.2024.2346674

Sun, Y., Chia, S. C., Lu, F., & Oktavianus, J. (2022). The battle is on: Factors that motivate people to combat anti-vaccine misinformation. *Health Communication*, *37*(3), 327–336. https://doi.org/10.1080/10410236.2020.1838108

Sundar, S. S. (2008). *The MAIN model: A heuristic approach to understanding technology effects on credibility.* MacArthur Foundation Digital Media and Learning Initiative.

Tandoc, E. C., Lim, D., & Ling, R. (2020). Diffusion of disinformation: How social media users respond to fake news and why. *Journalism*, *21*(3), 381–398. https://doi.org/10.1177/1464884919868325

Tully, M., Bode, L., & Vraga, E. K. (2020). Mobilizing users: Does exposure to misinformation and its correction affect users' responses to a health misinformation post? *Social Media+ Society*, *6*(4). https://doi.org/10.1177/2056305120978377

van Kampen, K., Laski, J., Herman, G., & Chan, T. M. (2022). Investigating COVID-19 vaccine communication and misinformation on TikTok: Cross-sectional study. *Jmir Infodemiology*, *2*(2), e38316. https://doi.org/10.2196/38316

Vraga, E. K., & Bode, L. (2017). Using expert sources to correct health misinformation in social media. *Science Communication*, *39*(5), 621–645. https://doi.org/10.1177/1075547017731776

Vraga, E. K., & Bode, L. (2018). I do not believe you: How providing a source corrects health misperceptions across social media platforms. *Information, Communication & Society*, *21*(10), 1337–1353. https://doi.org/10.1080/1369118X.2017.1313883

Vraga, E. K., Bode, L., & Tully, M. (2022). Creating news literacy messages to enhance expert corrections of misinformation on twitter. *Communication Research*, *49*(2), 245–267. https://doi.org/10.1177/0093650219898094

Walter, N., & Murphy, S. T. (2018). How to unring the bell: A meta-analytic approach to correction of misinformation. *Communication Monographs*, *85*(3), 423–441. https://doi.org/10.1080/03637751.2018.1467564

Wilson, E. J., & Sherrell, D. L. (1993). Source effects in communication and persuasion research: A meta-analysis of effect size. *Journal of the Academy of Marketing Science*, *21*(2), 101–112. https://doi.org/10.1007/BF02894421

Yang, B., Li, Y., Terán, L., Choi, E., & Choi, Y. (2023). COVID-19 vaccines #ForYou: Analyzing COVID-19 vaccine videos on TikTok during the early phase of the vaccine rollout in the U.S. *Health Communication*, *39*(8), 1–12. https://doi.org/10.1080/10410236.2023.2227431

Yu, W., Payton, B., Sun, M., Jia, W., & Huang, G. (2023). Toward an integrated framework for misinformation and correction sharing: A systematic review across domains. *New Media & Society*, *25*(8), 2241–2267. https://doi.org/10.1177/14614448221116569

Zhang, E., Trad, N., Corty, R., Zohrob, D., Trivedi, S., & Rodman, A. (2022). How podcasts teach: A comprehensive analysis of the didactic methods of the top hundred medical podcasts. *Medical Teacher*, *44*(10), 1146–1150. https://doi.org/10.1080/0142159X.2022.2071691

Zhang, J., Featherstone, J. D., Calabrese, C., & Wojcieszak, M. (2021). Effects of fact-checking social media vaccine misinformation on attitudes toward vaccines. *Preventive Medicine*, *145*, 106408. https://doi.org/10.1016/j.ypmed.2020.106408

Zhao, Z. (2021). Analysis on the "Douyin (Tiktok) Mania" phenomenon based on recommendation algorithms. E3S Web of Conferences (Vol. 235). EDP Sciences. https://doi.org/10.1051/e3sconf/202123503029

APPENDIX

Appendix A. Descriptive statistics for demographic variables

Dataset	Sub-dataset with 6 conditions	Full dataset with 8 conditions
N	623	873
Age	29.41 (6.50)	29.62 (6.57)
Gender	Male: 23.92% Female: 76.08%	Male: 25.20% Female: 74.68%
Race	White: 62.60%	White: 64.03%
Ethnicity	Hispanic: 19.42%	Hispanic:19.59%
Rurality	City	Suburb
Income	between $20,001 and $60,000	between $20,001 and $60,000
Education	high school diploma or lower	high school diploma or lower
Partisanship	Democrats: 32.42% Independent: 35.31% Republican: 24.24%	Democrats: 34.82% Independent: 40.44% Republican: 24.74%

Note. The sample mean is reported for age, with standard deviation in parenthesis; the sample median is reported for rurality, income, and education; the sample proportion is reported for gender, race, ethnicity, and partisanship.

Appendix B. Description of covariates and the descriptive statistics

Measure	Description	subset			Full data		
		Alpha	M	SD	Alpha	M	SD
Epistemic beliefs	Participants filled out a 12-item questionnaire designed by Garrett et al. (2017)to evaluate their beliefs about knowledge and knowing. This questionnaire was structured into the following three components, each containing four items. Faith in intuition for facts Need for evidence Truth is political For the purpose of constructing a dependable scale, each group of the 4 items were combined and averaged.	0.76	3.72	0.73	0.78	3.69	0.75
		0.73	3.68	0.73	0.68	3.69	0.84
		0.77	3.26	0.86	0.77	3.26	0.87
TikTok use	Participants were asked to report their with frequency of using video consumption within the past month by answering a single item. Those who reported never or rarely watching TikTok videos had their responses coded as 0, while those who indicated regular consumption had their TikTok usage coded as 1.	-	0.79	0.41	-	0.79	0.41
Past experiences with encountering fact-checking	Participants were inquired about their levels of agreement with 6 statements about their past encounters with fact-checking (1 = strongly disagree, 5 = strongly agree). Subsequently, the average of the responses to these six items was computed to establish a reliable scale.	0.75	3.28	0.77	0.76	3.29	0.79
COVID-19 vaccine	Participants were asked to report their COVID-19 vaccine status, with the response options of 1 for "Yes" indicating they have received at least one dose of the vaccine, and 0 for "No" indicating they have not.	-	0.52	0.50	-	0.53	0.50
Perceived vaccine safety	Perceived vaccine safety is assessed by a three-item scale developed by Nan et al. (2012). Participants reported the extent to which the three items align with their perceptions of the safety of COVID-19 vaccine, using a rating scale ranging from 1 (strongly disagree) to 5 (strongly agree). The average of responses to these three items was calculated to establish a reliable scale.	0.89	3.62	1.11	0.87	3.62	1.11
Perceived vaccine effectiveness	To evaluate the perceived vaccine effectiveness, a three-item scale (Nan et al., 2012) was employed. Participants were asked to rate the extent to which these items align with their perceptions of COVID-19 vaccine effectiveness, using a rating scale ranging from 1 (strongly disagree) to 5 (strongly agree). The average of responses to these three items was calculated to establish a reliable scale.	0.91	2.99	1.18	0.91	3.00	1.20
Perceived susceptibility to COVID-19	Participants were asked to indicate the extent of their concern about getting COVID-19, with response options ranging from 1 (not at all concerned) to 4 (very concerned).	-	2.44	1.09	-	2.50	1.11
COVID-19 infections of self	Participants reported their previous experience with COVID-19, more specifically, whether they had experienced COVID-19 or not, with response options of 1 for "Yes" and 0 for "No."	-	0.54	0.50	-	0.54	0.50
COVID-19 infections of others	This measurement aims to assess whether the participant knows someone who has been hospitalized due to COVID-19, employing a response format of 1 for "Yes" or 0 for "No."	-	0.59	0.49	-	0.60	0.49

Note. All covariates were measured before message exposure and not affected by our stimuli. The statistics are based on the subset of the original data used in the current study.

Appendix C. TikTok video stimuli scraping keywords

"covid vaccine fertility," "covid vaccine infertility," "covid vaccine menstrual," "covid vaccine miscarriage," "covid vaccine pregnant," "covid vaccine pregnancy," "covid vaccine conceive," "maternal covid vaccine," "covid vaccine period"

Appendix D. Background Music Tempo Manipulation

In the original design, we manipulated the tempo of the background music added to the corrective TikTok videos by editing 15 unique instrumental music tracks into a low-tempo version (using the Audacity software to achieve a tempo of 60–90 beats per minute or bpm) and a corresponding high-tempo version (ranging from 120 to 160 bpm). As background music tempo had no significant moderation effects, all subsequent analyses focus on the main effects of debunking video types marginalizing over background music conditions.

To maximize the external validity of our study, we generated a total of 105 unique videos covering all correction stimuli conditions, by creating the various combinations of video types and music tempo.