

# Fear appeals in Chinese public signs of COVID-19 prevention in local communities

Mian Jia & Yi Zhao

The University of Texas at Austin | Tsinghua University

Guided by the Extended Parallel Process Model (EPPM), this paper explicates the messaging strategies in Chinese public signs of COVID-19 prevention in local communities. 162 signs were collected from Internet posts. Our results show that the EPPM is a viable fear appeal framework to explain the communication of public health risks. Most signs communicated the threat of the virus to the public, whereas fewer signs emphasized the efficacy to effectively control the threat. In addition to communicating individual threat and efficacy, quite a few signs also highlighted collective threat and efficacy. Moreover, the language used in these signs is tailored to local cultural and social conventions. These findings not only contribute to the growing body of research on the interpersonal function of public signage from a Chinese perspective, but also demonstrate the utility of combining pragmatic research with messaging strategies in health communication research.

**Keywords:** EPPM, COVID-19, public signs, health communication, localization, Chinese language

## 1. Introduction

The purpose of this paper is to provide a socio-cognitive account of the interpersonal communication strategies employed in Chinese public signs of the Coronavirus Disease 2019 (COVID-19) at its very early stage (January–February 2020). The virus was first reported in Wuhan City in China, gradually growing into a nationwide epidemic comparable to the SARS pandemic in 2003 in China (Yang et al. 2020). This new virus imposed communication challenges for local authorities to inform their community members of its threat and motivate them to follow proper public health guidelines, such as wearing a mask and practicing social distancing. This public health crisis happened before the Chinese Lunar New Year, which is the biggest traveling season in China, and almost everyone was expected

to reunite with their family members (Dai 2020). While it is now common knowledge that this novel form of coronavirus imposes serious health threats to people with pre-existing conditions and even spreads through asymptomatic patients, people had doubts about the severity of this virus when it was first reported. The situation was particularly urgent in remote local communities because many residents there were reluctant to take effective health measures, such as wearing a mask and sheltering in place (Han 2021). Therefore, it became particularly important to communicate the risk of COVID-19 to the residents and the necessity to sacrifice chances of family reunion for the greater good of public safety.

To cut off the human-to-human transmission in local communities, along with distributing educational materials detailing COVID-19, Chinese local officials have created a series of “Ying He Biao Yu” (硬核标语), literally translated as “hardcore” signs, to persuade people to stay at home and wear masks in public space (Wen and Li 2020). 硬核, *hardcore* means “‘very powerful,’ ‘sturdy,’ and ‘very rigid’ in Chinese contexts” (Han 2021: 32) and is intended to describe the vulgar yet creative language use in these signs. They are mostly found in Chinese residential communities and recreational places such as restaurants and parks. For example, the blunt sign in Figure 1 creatively associated death with viral infection caused by eating regulated bushmeat (bats), which was the alleged source of COVID-19 in its very early stage.



**Figure 1.** If you eat regulated bushmeat, the central position in the realm of Hades will be reserved for you

While several studies have described the features of these public signs from a linguistic perspective (Dong et al. 2020; Han 2021), few have examined their message design strategies from a social-cognitive perspective. Health scholars have pointed out that effectively communicating COVID-19 measures to the public depends on how the message is presented to the audience (Finset et al. 2020; Harrington 2020). Providing a socio-cognitive interpretation of the messaging strategies in public signs could help better understand their interpersonal functions, which is a growing trend in research on public signs (Ogiermann and Bella 2021; Svennevig 2021). The Extended Parallel Process Model (EPPM; Witte 1992,

1994) is a viable social-cognitive model that can explain how people process risk information. The model suggests that effective health communication involves presenting the audience with both a significant threat and an efficacious solution to the threat. Such message design logic is consistent with the blunt slogans that had appeared in Chinese local communities. Therefore, guided by this model, we offer a socio-cognitive explanation of the persuasive mechanism of public signs of COVID-19 prevention in Chinese local communities. This study could contribute to the research on public signs from an interpersonal communication perspective. It could also demonstrate the utility of combining linguistic studies in health domains with message design theories in health communication research.

## 2. Research on public signs in pragmatics and persuasive health messaging strategies

### 2.1 Pragmatic investigations of public signs

Public signs have been traditionally studied in research on linguistic landscapes, which “aims to add another view to our knowledge about societal multilingualism by focusing on language choices, hierarchies of languages, contact-phenomena, regulations, and aspects of literacy” (Gorter 2013: 119). Taking Quebec, Canada as an example, Landry and Bourhis’ (1997) seminal study identified linguistic landscape as a unique social psychological factor that contributes to people’s bilingual development and ethnolinguistic vitality in the local region. Geosemiotics (Scollon and Scollon 2003) contributes to the study of public signs by providing important theoretical premises enabling us to understand the social meaning of a particular sign against its sociocultural background (interaction order), visual designs (visual semiotics), and physical places (semiotics of places).

In contrast, research on the interpersonal functions of public signs is still in its infancy. Prior studies have examined the pragmatic functions of regulatory discourse practices. For example, Ferenčík (2018) examined the regulatory signs posted in a trans-regional tourist site. The results showed that local agents used multilingual and multimodal semiotic resources to regulate visitors’ behaviors, and conventionalization is what motivated people “to prioritize communicative efficiency over face redress” (Ferenčík 2018: 190). After examining more than 700 public signs across several languages, Svennevig (2021) found that sign-producers seek compliance by linguistically constructing their deontic authority, evoking the readers’ affiliation, and increasing compliance with these directives. More recently, drawing on theories of interpersonal pragmatics, Ogiermann and Bella (2021) explored the expressive functions of public signs announcing closures dur-

ing the COVID-19 pandemic in London and Athens. Their research contributes to the rising study of the interpersonal functions of public signage as well as revealing the cultural variation of the realization of expressive speech acts. Yet, more studies are needed to explore the interpersonal functions of public signs in other cultures that suggest different social values and norms. For example, Chinese language data is often used as a “testing ground” for Western politeness theories due to its richness in politeness-related concepts and practices (Kádár 2019; Jia and Yang 2021). As an intentionally face-threatening practice, the blunt content in Chinese public signs of COVID-19 prevention offers an important lens to the interpersonal dynamics of these public announcements in the time of a pandemic.

Apart from a significant amount of work on Chinese-English sign translations (see Liu 2016 for a review), existing pragmatic research has mainly examined Chinese public signs from the perspectives of politeness and appropriateness, suggesting that blunt and impolite signs are pragmatically inappropriate (Sun 2018; Yuan and Chen 2010). For example, Yang (2009) observed that more personalized and friendly public signs are gradually replacing imperative and coercive signs, embracing the construction of a harmonious society. Similarly, Chen (2020: 88) found that Chinese public discourse is generally orienting toward constructing “pragmatic civilization” by normalizing practices such as using politeness markers, showing concern, employing indirect speech acts, and providing reasons. Consistent with the efforts to establish a norm of polite public discourse, Zhang and Peng (2020) suggest that negative slogans need to be sanctioned because they impose psychological discomfort, highlight language violation, and reveal individuals’ private information (e.g., revealing the address of the resident who has been exposed to COVID-19). While Sun and He (2019) postulate that public signs and slogans should conform to Chinese principles of etiquette, refinement, and politeness, they also note that the appropriateness of public signs is determined by the specific environment of use. However, what makes an impolite sign appropriate still calls for further investigations.

Despite treating politeness as a norm in sign construction, recent studies on Chinese public signs of COVID-19 prevention have shown that impolite and face-threatening signs could be justified for their effectiveness in motivating people to take preventative health actions (Dai 2020; Dong et al. 2020; Wen and Li 2020; Han 2021; Jia and Yang 2021). For example, Dong et al. (2020) identified four types of Chinese COVID-19 banners, among which confrontational banners are the most frequent type. Similarly, Liu and Su (2020) found that fear appeal is a predominant discourse strategy (75.3% in their data). Han (2021) contends that these blunt banners represent a practice of situated impoliteness in which social emergency outweighs people’s concern for face and politeness. By examining the comments from Weibo users, Han (2021) found that these blunt slogans were

evaluated as less appropriate as the pandemic developed. What remains unclear, however, is the underlying mechanism of why these blunt signs could motivate people to take actions to protect themselves against COVID-19.

## 2.2 Fear appeal in health communication campaigns

Fear is a negative emotion that can be elicited by an external threat, such as a virus and a disease. Taking advantage of people's natural tendency to control negative emotions, fear appeal refers to the messages that are designed to motivate people to adopt prosocial actions to protect themselves from a threat (O'Keefe 2015). For example, associating smoking with getting lung cancer is a common fear appeal message that is designed to deter people from smoking. The effectiveness of fear appeal messages has been extensively studied in health communication research. Several meta-analyses have established a linear relationship between fear appeal and message persuasiveness showing that the higher the fear invoked, the more persuasive the message is (Witte and Allen 2000; Tannenbaum et al. 2015; Dillard, Li, and Huang 2017; Dillard and Li 2020). The Extended Parallel Process Model (EPPM) is a particularly popular social-cognitive model in explaining the design logics of fear-based health communication messages (Witte 1994; Witte and Allen 2000; Roberto, Goodall, and Witte 2009). According to Witte (1994), individuals' behavioral intention is based on their perceived threat and their perceived efficacy of coping with the threat. Perceived threat is assessed in terms of people's perceived severity of a threat and their perceived susceptibility of that threat. For example, cervical cancer is a severe disease, but it is only susceptible to females but not males. Perceived efficacy is assessed based on people's perceived effectiveness of the recommended action and their ability to implement that recommendation. For example, getting vaccinated is an effective measure to fight against human papillomavirus, but some people may not consider this recommendation effective because they cannot afford the cost. According to the EPPM (Witte 1994), individuals will only proceed to efficacy appraisal if their perceived threat is high. Otherwise, they are not motivated to make changes regardless of the effectiveness of the recommended solutions (e.g., *COVID-19 is not a severe disease, and I don't need to worry about it*). When both the perceived threat and efficacy are high, people tend to adopt danger control by accepting the recommended solutions (e.g., *I will keep social distance because it can effectively protect me from this dangerous disease*). When a high perceived threat is paired with low perceived efficacy, however, people will adopt fear control by avoiding the threat and not taking active actions (e.g., *I won't do anything because COVID-19 is too severe, and nothing can protect me from it*). Individuals' information processing of COVID-19 is summarized in Table 1.

**Table 1.** Strategies of health communication campaign based on EPPM

	High perceived efficacy	Low perceived efficacy
High Perceived Threat	<i>Danger Control:</i> People tend to wear a mask or keep social distance to reduce the threat.	<i>Fear Control:</i> People reduce their fear by being avoidant and not taking actions.
Low Perceived Threat	<i>No Response:</i> People do not treat COVID-19 as a serious threat despite being offered effective solutions.	<i>No Response:</i> People do not treat COVID-19 as a serious threat, and no effective health guidelines were offered.

In recent years, the EPPM has been extended to explain the persuasive mechanism of health communication messages in various Chinese settings. One common finding is that the original model describes that people are motivated by individual concerns but overlooks their concerns for collective benefit which is a salient feature in collectivist cultures such as China (Sheer and Chen 2008; Roberto et al 2009). In the Chinese context, many people take actions because they believe that their behavior can benefit their social network and their community or because they believe in the power of the group. For example, Sheer and Chen (2008) examined the fear appeal messages employed in print ads for over-the-counter (OTC) medicines. The results showed that the advertisers tailored their fear appeal messages based on Chinese cultural values such as auspiciousness, family harmony, relational co-dependence, and face concerns. Moreover, they also identified other efficacy as a factor that motivates people to take actions for others whom they care about. By conducting a content analysis of Chinese anti-drug campaign messages, Shi and Hazen's (2012) research found that these health campaign messages include both individual threats (e.g., legal punishment, harm to personal health) and collective threats (e.g., social consequences, moral judgment). By examining 16,654 cancer-prevention messages, Shi et al. (2019) found that in addition to the individual efficacy or self-efficacy postulated in the original EPPM (Witte 1994), Chinese people are also motivated to take actions based on collective response efficacy, such as indicating that a new treatment to cancer is efficacious because two companies are jointly working on it. Consistent with the argument made in Roberto et al. (2009), they suggest that addressing collective efficacy becomes important when it is framed as a social problem. These studies all point to the importance of assessing threat and efficacy at both individual level and collective level in the EPPM framework.

## 2.3 Research questions

To sum up, the above review suggests an exigency to explore the socio-cognitive mechanism of how COVID-19 public signs motivate residents to follow public health guidelines for four reasons. First, a socio-cognitive perspective would contribute to our understanding of public signs by investigating how the texts in these signs could be designed to shape people's emotions and influence their behaviors. Second, the blunt Chinese public signs of COVID-19 prevention offer an interesting counterexample to the common belief that public signage must adopt polite language at all times (Chen 2020; Zhang and Peng 2020). Third, since COVID-19 is a public health crisis that requires joint efforts of individuals and communities, it emerges as an important context to test the utility of adding collective threat and efficacy to the EPPM framework (Roberto et al. 2009). Locating it in the Chinese context makes it even more representative because previous Chinese data have suggested the importance of including fear appeal at the collective level (e.g., Shi et al. 2019). Finally, since public signs serve audiences in local communities (Scollon and Scollon 2003), these signs will likely be adapted to accommodate the cultural, historical, and situational variations in local places. It would be interesting to examine what specific message strategies were used to tailor to the local audience. Based on the above analyses, we propose four research questions:

- RQ1: What is the overall design strategy of fear appeal in Chinese public signs of COVID-19 prevention?
- RQ2: What strategies are used to communicate information of threat represented by (a) individual severity, (b) collective severity, and (c) susceptibility in Chinese public signs of COVID-19 prevention?
- RQ3: What strategies are used to communicate information of efficacy represented by (a) individual efficacy and (b) collective efficacy in Chinese public signs of COVID-19 prevention?
- RQ4: How were messages in public signs of COVID-19 prevention tailored to their local audience?

## 3. Method

### 3.1 Data collection

We decided to collect data from the Internet because we did not have direct access to the remote rural places where these signs were displayed, and the lockdown in China also prevented us from conducting ethnographic work on site. Despite its limitation, this method of data collection has been successfully adopted to explore

similar topics (e.g., Dong et al. 2020; Han 2021). Sample COVID-19 signs were collected from *Zhihu*, *Weibo*, and *Google Search*. “新冠” (COVID-19) and “硬核标语” (“hardcore” signs) were selected as key search terms. Since these public signs were most popular and effective in the very early stage of COVID-19 (Han 2021), we only included signs that were posted in January and February of 2020. To ensure the authenticity of our data, only signs that were posted with a picture in actual community settings were included. Posts without a picture were excluded because those slogans could have been made up for trolling purposes. Data collection stopped when no new signs were discovered, yielding 233 pictures. After taking out the duplicated signs, 162 uniquely worded signs were included in the subsequent analysis. This size of data is both representative and manageable for the current project.

### 3.2 Data analysis

Directed content analysis (Hsieh and Shannon 2005) was adopted to explore the major strategies used to communicate the EPPM variables (i.e., threat and efficacy appeals at individual and collective levels). Although public signs are a one-way communication and their direct interpretations are not always available to researchers (Ogiermann and Bella 2021), they are usually designed to exert effects on specific audiences (Jaworski and Thurlow 2010). Different from the original EPPM framework (Witte 1994), our coding scheme included collective severity and collective efficacy which are found to be relevant in prior content analyses of Chinese health campaigns using EPPM (Sheer and Chen 2008; Shi and Hazen 2012; Shi et al. 2019). Two researchers from China coded the data because they are relatively familiar with Chinese social norms. Two coders agreed on the coding of 151 signs in the data set (93.2%) and discussed any differences for the remaining 11 signs. The subcategories were refined during the coding process, and the results are based on categories presented in Table 2.



**Table 2.** Coding scheme

	Categories	Sub-categories	Operational definitions
Threat appeal	Individual severity	Physical harm	Harm to one's physical body.
		Financial loss	Financial loss due to COVID-19.
		Punishment	Subject to legal or communal punishment.
	Collective severity	Face threat	Shame, moral breach, etc.
		Physical harm	Harm physical health of families and others.
	Susceptibility	Referential	Establish direct connection via second-person.
		Temporal	Indicate imminent threat with time points.
		Statistical	Indicate imminent threat with statistics.
	Individual efficacy	Personal health	Reduce threat to personal health.
Wealth and fortune		Reduce threat to personal wealth/fortune.	
Efficacy appeal		Punishment avoidance	Avoid legal or communal punishment.
	Collective efficacy	Face management	Avoid face loss or gain face.
		Close relations	Can do good among family and friends.
		Collective benefits	Can do good beyond family and friends.

## 4. Fear appeal strategies in Chinese COVID-19 signs

### 4.1 Overall fear message design

**Table 3.** Overall fear appeal messages

EPPM component	Frequency	Percentage
Threat appeal only	100	61.7%
Efficacy appeal only	51	31.5%
Threat appeal + Efficacy appeal	12	7.4%

Table 3 presents the overall fear appeal messages communicated in the Chinese public signs of COVID-19 prevention in local communities. The results show

that, consistent with the EPPM framework, fear appeals are widely applied among these “hardcore” signs. Almost 70% of our data included some forms of threat appeal, indicating that these slogans attempted to raise the awareness about the threat of COVID-19 by invoking fear. According to the EPPM, appealing to threats (e.g., *COVID-19 will make you hospitalized and you will spend a fortune on your medical bill*) is the first step to successful fear appeal, making people realize the significance of COVID-19. After that, the second step is to include an efficacy message, suggesting that practicing recommended health measures will control the threat (e.g., *Staying at home will keep you away from COVID-19, and you can save the money that you would have spent on the medical bill*). Our data show that roughly 40% of the signs included a message addressing the efficacy of protecting the community members from COVID-19 if they follow health guidelines. Nevertheless, only 12 out of 162 slogans addressed both the threat and the efficacy in a single sign.

4.2 Threat appeal strategies

Table 4. Frequency of threat appeal strategies

Threat appeal		Frequency	Percentage
Individual severity	Physical harm	74	45.7%
	Financial loss	8	4.9%
	Punishment	6	4.0%
Collective severity	Group harm	19	11.7%
	Face threat	23	14.2%
	Referential	18	11.1%
Susceptibility	Temporal	17	10.5%
	Statistical	1	0.6%

Table 4 presents the frequency of threat appeal strategies in our data. The results show that most threat appeal messages focus on individual severity, particularly the physical harm of contracting COVID-19. Since it is a deadly disease, many slogans highlighted that individuals could die from the virus if gathering together without practicing social distancing, and these warnings are often communicated in a humorous manner by exaggerating the consequences or expressing them in an absurd manner. In Figure 2, *seeking enjoyment leisurely in your cinerary casket* is a rather absurd yet creative expression of stating one’s death. These humorous rhetorical devices in public signs expressing directives are

important because they can show goodwill and cooperativeness to the audience (Svennevig 2021). In the present Chinese context, this language style could also build affinity because it aligns with the language style of other public signs in rural China (Zhang and Peng 2020). These signs were often placed close to recreational facilities such as restaurants and teahouses. For example, Figure 3 describes the potential harm of being sent to a morgue (due to COVID-19 complications) if not staying at home. This public sign is hanging below a local teahouse located on the right side of the picture (天天乐茶园, *Tiantianle Teahouse*), which is a common place people gather together for fun. Highlighting the dire consequences of contracting COVID-19 is sometimes contextualized by referring to local facilities that are associated with death or illness. For example, *Yikang* in Figure 4 refers to the name of the local hospital, and *Yangliuping* in Figure 5 refers to the local cemetery.



**Figure 2.** If you party today, you will then seek enjoyment leisurely in your cinerary casket



**Figure 3.** Stay indoors or come to morgue



**Figure 4.** If you don't scan a QR code when coming back from other cities, Yikang welcomes your stay



**Figure 5.** Wander around during the pandemic, then Yangliuping would be your destination

In addition to emphasizing the threat to individual health, our data also show several warnings of financial loss. For example, Figure 6 presents a cost-benefit comparison of saving the cost of buying a mask with spending a lot on treating COVID-19 complications. Since the target audiences are mostly farmers or working class people, connecting COVID-19 to great financial loss is likely to impose a threat to them and raise their awareness of guarding against this virus. In some cases, a note on financial loss was rhetorically exaggerated, for instance through cursing the unmasked to lose their money in Mahjong games, a popular tile-based game that is played during gatherings of families and friends (Figure 7). Moreover, several signs are also connected to enforcing legal punishment for those who do not shelter in place. During the early stage of COVID-19, to implement contact tracing, some local villages set up fences to prevent others from visiting the village without formal registration. For example, Figure 8 shows a sign hanging on one of these make-shift fences, warning outsiders of the threat of COVID-19. Incurring legal punishment is also found in other contexts such as anti-drug campaigns (Shi and Hazen 2012). To justify the legal status of the slogan, it often explicitly states that the sign was posted by the local authorities. As is shown in the bottom right corner of the sign in Figure 8, it was posted by the resident's committee, “居委会”, which is led by the local Communist Party secretary.



**Figure 6.** Save a little by unmasking, spend a lot in hospital



**Figure 7.** Make sure you wear a mask when going outside; otherwise, you will lose in all your Mahjong games



**Figure 8.** If you trespass today, the police will take you tomorrow

Quite a few messages also attempted to invoke the collective severity of COVID-19, such as emphasizing harm to the group and threat to group face. Due to the highly contagious nature of COVID-19, even asymptomatic patients are likely to spread the virus to others (Lauer et al. 2020). To make people aware of its contagiousness, some public signs highlight that failure to practice social distancing is likely to bring harm to the community. For example, the slogan in Figure 9 states that one person can spread the virus to other family members and is likely to cause the death of the entire family and the loss of family fortune. Consistent with other studies of Chinese fear appeal messages (Sheer and Chen 2008; Shi and Hazen 2012), several “hardcore” signs aim at connecting disobeying public health measures with moral sanctions from the community. Figures 10 and 11 demonstrate the use of moral sanction and face threat to make people realize the severity of this novel coronavirus. Practicing filial piety is particularly important in rural China because people in the same village are often related to each other, and it is young people’s responsibility to take care of the elderly. Therefore, if someone brings harm to the village, this person is very likely to be morally sanctioned by the entire village as an unworthy descendant, losing his or her family face in the community.

In addition to the frequent use of messages stating individual and collective severity, quite a few slogans also explicitly address the audience’s susceptibility to the virus. As shown in Figures 4 and 8, 18 public slogans used the second-person



**Figure 9.** One person can infect the whole family, and the relatives will take all your property



**Figure 10.** Whoever conceals their illness will be a sinner for generations



**Figure 11.** Please stay put at where you are. Returning to hometown with the virus will entrap your neighbors!!!

pronoun “你” (you) to explicitly associate the severe threat to the readers. Unlike first-person and third-person narratives, only second-person narrative is a direct communication with the reader (Moeschler 2021). 17 instances identified in our corpora express that the severe consequence is imminent with a shared structure of “If you [violate public health measures] today, [the dire consequence] will fall on you tomorrow”. In Figure 12, in addition to stating the imminence of the threat, the slogan is also made more authoritative by adding the title of the relevant local authorities and their contact numbers. We also identified one instance of highlighting people’s susceptibility to the virus by providing specific statistics of COVID-19 infections in the local region (Figure 13). By stating the number of fatalities in their local community, this public sign intended to convey a message that the virus has caused serious consequences in their neighborhood.



**Figure 12.** If you pay a visit everywhere today, the pneumonia (COVID-19) will pay you a visit tomorrow



**Figure 13.** Three in Xiantao have died due to the pandemic, and you will be the fourth if still wandering around

### 4.3 Efficacy appeal strategies

During the early stage of COVID-19, the most publicized health recommendations in our data include staying at home, wearing a mask, using online communication, practicing social distancing, and reporting COVID-19 cases for contact tracing. According to the EPPM (Witte 1992), after raising the individuals' awareness of the health threat, they will only opt to danger control if they perceive the recommended public health measures as efficacious. Therefore, the *hardcore* mes-



sages comprising our data also attempted to promote people’s perceived efficacy by highlighting that it is worth carrying out these recommended actions because they can bring benefits to the audience (individual efficacy) and their community (collective efficacy). Table 5 summarizes the frequencies of each of the efficacy appeal strategies.

**Table 5.** Frequency of efficacy appeal strategies

Efficacy appeal		Frequency	Percentage
Individual efficacy	Personal health	23	14.2%
	Wealth and fortune	11	6.8%
	Punishment avoidance	1	0.6%
Collective efficacy	Face management	5	3.1%
	Close relationship	17	10.5%
	Collective benefits	13	8.0%

Strategies used to address individual and collective efficacy (Table 5) mainly correspond to the strategies that are used to evoke individual and collective threat (Table 4). The most frequently used strategy to express individual efficacy is to emphasize the benefits of following public health measures to personal health. For example, in Figure 14, the poster metaphorically compares wearing masks with taking tonics, highlighting its benefits to health in the pandemic period. Apart from directly addressing the benefit of practicing social distancing to personal health, all other efficacy appeal strategies tend to be related to one’s material, relational, and identity concerns. Several posters are designed to improve readers’ perceived efficacy of COVID-19 health recommendations by suggesting that practicing proper social distancing will bring fortune to the family (Figure 15) or bring tangible financial gains to them (Figure 16). Since many Chinese people believe in fatalism (Shi et al. 2019), expressing the auspicious outcome of following COVID-19 guidelines is likely to motivate the audience to take actions. Finally, we also identified one instance stating that visitors will not be punished by the village authority if they choose not to visit the village during the lockdown (Figure 18). Since the resident’s committee of the village does not have the actual power to enforce the law, the threat of knocking down the trespasser is apparently exaggerated to create a humorous effect while communicating the COVID-19 policy.

In addition to expressing individual efficacy, our data also show a comparable number of slogans addressing collective efficacy. Responding to the severity of face threats, a few slogans also indicate the face enhancement of follow-





**Figure 14.** The whole family wearing masks is better than them taking a bunch of invigorators



**Figure 15.** Having the elderlies wear masks would pass the blessings on for generations



**Figure 16.** Staying put in Jiangsu and working to earn more money is far better than returning home and quarantining for 14 days!

ing public guidelines. For example, Figure 17 compares two opposite treatments of getting sick and evaluates entering the park in sickness as a face-damaging behavior and getting quarantined as a face enhancing behavior. While face management is an important issue in Chinese society (Sheer and Chen 2008), it becomes more essential in local communities where almost everyone is socially connected with each other. A person's heroic act not only improves their self-



**Figure 17.** It is not heroic to enter the park if you are sick, and it is a true man to quarantine if you have a fever



**Figure 18.** You are free from punishment if turning around, but you will be knocked down if insisting trespassing

image but also improves the reputation of their extended social network. Therefore, such an appeal is likely to elevate people's collective efficacy perception. Since COVID-19 is highly contagious, one common efficacy appeal is to highlight that following health guidelines to socially distance can save the lives of close family members (Figure 19). Consistent with the localization strategies identified in Figure 3, a slogan that encourages people not to gather together is placed in front of a restaurant (i.e., Kentucky Fried Chicken). Moreover, the ideology of a 'family-culture' in China also extends people's care of the family to the national level (Chen 2019). Therefore, quite a few public signs of COVID-19 prevention emphasize how individual behavior can contribute to the benefits of the country. For example, Figure 20 juxtaposes caring for family with supporting national policies of COVID-19 prevention. In Figure 21, a banner hanging outside of a local community states that staying at home not only saves money for the individual but also saves masks for the country. Since this was during the very early stage of COVID-19, there was a huge surge of mask consumption, and saving masks would help reserve the limited masks to the frontline workers. In the meantime, this banner also entails that one needs to wear a mask before going outside, reiterating the public health guideline of masking. In addition, the use of the first-person singular pronoun 我, I, helps the audience identify with the behaviors described in the banner, aiming to enhance their perception of the recommended actions as efficacious (Chen and Bell 2022).



**Figure 19.** Not dining together now is to dine together in the future; not visiting relatives now is to keep them alive



**Figure 20.** Staying put to celebrate the Chinese New Year is the best way to protect the family; staying on the ground is the strongest support to national policy



**Figure 21.** Staying at home is what I am proud of. I save masks for the country, and I save money for myself

## 5. Discussion

Guided by the Extended Parallel Process Model (Witte 1994), the present study has explored how Chinese public signs of COVID-19 prevention employed fear appeal strategies to raise people's awareness of this health crisis and motivate them to follow public health guidelines. For RQ1, we found that Chinese public signs of COVID-19 prevention can generally be explained from a fear appeal

perspective. Consistent with observations from prior studies of public signs of COVID-19 (Dong et al. 2020; Han 2021), our results also show that most of the signs employed threat appeals to raise people's compliance. Our findings also reveal that a little more than one-third of them included an efficacy message. However, only a few of them included both a threat appeal message and an efficacy appeal message in the same banner. Following the design logic of the EPPM, we found that while many of these signs communicated the significance of COVID-19 as a public health crisis via threat appeal messages, efficacy messages appeared less often, which could reduce people's motivation to practice these health recommendations, such as wearing a mask. On the theoretical level, analyzing public signage from the perspective of fear emotion extends the current research beyond the scope of linguistic landscape studies (Mensel, Vandenbroucke, and Blackwood 2017), contributing to the growing research on the interpersonal communication of public signs (Ogiermann and Bella 2021; Svennevig 2021). It also echoes researchers' call for more studies to account for the communication mechanism of public health message design (Jia 2022; Wen and Li 2020). On a practical level, the imbalance of threat and efficacy messages indicates that when designing public messages that communicate emergent health risks, attention should be paid to communicate threat appeals and efficacy appeals at the same time.

For RQ2, the public signs in our data highlighted the individual and collective severity of the virus, whereas fewer signs explicitly communicated the susceptibility of the virus. One explanation is that although susceptibility is not explicitly communicated, it is usually implied because the target audience of these signs is restricted to the residents in that community (Scollon and Scollon 2003; Wen and Li 2020). Therefore, each reader of the signage is assumed to be influenced by its content. Moreover, echoing previous research on EPPM in collectivist cultures (Roberto et al. 2009; Shi et al. 2019), we have also identified quite a few signs that address the collective severity of the virus. Furthermore, consistent with Han's (2021) situated understanding of (im)politeness, the common use of impolite language in our data also challenges the normative view that polite language is the default in the communication of public signs (e.g., Yuan and Chen 2010; Sun and He 2019).

For RQ3, in addition to highlighting both individual efficacy and collective efficacy, Chinese public signs of COVID-19 prevention often adopted a positive tone of message framing by comparing the benefits of following health recommendations with the harms of not doing so. These results also corroborate previous studies of Chinese OTC medicines (Sheer and Chen 2008) and public directives across American and European cultures (Svennevig 2021),

For RQ4, we found that the signs in our data accommodate their local audience by adapting their language to best connect to local traditions, local facilities, and local dialects. One important feature of public signs is that they are “adapted and transformed to merge with the local practices, with their unique indexicalities and historicities, already in place” (Ferenčík 2018:184). Previous research conducted in the Chinese context also found that what determines the effectiveness of communication is not necessarily the combination of optimum communication elements but the factors that the audience cared about the most (Li et al. 2020). In our data, some signs connect failure to follow health guidelines to losing Mahjong games, which is a traditional entertainment during the Chinese New Year. Similarly, the mentioning of local hospitals and local cemeteries also connects the audience more closely to the message. Finally, we also identified a few instances of local dialects being used to better communicate with the local audience (e.g., use local dialect of 吃家使 to mean endangerment). Overall, the public signs discussed in this paper are localized realizations of national-level policy to prevent the spread of COVID-19. In this sense, the localization strategies adopted are reflections of local-level knowledge and value, which share the same goal with national-level policy but in a different communicative tone.

Nevertheless, the present study also bears several limitations. First, we adopted an etic approach to the interpretation of Chinese COVID-19 signs, focusing on the message strategies that could be used to influence people’s perceived threat and efficacy. The effectiveness of threat appeal and efficacy appeal needs to be corroborated with participants’ actual perception of these public signs by surveying and interviewing local community members. Second, our analysis only focuses on the message design logic of COVID-19 public signs at the very early stage of the pandemic. However, these messages became less appropriate as people recognized the threat of COVID-19 (Han 2021), and as more effective treatments such as COVID-19 vaccines were developed. Moreover, these public signs only constitute one among the many sources of information about the pandemic, such as the Internet and public announcement from health agencies. Future studies could adopt a more comprehensive approach by jointly analyzing several interpersonal and mass communication channels of health information that would influence the audience’s decision-making process. Finally, our data are based on posts that are available on the Internet, and our analysis may not be generalizable to all public signs of COVID-19 prevention that were posted in Chinese local communities.


## 6. Conclusion

This paper set out to explicate the messaging strategies of Chinese public signs of COVID-19 prevention by adopting a socio-cognitive analytical framework. Our results show that these public signs constitute a form of interpersonal communication because they are designed to invoke a fearful emotion in their readers, motivating them to control the threat by taking proper health measures. The parallel process model adopted in our analysis suggests that readers are likely to appraise information in two stages. Specifically, a fear appeal strategy not only requires messages that invoke a threat but also messages that emphasize effective solutions. Failure of addressing either of them is likely to render the public slogan ineffective. This parallel processing structure is also heuristic for modeling other meaning-making processes in social interactions, challenging the common assumption that individuals make rational choices based on considering all available information. Moreover, to better accommodate their audience, these messages are framed based on local traditions (e.g., beliefs in fatalism and collectivism), local practices (e.g., playing mahjong during the Chinese New Year), local facilities (e.g., mentioning the names of local hospitals), and local dialects (e.g., Wuhan dialect). Our study demonstrates the utility of combining linguistic research with message design research in a health communication context. This approach not only offers an alternative perspective to examine language phenomena but also helps to better develop message design theories by testing new language data. We hope that our work could inspire more studies to contribute to the cross-fertilization of linguistics and communication research.

## Acknowledgements










The authors would like to thank the special issue editor Dr. Eva Ogiermann and the two anonymous reviewers for their constructive feedback on the earlier versions of the manuscript.

## References

- Chen, Meng and Robert A. Bell. 2022. A Meta-Analysis of the Impact of Point of View on Narrative Processing and Persuasion in Health Messaging. *Psychology & Health* 37 (5): 545–562.
-  Chen, Xinren. 2019. ‘Family-Culture’ and Chinese Politeness: An Emancipatory Pragmatic Account. *Acta Linguistica Hungarica* 66 (2): 251–270.
- Chen, Xinren. 2020. *Critical Pragmatic Studies on Chinese Public Discourse*. London: Routledge.
- Dai, Xinyue. 2020. Society, Cognition and Discourse: Risk Communication During 2019-NCov Early Outbreak by Henan Local Government. *Journal of Henan University (Social Science)* 60 (3): 26–38.

- doi Dillard, James Price, Ruobing Li, and Yan Huang. 2017. Threat Appeals: The Fear–Persuasion Relationship Is Linear and Curvilinear. *Health Communication* 32 (11): 1358–1367.
- doi Dillard, James Price, and Shu Scott Li. 2020. How Scary Are Threat Appeals? Evaluating the Intensity of Fear in Experimental Research. *Human Communication Research* 46 (1): 1–24.
- doi Dong, Hongjie, Minli Zhou, Dewei Che, and Adams Bodo. 2020. If the Coronavirus Doesn't Scare You, the Banners Will – A Case Study of Early COVID-19 Banners. *International Journal of Environmental Research and Public Health* 17 (24): 1–19.
- doi Ferencík, Milan. 2018. Im/Politeness on the Move: A Study of Regulatory Discourse Practices in Slovakia's Centre of Tourism. *Journal of Pragmatics* 134: 183–198.
- doi Finset, Arnstein, Hayden Bosworth, Phyllis Butow, Pål Gulbrandsen, Robert L. Hulsman, Arwen H. Pieterse, Richard Street, Robin Tschoetschel, and Julia van Weert. 2020. Effective Health Communication – A Key Factor in Fighting the COVID-19 Pandemic. *Patient Education and Counseling* 103 (5): 873–876.
- doi Gorter, Durk. 2013. Linguistic Landscapes in a Multilingual World. *Annual Review of Applied Linguistics* 33: 190–212.
- doi Han, Yanmei. 2021. Situated Impoliteness Revisited: Blunt Anti-Epidemic Slogans and Conflicting Comments during the Coronavirus Outbreak in China. *Journal of Pragmatics* 178: 31–42.
- doi Harrington, Nancy. 2020. On Changing Beliefs in the Closed Human Mind. *Health Communication* 35 (14): 1715–1717.
- doi Hsieh, Hsiu Fang, and Sarah E. Shannon. 2005. Three Approaches to Qualitative Content Analysis. *Qualitative Health Research* 15 (9): 1277–1288.
- Jaworski, Adam, and Crispin Thurlow. 2010. Introducing Semiotic Landscapes. In *Semiotic Landscapes: Language, Image, Space*, A. Jaworski and C. Thurlow (eds), 1–40. London: Continuum.
- doi Jia, Mian. 2022. Toward an Integrated Understanding of Language and Health Communication: Discourse-Analytic and Message Design Approaches. *Applied Linguistics* 43 (6): 1217–1221.
- doi Jia, Mian, and Guoping Yang. 2021. Emancipating Chinese (Im)Politeness Research: Looking Back and Looking Forward. *Lingua* 251: 103028.
- doi Kádár, Daniel Z. 2019. Introduction: Advancing Linguistic Politeness Theory by Using Chinese Data. *Acta Linguistica Academica* 66: 149–164.
- doi Landry, Rodrigue, and Richard Y. Bourhis. 1997. Linguistic Landscape and Ethnolinguistic Vitality: An Empirical Study. *Journal of Language and Social Psychology* 16 (1): 23–49.
- doi Lauer, Stephen A., Kyrá H. Grantz, Qifang Bi, Forrest K. Jones, Qulu Zheng, Hannah R. Meredith, Andrew S. Azman, Nicholas G. Reich, and Justin Lessler. 2020. The Incubation Period of Coronavirus Disease 2019 (COVID-19) From Publicly Reported Confirmed Cases: Estimation and Application. *Annals of Internal Medicine* 172 (9): 577–582.
- doi Li, Jiajie, Yanan Ren, Wanzhen Ma, and Tongtong Yu. 2020. Food Safety and Rural Parents in China: Investigating an Effective Path for Risk Communication. *Health Communication* 35 (14): 1762–71.
- Liu, Guoqiang, and Hunqin Su. 2020. Consensus Mobilization: Discourse Frame and Design Logic in 'Hardcore Slogans' for Rural COVID-19 Campaign. *Modern Communication* (8): 69–74.



- Liu, Lifan. 2016. Development and Prospect of Public Sign Study in China. *Foreign Languages in China* 13 (6): 53–58.
- Mensel, Luk van, Mieke Vandenbroucke, and Robert Blackwood. 2017. Linguistic Landscapes. In *The Oxford Handbook of Language and Society*, Ofelia García, Nelson Flores, and Massimiliano Spotti (eds), 423–449. Oxford: Oxford University Press.
-  Moeschler, Jacques. 2021. *Why Language? What Pragmatics Tells Us about Language and Communication*. Berlin: De Gruyter Mouton.
-  Ogiermann, Eva, and Spyridoula Bella. 2021. On the Dual Role of Expressive Speech Acts: Relational Work on Signs Announcing Closures during the Covid-19 Pandemic. *Journal of Pragmatics* 184: 1–17.
- O'Keefe, Daniel J. 2015. *Persuasion: Theory and Practice* (3rd Edition). Thousand Oaks, CA: Sage.
- Roberto, Anthony J., Catherine E. Goodall, and Kim Witte. 2009. Raising the Alarm and Calming Fears: Perceived Threat and Efficacy During Risk and Crisis. In *Handbook of Risk and Crisis Communication*, R. L. Heath and H. D. O'Hair (eds), 285–301. London: Routledge.
-  Scollon, Ron, and Suzie Wong Scollon. 2003. *Discourses in Place*. London: Routledge.
- Sheer, Vivian C., and Ling Chen. 2008. Intrinsic Characteristics of Health-Related Fear Appeals from Chinese Print OTC Ads: Implications for Fear Message Construction. *International Journal of Communication* 2: 936–958.
- Shi, Jingyuan, Xiaohui Wang, Taiquan Peng, and Liang Chen. 2019. Cancer-Prevention Messages on Chinese Social Media: A Content Analysis Grounded in the Extended Parallel Process Model and Attribution Theory. *International Journal of Communication* 13: 1959–1976.
-  Shi, Rui, and Michael David Hazen. 2012. Applying the Extended Parallel Process Model to Examine Posters in the 2008 Chinese Annual Anti-Drug Campaign. *Journal of Asian Pacific Communication* 22 (1): 60–77.
- Sun, Xiaochun. 2018. Politeness in Chinese Public Signs: A Rapport Management Account. *Foreign Languages in China* 15 (2): 42–47.
- Sun, Xiaochun, and Ziran He. 2019. A Study of the Appropriateness of Language Use in Public Sphere. *Applied Linguistics* (2): 71–75.
-  Svennevig, Jan. 2021. How to Do Things with Signs. The Formulation of Directives on Signs in Public Spaces. *Journal of Pragmatics* 175: 165–83.
-  Tannenbaum, Melanie B., Justin Hepler, Rick S. Zimmerman, Lindsey Saul, Samantha Jacobs, Kristina Wilson, and Dolores Albarracín. 2015. Appealing to Fear: A Meta-Analysis of Fear Appeal Effectiveness and Theories. *Psychological Bulletin* 141 (6): 1178–1204.
- Wen, Hong, and Fengshan Li. 2020. Slogans in the Context of Public Crisis: Exploring the Communication Attributes and Discourse Construction. *Journalism and Communication Review* 73 (6): 53–60.
-  Witte, Kim. 1992. Putting the Fear Back into Fear Appeals: The Extended Parallel Process Model. *Communication Monographs* 59 (4): 329–349.
-  Witte, Kim. 1994. Fear Control and Danger Control: A Test of the Extended Parallel Process Model (EPPM). *Communication Monographs* 61 (2): 113–134.
-  Witte, Kim, and Mike Allen. 2000. A Meta-Analysis of Fear Appeals: Implications for Effective Public Health Campaigns. *Health Education and Behavior* 27 (5): 591–615.




- Yang, Yonghe. 2009. Research into Public Signs in China: A Societal Pragmatics Perspective. *Foreign Language Research* (6): 113–16.
-  Yang, Yongshi, Fujun Peng, Runsheng Wang, Kai Guan, Taijiao Jiang, Guogang Xu, Jinlyu Sun, and Christopher Chang. 2020. The Deadly Coronaviruses: The 2003 SARS Pandemic and the 2020 Novel Coronavirus Epidemic in China. *Journal of Autoimmunity* 109: 102434.
- Yuan, Zhoumin, and Xinren Chen. 2010. A Pragmatic Study of Public Signs on Environmental Protection. *Foreign Language Research* (1): 76–80.
- Zhang, Desheng, and Chen Peng. 2020. Construction and Communication of Public Slogans in Rural Area During COVID-19 Prevention. *News and Writing* (7): 92–94.

## Address for correspondence


Mian Jia  
 Department of Communication Studies  
 The University of Texas at Austin  
 2504A Whitis Ave. (A1105)  
 78712, Austin, TX  
 U.S.  
 mianjia@utexas.edu

## Biographical notes

**Mian Jia** holds a PhD in Communication Studies from The University of Texas at Austin. He is interested in exploring the key role language plays in persuasion, social influence, and (im)politeness. He has explored these topics in contexts such as academic writing, advice-giving, Chinese rap battle competitions, health campaign messages, and online forum discussions. His recent work appears in journals such as *Lingua* and *Text & Talk*.

 <https://orcid.org/0000-0003-1016-2647>

**Yi Zhao** is an associate professor in the Language Centre at Tsinghua University. Her research interests include pragmatics, business English, and foreign language education. She has recently published in journals such as *Modern Foreign Languages*, *Foreign Language and Literature*, and *Foreign Language Education in China*. She is a member of the International Pragmatics Association.

 <https://orcid.org/0000-0002-8762-4590>

## Publication history

Date received: 29 January 2022

Date accepted: 2 March 2022