

ORIGINAL ARTICLE

The role of communication transparency and organizational trust in publics' perceptions, attitudes and social distancing behaviour: A case study of the COVID-19 outbreak

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Abstract

Integrating social cognitive theory and public relations literature, this study examines the effectiveness of organizations' transparent communication in building public trust and encouraging health-protection behaviours (i.e. social distancing) during a pandemic, that is, the COVID-19 outbreak. Three aspects of transparent communication are investigated, namely information substantiality, accountability and participation. Results of an online survey of American citizens show that during the early stage of COVID-19, information substantiality by state governments and health institutes (e.g., the Centers for Disease Control and Prevention) increases publics' trust, which positively influences their perceived risks, behavioural control and subjective norms. The participation of health institutes, rather than state governments, significantly increases public trust, whereas accountability has no effects. Individuals' perceptions and attitudes towards social distancing predict their social distancing behaviour during the outbreak. Theoretical and practical implications are discussed.

KEYWORDS

COVID-19 outbreak, organizational trust, perceived risks, social cognitive theory, social distancing, transparent communication

1 | INTRODUCTION

The 2020 pandemic caused by the coronavirus (COVID-19) is an unprecedented global crisis. As of April 28, 2020, the number of confirmed COVID-19 cases in the United States reached 1,000,000, with a death toll nearing 60,000 as the number continues to rise (Almasy et al., 2020). The speed and scale of the outbreak have disrupted American society and economy substantially. To slow the speed of the virus and protect public health, Americans have been asked to practice social distancing (or physical distancing), that is, maintaining distance (approximately six feet) between oneself and other people, outside of their home at all times and to not leave their home except to obtain essential needs, such as medical care or groceries (Pew Research Center, 2020). Social distancing helps limit contact with infected people and contaminated surfaces; thus,

maintaining social distance is one of the best strategies for avoiding exposure to the virus and slowing its spread locally and across the country and the world (Centers for Disease Control and Prevention (CDC), 2020). Anyone can get and spread COVID-19 before knowing that they are sick; hence, government organizations (e.g., the CDC) have continuously emphasized the importance of staying away from others as much as possible despite the absence of symptoms.

However, practising social distancing is difficult. Being with others and human connection are fundamental human needs and natural inclinations (DiDonato, 2020). Social distancing is thus challenging, because it goes against cultural norms of communication and feels impersonal and awkward, as it is not what people have been trained to do with people they like (McArthur, 2020). Social distancing is especially difficult when it is an abrupt, unexpected and dramatic shift from substantial face-to-face time

to very little, which is what people are experiencing during the COVID-19 outbreak (DiDonato, 2020). However, to slow the spread of the virus and protect individuals, their family, community and the world, practising social distancing is necessary. Given that individuals' intention to follow government instructions is determined largely by the contextual environment (Jung et al., 2013) and public behaviours are affected by government actions during a public health crisis (Reynolds & Quinn, 2008), communicative efforts by organizations responsible for addressing a crisis and implementing policies (e.g., the government and health institutes) during a pandemic are crucial. An important question is, how can publics be encouraged and persuaded effectively to practice social distancing, which is essential but difficult?

Public relations scholars emphasize the importance of strategic communication during a public health crisis for organizations to build quality relationships with publics and influence their behaviours in a way that is desired by the organizations (e.g. Guidry et al., 2017; Yang, 2018). Particularly, as publics increasingly expect transparency and accountability from organizations (Adams & Evans, 2004), transparency is regarded as a key element in contemporary strategic communication (Albu & Wehmeier, 2014) to foster public confidence and trust in organizations, such as the government (Fairbanks et al., 2007; Kim, 2018). The importance of transparency is also emphasized by health/risk communication researchers in increasing trust in institutions (e.g. Freimuth et al., 2014; Quinn et al., 2013; Vaughan & Tinker, 2009), which will ultimately change publics' health-related behaviours (e.g. Meredith et al., 2007). Trust in the government and in the health information it communicates can positively impact publics' health-related outcomes during a pandemic (Quinn et al., 2013). In the context of a public health crisis, while most public relations studies focus on the effects of communication on publics' issue-related activeness (e.g. Kang et al., 2018; Yang, 2018), health communication literature provides a thorough explanation of publics' health-related behavioural motivations and outcomes (e.g. Chon & Park, 2019). However, few studies integrate the literature to examine publics' health-related behaviours during a crisis, which are influenced by the strategic communication efforts of organizations.

Thus, by integrating the health communication and public relations perspective, this study aims to examine the effectiveness of transparent communication by the government and health institutes during a public health crisis in increasing public trust and influencing perceptions, attitudes and social distancing behaviour. Furthermore, to understand how organizations' communication efforts influence the complicated nature of publics' behavioural motivations during a crisis, this study draws on social cognitive theory to explain individual health behaviours. Specifically, using the theory of planned behaviour (TPB) and the health belief model, this study attempts to provide an integrative model that can predict publics' social distancing behaviour during the COVID-19 outbreak based on their perceived risks, norms, behavioural control and attitudes towards social distancing. Focusing on the state government and public health institutions (e.g. the CDC) as two major public health

crisis-related information sources for publics during the early stage of the COVID-19 pandemic, this study also compares the role of transparent communication in affecting publics' behaviours.

2 | LITERATURE REVIEW

2.1 | The role of communication during a public health crisis

Effective communication from the government and public health officials is essential during times of public danger, such as health emergencies, to strengthen publics' resilience (Vardavas et al., 2020), ensure trust in organizations and facilitate the adoption of behaviours necessary to reduce risks (Quinn et al., 2013). The literature highlights the importance of communication during a pandemic, particularly in affecting publics' behaviours (e.g. being vaccinated; e.g. Bish et al., 2011; Poland, 2010). For example, during the H1N1 outbreak, clear communication and trust in government authorities lessened publics' uncertainty about the pandemic, thereby leading to preventive measures (Rubin et al., 2009). In communicating with publics during a crisis, what matters is not only "what" is communicated (e.g. message content) but also "who" is conveying the information and "how" it is communicated (Larson & Heymann, 2010). During a pandemic, the "who" is in charge of communication (e.g. the government and health officials) should pay attention to not just "what" is communicated (i.e. communication content) but also "how" it is delivered (Quinn et al., 2013).

Focusing on the COVID-19 pandemic in the United States, this study examines the role of two major organizations that have become focal points in the national public health crisis response, namely *health institutions* (e.g. *the CDC*) and *the state government*. Health institutions, such as the CDC, which is a federal agency under the Department of Health and Human Services, serve as national standards for public health preparedness planning within the United States. Communication from such public health agencies is crucial during a pandemic, because public health officials are often considered as the most truthful spokespersons during such challenging times (Quinn et al., 2013). Publics also tend to demonstrate high levels of trust in health agencies, such as the CDC (Kowitt et al., 2017) and thus are likely to follow their guidelines, as crucial information sources, during uncertain times. Furthermore, during a public health crisis, though the federal government is often expected to slow the speed of virus entry into the country, state/local governments mainly implement courses of action, including public health interventions (French & Raymond, 2009). During the COVID-19 pandemic, as the federal government leads the national response to the outbreak, state and local government officials have taken decisive action (e.g. stay-at-home orders), standing on the front lines to control the spread of COVID-19. Such declarations vary considerably by state (NCSL, 2020). Therefore, publics' perceptions, attitudes and social distancing behaviour are likely highly affected by government orders in the state where they reside.

Transparent communication from organizations is suggested as a normative communication model by public relations scholars as it helps organizations effectively manage a crisis (Kim, 2018), increase public trust and build healthy and long-term relationships with publics (Men & Bowen, 2016). Specifically, transparent government communication is emphasized during a pandemic health crisis (Fairbanks et al., 2007; Huang, 2004; Yang et al., 2015) to build trust by providing publics with a basic understanding of the crisis and guidance for appropriate courses of action to reduce harm (Reynolds & W. seeger, 2005). Transparent communication from health institutions is likewise important. Publics judge the communication efforts of such institutions during public health emergencies in terms of honesty and trustworthiness (Meredith et al., 2007), which influence their perceived quality of communication and compliance with recommended actions (Quinn et al., 2013). Thus, the current study focuses on the role of communication transparency and trust, as important organizational antecedents, in influencing publics' attitudes and social distancing behaviour during the COVID-19 outbreak. Transparent communication and organizational trust are discussed in the succeeding sections.

2.1.1 | Transparent communication

Transparent communication is a multifaceted concept. In the political context, Cotterrell (1999) defined transparency as "the availability of information on matters of public concern, the ability of citizens to participate in political decisions, and the accountability of government to public opinion or legal processes" (p. 414). In public relations, the notion of transparency is advocated as an ethical and normative communication practice (e.g. Avery & Graham, 2013; Men & Bowen, 2016). The current study adopts the definition of transparent communication proposed by public relations scholars (e.g. Men, 2014), including three key components, namely information substantiality, participation and accountability.

First, the basic component of transparency is *information substantiality*. Organizational transparency is typically understood as information disclosure (Yang et al., 2015). As a basic human right (i.e. "the right to know"), transparency is often associated with the idea of information completeness or comprehensiveness (Grimmelikhuisen et al., 2013). Government transparency, including open administrative procedures and government hearings, is viewed as a key element in democracies (Beaumont, 1999; Finel & Lord, 1999). In an organizational setting, the importance of openness in the disclosure of information is also emphasized as part of corporate social responsibility (Sykes, 2002). Second, transparent communication ensures the *participation* of other parties. The provision or disclosure of information does not constitute transparency (Rawlins, 2008). To achieve transparency, audiences' capacities for processing information are crucial; thus, audiences should be involved to address the interests of both sides (Heald, 2006). In other words, the mutual understanding of a message and information is a necessary component of transparent communication (Albu & Wehmeier, 2014).

Therefore, in terms of transparency, organizations are responsible for ensuring that a party who is interested in an organization's actions and decisions can actively participate in acquiring, creating and providing information (Cotterrell, 2000). Finally, the idea of transparency includes *accountability*, which refers to the objective and balanced reporting of an organization's activities and policies that hold the organization accountable (Rawlins, 2008). Accountability also represents organizations' acceptance of responsibility and the alleviation of problems, which is a core strategy for effective crisis communication (Grunig & Hunt, 1984). Accountability, as a form of democratic decision-making transparency, is relevant in making the decision-making process visible to ascertain publics' understanding and assess outcomes (Grimmelikhuisen et al., 2013).

2.1.2 | Organizational trust

Honest and transparent communication is vital in building and maintaining trust-based relationships (Goodman, 2002). From the perspective of public relations, organizational trust is defined as "one party's level of confidence in and willingness to open oneself to the other party" (Hon & Grunig, 1999, p. 3). Organizational trust includes three dimensions, that is, integrity (the belief that an organization performs fairly and justly and considers publics' expectations), dependability (the belief that an organization will deliver what it promises) and competence (the belief that an organization can fulfil its promises; Hon & Grunig, 1999). Trust, as the outcome of effective communication, such as mutuality, transparency and openness, during a crisis, is the primary focus of public relations research (Auger, 2014; Yang et al., 2015; Yang & Lim, 2009).

In the public health context, trust in government agencies, which reflects individuals' overall evaluation of the performance of political authorities and institutions (Miller & Listhaug, 1990), has been suggested as a major predictor that advances organizations' agendas, implements policies effectively (Kowitt et al., 2017) and affects relationships between citizens and political entities in general (e.g. Hon & Grunig, 1999). Most important, trust in the government influences publics' health-related behaviours, such as being vaccinated, during a pandemic (Poland, 2010; Quinn et al., 2013). Trust in health institutions also fosters publics' health-related behaviours (Meredith et al., 2007). For these reasons, the growing body of literature suggests that organizations (i.e. the government and health institutions) should incorporate strategic communication efforts with considerable transparency to increase publics' level of trust (Huang, 2004).

Transparency is an important tool for organizations to demonstrate trustworthiness and manage organizational reputation (Goodman, 2002). Specifically, information availability (Fombrun & Rindova, 2000) and accountability (Vaughan & Tinker, 2009) breed trust. In an organizational setting, scholars also empirically demonstrated that transparent communication influences internal publics' trust level (Lee & Li, 2019). Open, responsive and transparent communication have been suggested as key elements in fostering public trust in the government (Fairbanks et al., 2007; Kim, 2018), which

indicates democratic governance (Grimmelikhuijsen et al., 2013) by creating a culture of openness and increasing the confidence of citizens in the government's abilities (Beaumont, 1999). The role of technology (e.g. social media) was particularly emphasized to increase publics' trust level (Appleby-Arnold et al., 2019). The close link between communication and trust during a pandemic is also well-demonstrated (Freimuth et al., 2014; Shore, 2003). During the H1N1 pandemic, officials' openness about evolving information increased publics' perceived quality of communication and trust in government actions (Quinn et al., 2013). According to Kang et al. (2018), in the MERS context, mutuality and openness, which are similar to the key attributes of government transparent communication, can reduce the level of public distrust against the government. Communication transparency from public health officials during a pandemic also plays an important role in increasing public trust (Vaughan & Tinker, 2009). Therefore, this study expects that transparent communication, information substantiality, accountability and participation will increase public trust in an organization, thereby leading us to propose the following hypotheses:

H 1 Transparent organizational communication, namely (a) information substantiality, (b) accountability and (c) participation, during a pandemic, will increase public trust in an organization.

2.2 | Organizational trust and social cognitive factors

Organizational trust during a pandemic is key (Funk, 2020) in encouraging publics to comply with recommended preventive measures, such as social distancing. To understand the motivational routes of individuals for engaging in social distancing behaviour during the COVID-19 pandemic based on their trust in organizations, this study draws on a social cognitive framework, which identifies key factors that predict individuals' decision-making process. Such key factors include trust in the government, risk perception of the pandemic, attitudes, subjective norms and perceived behavioural control over the acceptance of preventive measures (e.g. Leppin & Aro, 2009; Prati et al., 2011). Social cognitive theory offers essential premises for linking these variables to behavioural intention and actual behaviours (Bandura, 1986).

Moreover, the impact of these variables can be explained by several health behavioural change models, such as TPB and the health belief model. These models indicate that cognitive and social factors are the central determinants of recommended-behaviour adoption (Fishbein & Ajzen, 1980; Rosenstock, 1974). According to these models, in the case of a pandemic, *risk perceptions* refer to perceived vulnerability and severity judgment of a pandemic (Ibuka et al., 2010). Meanwhile, *attitude* is defined as one's belief about whether engaging in precautionary actions can generate positive outcomes. Finally, *subjective norms* refer to one's perception of whether his/her important referents agree with practising precautionary actions. The social acceptability and endorsement of behaviour play an important role in a person's decision-making process (Ajzen, 1991). *Perceived*

behavioural control is defined as one's perception of the ease of performing precautionary actions.

The health behaviour model postulates that individuals systematically process available information and carefully consider the outcomes of their actions (e.g. social distancing) based on these perception variables. Given that organizational trust plays an important role in shaping publics' perceptions of and attitudes towards a pandemic and related preventive guidelines (Poland, 2010; Quinn et al., 2013), this study hypothesizes trust as a precursor of individual social cognitive variables. Thus, the specific links between organizational trust and social cognitive factors are discussed in the following sections.

2.2.1 | Organizational trust and risk perceptions

In pandemic management, organizational trust (e.g. government trust) has been shown to broaden individuals' health knowledge about a pandemic and increase their awareness of risk situations (Quinn et al., 2013). The trust and confidence model suggests that trust in the government plays an important role in pandemic management, as it influences individuals' evaluation of risks and thus can indirectly affect the acceptance of preventive measures (Siegrist et al., 2003). However, a lack of trust in the government generates scepticism regarding public health warnings (Vaughan & Tinker, 2009). Such doubt may influence publics to underestimate the vulnerability and severity of a disease (Blair et al., 2017). Similarly, institutional trust serves as the foundation of how pandemic outbreak communication is heard, interpreted and responded to and can reinforce perceived threats of a disease (Slovic, 2000). Thus, we expect that trust in organizations during the COVID-19 pandemic, including the state government and health institutions, positively influences publics' risk perceptions of a pandemic. The following hypothesis is thus proposed:

H 2 Publics' trust in an organization will increase their perceived risks of a pandemic.

2.2.2 | Organizational trust and attitudes

Given the high uncertainty and extreme impact of a pandemic, the pandemic and risk communication literature suggest that trust in the government is an essential element of public cooperation towards government action (Houston & Harding, 2013). Institutional trust has been identified as one of the most important variables for predicting publics' attitudes and preferences towards preventive measures in pandemic management (SteelFisher et al., 2010; Taylor-Clark et al., 2005). Public health research indicates that trust in the government enhances individuals' confidence in institutions, thereby increasing perceived legitimacy of government action as well as the expected outcomes of such action (Vaughan et al., 2012). The trusting relationship between an institution and its publics enables positive expectations that negative outcomes

will not occur if the publics comply with institutional guidelines (Pavlou & Fygenon, 2006). In addition, such a relationship creates an impression that an institution will prioritize its publics' interests (Hosmer, 1995). These optimistic expectations that build on trust create positive perceptions of the outcomes of institutional actions, thereby generating positive attitudes towards related policies (Pavlou, 2003). Thus, we expect that trust in organizations (i.e. health institutions and the government) may influence publics' attitudes towards pandemic preventive measures, which is social distancing in this study. Thus, we propose the following hypothesis:

H 3 Publics' trust in an organization will influence their attitudes towards social distancing.

2.2.3 | Organizational trust and subjective norms

Most research that integrates institutional trust and normative beliefs examine the two variables separately with no interactions (e.g. Hsieh, 2015). However, research on social capital suggests that trusting relationships with the government may establish social capital, which is a social norm that can "facilitate coordination and cooperation for mutual benefit" (Putnam, 1995). Trust in government reputation, image and actions can thus establish a mutual and healthy relationship between institutions and publics, thereby creating a social norm of government action acceptance (Chuang et al., 2015). Specifically, scholars indicated that individuals' perceptions of the reference groups' behaviours or interpersonal agreements can be determined by subjective culture variables, the approaches people use to interpret the social environment (Triandis, 1980). In an organizational context, essential elements of organizational trust, such as fairness and integrity, reflect the perceptions of subjective culture variables; these perceptions will then affect the formation of social pressure or subjective norms (Ellis & Shockley-Zalabak, 2001; Fu & Lee, 2005). Namely, higher levels of organizational trust can reflect publics' positive values of being treated with fairness and integrity by the organization. These perceptions decrease the likelihood that people attempt to behave differently or increase the likelihood that people comply with others in the social environment (Fu & Lee, 2005), as such trusting relationships leads to less rupturing behaviour among publics (Chang, 2007). Particularly in the pandemic context, organizational trust can help facilitate effective interaction and communication between the government and the publics and thus allow greater health information flow (Jung et al., 2013), which serves as an important resource that mobilizes a community and establishes social pressure regarding the precautionary measure adoption (Lee & Kam, 2015). Based on this line of reasoning, in the context of this study, organizational trust is expected to enhance the public's perceived social pressure to practice social distancing behaviour (i.e. subjective norms). The following hypothesis is thus posed:

H 4 Publics' trust in an organization will increase their perceived norms regarding social distancing.

2.2.4 | Organizational trust and perceived behavioural control

Trust in an institution can be a resource to help publics cope with social uncertainty and unexpected contingencies (Gefen, 2002), thereby resulting in considerable control over certain behaviours (Pavlou & Fygenon, 2006). Moreover, trust in an institution can indicate support for its actions, which may motivate individuals to overcome barriers to engage in a behaviour or cooperate as an expression of support (Hsu et al., 2007). Thus, the positive impact of organizational trust on publics' perceived behavioural control during the COVID-19 pandemic is expected, and the following hypothesis is proposed:

H 5 Publics' trust in an organization will increase their perceived behavioural control over social distancing.

2.3 | Social norms, cognitive perceptions and preventive measures

In addition to considering all social cognitive factors as parallel variables that can predict behavioural intentions, this study investigates the role of subjective norms in shaping one's risk perceptions, attitudes and perceived behavioural control over a behaviour. Although the majority of research on TPB considers the three main variables, namely attitudes, subjective norms and perceived behavioural control, as exogenous factors that lead to behavioural intentions, scholars suggest that subjective norms may exert an impact on attitudes and perceived behavioural control (Quintal et al., 2010). According to TPB, one's attitudes and perceived control towards a behaviour are both considered to be personal factors because such attitudinal perceptions are internally generated on the basis of the person's evaluations of the potential outcomes or competence to complete the behaviour. In contrast, one's subjective norms are viewed as a social factor as they depend on people who surround the person and one's perceived social pressure to perform the behaviour (Bandura, 1986). Scholars argued that an individual's attitudes or perceived behavioural control can be contingent on his/her perceived subjective norms (Oliver & Bearden, 1985; Park, 2000). Norm beliefs about a behaviour in the social environment serve as facilitators or barriers in individuals' decision-making processes (Bagozzi et al., 2004; Han et al., 2010). The literature in social psychology has also long acknowledged that the attributes of the social environment and social pressure play critical roles in shaping one's attitudes (Eagly & Chaiken, 1993). Accordingly, individuals' perceptions of others' expectations or/and behaviours are found to directly influence the formation of attitudes and behaviour control perceptions because subjective norms are outcomes of social normative pressures (Park, 2000).

Moreover, social norms are constructed within informal personal networks, which facilitates the delivery of risk information (Kasperson et al., 1988). According to the social amplification of risk framework, the

diffusion power of information delivered within a social network could influence the magnitude of risk perception of a specific issue (Kasperson et al., 1988; Renn, 2011). Although earlier studies of TPB placed subjective norms as an exogenous construct leading to intentions and behaviour, many studies have attempted to identify the causal relationship between subjective norms and other variables (e.g. Al-Swidi et al., 2014). While it might be argued that perceptions that are internally created such as risk or attitudes can influence normative beliefs, scholars suggested that it is more likely characteristics of the social environment will affect characteristics of the person (Eagly & Chaiken, 1993; Ryan, 1982). This is particularly relevant in this study's context. The novelty and ambiguity of COVID-19 have resulted in larger-scale uncertainty in society compared with other pandemics in the past (Altschuler, 2020). In uncertain situations, such as the present, in which effective preventive measures are unclear, individuals may likely use others' behaviours as evidence or justification to decide to also adopt the same behaviour (Cialdini et al., 2006; Kim et al., 2015). Thus, we expect the impacts of norms on social cognitive variables, proposing the following hypotheses:

H 6 Publics' perceived norms will increase their (a) perceived risks of a pandemic, (b) positive attitudes and (c) perceived behavioural control over social distancing.

In the social cognitive approach, the primary models of health behavioural change, such as the health belief model, TPB and protection motivation theory, identify factors that can predict the outcome variables of behavioural intention and actual behaviours (Schwarzer, 2001). These theoretical frameworks share several common factors, such as risk perceptions, attitudes, social norms and perceived behavioural control. Based on previous studies on health communication, this study assumes that such factors can predict publics' adoption of social distancing during the pandemic. Thus, the following hypotheses are proposed.

H 7 Publics' (a) risk perceptions of a pandemic, (b) attitudes, (c) perceived norms and (d) perceived behavioural control over social distancing will increase their likelihood of adopting such behaviour.

The conceptual model is presented in Figure 1.

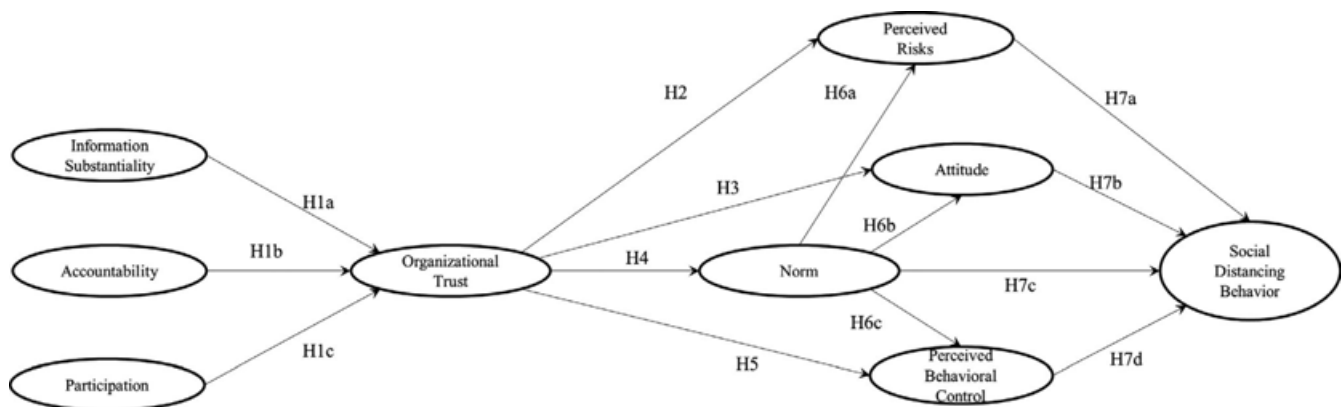


FIGURE 1 Conceptual model

3 | METHOD

3.1 | Participants

An online survey was conducted with participants in the United States for 1 week in early April 2020 after the social distancing guideline for COVID-19 was presented by the CDC on April 4 (CDC, 2020) and the stay-at-home order was implemented in all 50 states (Mervosh et al., 2020). Participants were recruited through Amazon Mechanical Turk (MTurk). The Mturk user population represents the demographic distribution in the United States (e.g. Casler et al., 2013; Mason & Suri, 2012) and tends to be more diverse than the population drawn from traditional survey research (Buhrmester et al., 2016). Therefore, Mturk samples for social scientific research is an appropriate participant recruitment pool for numerous studies, including communications research (e.g. Krishna, 2018). To obtain a nationally representative sample of the US population in terms of age, gender and race/ethnicity, stratified random sampling was used. The participants were compensated for \$1 for participating in the 15-min survey. After removing invalid responses (e.g. who are not qualified for the survey, who spent less than 4 min or more than 1.5 hr in a survey, who failed attention check questions), among the initial 823 survey participants, this study retained a final sample of 502.

Of the final sample of 502 participants (mean age = 36.6, *SD* = 11.4), 50% of them were male ($n = 251$). A majority of them were Caucasian ($n = 365$, 73%) and held bachelor's or postgraduate degrees ($n = 408$, 81.3%). 75.4% of the participants ($n = 378$) had more than \$40,000 of household income, and 77.1% of them ($n = 387$) were currently employed full-time. In terms of political affiliation, 43.8% of the respondents ($n = 220$) identified themselves as liberal, while 32.7% ($n = 164$) of them were conservative Table 1 summarizes the demographic information of these participants.

3.2 | Measures

All measurement items were adopted from previous literature. A 5-point Likert scale from strongly disagree (=1) to strongly agree (=5) was used for the items.

TABLE 1 Participant Profiles (N = 502)

Sample characteristics	Frequency	%
<i>Gender</i>		
Male	251	50.0
Female	251	50.0
<i>Age</i>		
20–29	170	33.9
30–39	169	33.7
40–49	95	18.9
50–59	34	6.8
60+	34	6.8
<i>Race/ethnicity</i>		
Caucasian	365	72.7
Black/African American	67	13.3
Hispanic/Latino	42	8.4
Asian/Asian American	19	3.8
Others	9	1.8
<i>Education level</i>		
High school diploma or equivalent	19	3.8
Some college, no degree	75	15.0
Bachelor's degree or equivalent	274	54.6
Master's degree or higher	134	26.7
<i>Annual income</i>		
\$0–\$20,000	40	8.0
\$20,001–\$39,999	84	16.7
\$40,001–\$59,999	157	31.3
\$60,001–\$79,999	124	24.7
\$80,001–\$99,999	56	11.2
\$100,000 or more	41	8.2
<i>Political identification</i>		
Liberal	220	43.8
Neutral	118	23.5
Conservative	164	32.7

Note: According to the most recent U.S. census data (the United States Census Bureau, 2019), the U.S. population consisted of 49.2% male and 50.8% female. The median age was 38.2. A majority were Caucasians (60.2%), followed by Hispanic/Latino (18.5%), African Americans (13.1%) and Asian/Asian Americans (6.4%) and others (1.7%).

For transparent communication and organizational trust, participants were asked to answer each item twice for two organizations, health institutions (e.g. CDC) and state government, respectively. Transparent communication was measured with 10 items (health institutes: $\alpha = 0.864$, state government: $\alpha = 0.893$) adopted from Men (2014). It includes three components, information substantiality (four items, health institutes: $\alpha = 0.773$, state government: $\alpha = 0.788$), accountability (four items, health institutes: $\alpha = 0.722$, state government: $\alpha = 0.760$) and participation (three items, health institutes: $\alpha = 0.763$, state government: $\alpha = 0.743$). To measure organizational trust, six items (health institutes: $\alpha = 0.858$, state

government: $\alpha = 0.858$) were adopted from Hon and Grunig (1999). Publics' perceived risks of a pandemic were measured with four items ($\alpha = 0.812$) of perceived severity and four items of perceived susceptibility ($\alpha = 0.822$) (Jang & Park, 2018). Norm was measured with three items ($\alpha = 0.745$) from Chung and Lapinski's (2019) study. To measure individuals' perceived behavioural control, five items ($\alpha = 0.735$) were used from Cho and Lee (2015) and Krishna (2018). Individuals' attitudes towards social distancing were measured with six revised items ($\alpha = 0.923$) adapted from Krishna (2018). In terms of social distancing behaviour, three items ($\alpha = 0.749$) were used. A list of measurement items is presented in Table 2.

3.3 | Data analysis

First, the reliabilities for all measurement items were evaluated through Cronbach's α . All variable measures achieved satisfactory scale reliability: Cronbach's alpha coefficients ranged from 0.72 to 0.94, surpassing the acceptable threshold of 0.70. To test the hypotheses, the researchers used a two-step process of structural equation modelling (SEM) using Mplus program. The measurement model was firstly evaluated, followed by testing the structural model. Hu and Bentler's (1999) joint-fit criteria was used to assess the model fit: "CFI ≥ 0.95 and SRMR ≤ 0.10 " or "RMSEA ≤ 0.06 and SRMR ≤ 0.10 " is considered as a good model fit. The hypothesized model was tested twice for each organization, health institutes (Model 1) and state/local government (Model 2).

4 | RESULTS

4.1 | Preliminary data analysis

Table 3 reports descriptive statistics and correlations among the variables. During the time when the data were collected, participants as a whole, in general, were highly engaged in social distancing behaviour ($M = 4.21$), while their positive attitude towards social distancing was moderate ($M = 3.36$). Participants also had a moderately high level of perceived risk, norm and behavioural control ($M_s > 3.8$). In terms of perceived transparent communication efforts by two organizations and trust level, publics are more likely to trust health institutes ($M = 3.82$) than state government ($M = 3.57$), $t(501) = 6.79$, $p < .001$. Moreover, publics tend to believe that compared to the state government, health institutes provide more substantial information about the outbreak ($t(501) = 6.19$, $p < .001$) and be more accountable for the crisis ($t(501) = 3.40$, $p = .001$). No significant difference was found for participation between the two organizations ($t(501) = 0.672$, $p = .502$).

4.2 | Testing socio-demographic variables

A series of t tests, ANOVA and regression analysis was conducted to examine the effects of demographic variables on the main

TABLE 2 Measurement items

Constructs	Items	Standardized factor loadings	
		Model 1 Health institutes	Model 2 State government
Information substantiality	During COVID-19 outbreak, [the organization] provides information that is _____ to publics		
	Relevant	0.634*	0.632*
	Complete	0.703*	0.699*
	Accurate	0.710*	0.727*
Accountability	Reliable	0.666*	0.712*
	During COVID-19 outbreak, [the organization] presents more than one side of this issue	0.644*	0.696*
	Is open to criticism by publics	0.635*	0.688*
	Freely admits when it has made mistakes	0.663*	0.740*
Participation	Provides both positive and negative information to publics regarding this issue	0.669*	0.631*
	During COVID-19 outbreak, [the organization] Asks for feedback from publics about the quality of information they provide	0.736*	0.678*
	Involves publics to help identify the information we need	0.640*	0.724*
	Takes the time with publics to understand who they are and what they need	0.782*	0.706*
Trust	During COVID-19 outbreak, [The organization] is truthful to publics	0.726*	0.673*
	[The organization] treats people justly and fairly	0.689*	0.711*
	[The organization] keeps its promises	0.694*	0.684*
	Generally speaking, [the organization] can be trusted	0.717*	0.733*
	[The organization] has the ability to do what it says it will do	0.665*	0.683*
Perceived risk	I feel very confident about the [the organization's] skills	0.765*	0.757*
	<i>Perceived severity</i>		
	I believe that COVID-19 is severe health problem	0.770*	0.775*
	Has detrimental impacts on health	0.737*	0.736*
	Is a serious threat to my health	0.634*	0.630*
<i>Perceived susceptibility</i>	Is a critical disease	0.753*	0.750*
	COVID-19 infection could happen to me	0.766*	0.768*
	COVID-19 infection could happen to my family	0.753*	0.753*
	COVID-19 infection could happen to my neighbours and friends	0.740*	0.739*
Norm	COVID-19 infection could happen anytime to anyone, even a healthy individual	0.675*	0.673*
	Most people whose opinion I value would approve of my precautionary actions (e.g. social distancing) against COVID-19	0.725*	0.722*
	Most people who are important to me would endorse my precautionary actions against COVID-19	0.659*	0.654*
Perceived behavioural control	Most people who are important to me would support that I take precautionary actions against COVID-19	0.738*	0.732*
	I am confident in my ability to protect myself from COVID-19	0.618*	0.625*
	I see few problems in taking actions to prevent myself from COVID-19	0.490*	0.490*
	I feel comfortable taking any actions to prevent myself from COVID-19	0.579*	0.554*
	I feel that I can make a difference and improvement of the problematic situation related to the COVID-19 outbreak	0.646*	0.662*
	I (my efforts) can help in resolving the COVID-19 outbreak.	0.576*	0.583*

(Continues)

TABLE 2 (Continued)

Constructs	Items	Standardized factor loadings	
		Model 1 Health institutes	Model 2 State government
Attitude	I am opposed to the idea of social distancing [®]	0.848 [*]	0.849 [*]
	I don't believe that social distancing can protect me and people I know [®]	0.865 [*]	0.865 [*]
	I believe mandatory social distancing is not a good idea [®]	0.840 [*]	0.840 [*]
	People should have the right to choose whether or not to practice social distancing [®]	0.817 [*]	0.816 [*]
	I don't think social distancing will protect people from COVID-19 [®]	0.841 [*]	0.841 [*]
	Overall, I believe social distancing to be negative [®]	0.860 [*]	0.860 [*]
Social distancing	During the past 15 days,		
	I have avoided personal contact to protect myself from getting COVID-19	0.658 [*]	0.703 [*]
	I have been practising "social distancing" (deliberately increasing the physical space between people, such as staying at least six feet away from others)	0.705 [*]	0.657 [*]
	I have self-isolated myself when I feel sick	0.722 [*]	0.722 [*]

* $p < .001$.

variables used in the current study. Individuals' age, gender, education level and political identification were found to have significant impacts and were thus controlled in the following SEM analysis. Specifically, the results of *t* tests showed that female participants reported higher levels of perceived risk ($t(500) = -2.95, p = .003$), attitude ($t(500) = -3.69, p < .001$) and social distancing behaviour ($t(500) = -3.57, p < .001$) than male participants. The results of regression analysis indicated that liberal participants reported high levels of trust towards health institutions ($\beta = 0.157, p < .001$), perceived risks ($\beta = 0.223, p < .001$), norm ($\beta = 0.181, p < .001$), attitude ($\beta = 0.167, p < .001$) and social distancing behaviour ($\beta = 0.159, p < .001$). Age was also significantly and positively related to the participants' perceive risk ($\beta = 0.126, p = .011$), attitude ($\beta = 0.132, p = .005$), norm ($\beta = 0.146, p = .003$) and behaviour ($\beta = 0.138, p = .005$) and negatively related to behavioural control ($\beta = -0.106, p = .035$). Education level was negatively associated with norm ($\beta = -0.137, p = .002$), attitude ($\beta = -0.247, p < .001$) and social distancing behaviour ($\beta = -0.170, p < .001$), while positively associated with behavioural control ($\beta = 0.122, p = .008$). Individuals' race/ethnicity and income level did not have any significant associations with the key variables.

4.3 | Hypotheses testing

The CFA results showed that the measurement models fit the data well: Model 1: $\chi^2(781) = 1738.974$, RMSEA = 0.049 [0.046, 0.053], CFI = 0.949, TLI = 0.940, SRMR = 0.041; Model 2: $\chi^2(781) = 1657.746$, RMSEA = 0.047 [0.044, 0.050], CFI = 0.959, TLI = 0.950, SRMR = 0.043. Therefore, the researchers evaluate the structural models. Two models reached satisfactory data fit: Model 1: $\chi^2(800) = 1,860.850$, RMSEA = 0.051 [0.048,

0.054], CFI = 0.930, TLI = 0.920, SRMR = 0.053; Model 2: $\chi^2(800) = 1787.222$, RMSEA = 0.050 [0.047, 0.053], CFI = 0.938, TLI = 0.931, SRMR = 0.054. The coefficient paths are thus interpreted (see Figure 2).

In H1, a positive effect of transparent communication on publics' trust level with an organization was expected. The results revealed that for health institutes (Model 1), information substantiality (0.950, $p < .001$) and participation (0.280, $p = .007$) were positively related to trust, while accountability ($-0.217, p = .191$) was not significantly related to trust. For state government (Model 2), information substantiality (0.516, $p < .001$) was positively related to trust, whereas accountability (0.173, $p = .589$) and participation (0.274, $p = .546$) were not significantly associated with trust. These results support H1a, do not support H1b and partially support H1c.

H2 examined the effect of trust on publics' perceived risk of a pandemic. The effect was positive and significant in both models (Model 1: 0.291, $p < .001$; Model 2: 0.114, $p = .022$), which supports H2. In H3, whether publics' trust level increased their attitude towards social distancing was investigated. The results showed that trust did not significantly affect publics' attitude in both models (Model 1: $-0.061, p = .282$; Model 2: 0.103, $p = .090$), which does not support H3. H4 investigated how public trust is related to individuals' perceived norm. The association was also positive and significant (Model 1: 0.530, $p < .001$; Model 2: 0.204, $p < .001$), and thus, H4 is supported. In H5, we expected a positive effect of publics' trust on their perceived behavioural control. The paths were positive in both models (Model 1: 0.300, $p < .001$; Model 2: 0.331, $p < .001$). H5 is supported.

H6 examined how publics' norm increases perceived risks, attitude and perceived behavioural control, respectively. Norm was significantly and positively related to perceived risks in both models (Model 1: 0.651, $p < .001$; Model 2: 0.712, $p < .001$). It also

TABLE 3 Descriptive statistics and correlations among the study variables

	M (SD)	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Substantiality (state government)	3.67 (0.89)	-												
Participation (state government)	3.43 (0.99)	0.689**	-											
Accountability (state government)	3.41 (0.91)	0.636**	0.716**	-										
4. Trust (state government)	3.57 (0.89)	0.744**	0.721**	0.694**	-									
5. Substantiality (health institutes)	3.91 (0.87)	0.529**	0.305**	0.264**	0.399**	-								
6. Participation (health institutes)	3.40 (1.06)	0.485**	0.596**	0.514**	0.518**	0.472**	-							
7. Accountability (health institutes)	3.54 (0.89)	0.490**	0.461**	0.540**	0.442**	0.604**	0.607**	-						
8. Trust (health institutes)	3.82 (0.86)	0.550**	0.419**	0.363**	0.548**	0.771**	0.567**	0.613**	-					
9. Perceived risk	4.03 (0.83)	0.310**	0.171**	0.124**	0.232**	0.504**	0.305**	0.338**	0.536**	-				
10. Norm	4.13 (0.76)	0.285**	0.083	0.064	0.177**	0.426**	0.151**	0.281**	0.450**	0.574**	-			
11. Attitude (R)	3.36 (1.31)	0.023	0.229**	0.324**	0.148**	0.263**	0.088	0.013	0.204**	0.342**	0.418**	-		
12. Perceived behavioural control	3.89 (0.67)	0.334**	0.290**	0.221**	0.339**	0.366**	0.321**	0.372**	0.423**	0.391**	0.479**	0.077	-	
13. Social distancing behaviour	4.21 (0.73)	0.212**	0.033	-0.060	0.108	0.454**	0.097	0.209**	0.420**	0.610**	0.686**	0.500**	0.483**	-

* $p < .05$.** $p < .01$.

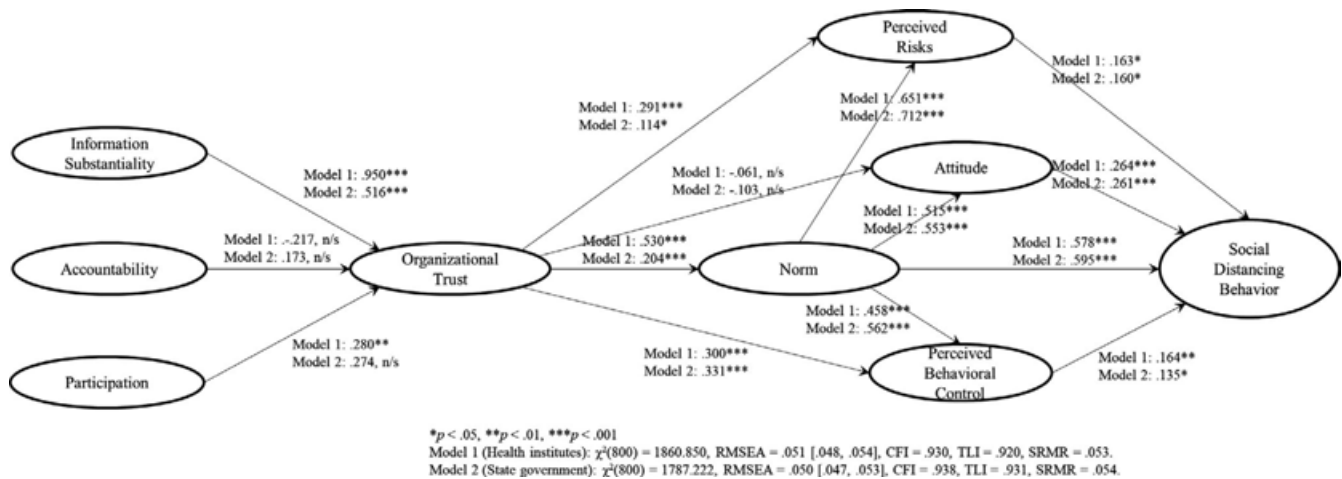


FIGURE 2 Results of the hypothesized model

significantly increased publics' attitude towards social distancing (Model 1: 0.515, $p < .001$; Model 2: 0.553, $p < .001$) and perceived behavioural control (Model 1: 0.458, $p < .001$; Model 2: 0.562, $p < .001$). H5a, H5b and H5c are thus all supported.

In H7, this study expected publics' perceived risks, attitude, norm and perceived behavioural control towards social distancing all positively influence their social distancing behaviour during the pandemic. As expected, perceived risks (Model 1: 0.163, $p = .034$; Model 2: 0.160, $p = .025$), attitude (Model 1: 0.264, $p < .001$; Model 2: 0.261, $p < .001$), norm (Model 1: 0.578, $p < .001$; Model 2: 0.595, $p < .001$) and perceived behavioural control (Model 1: 0.164, $p = .004$; Model 2: 0.135, $p = .014$) all positively and significantly predicted social distancing behaviour in both models. H7 is thus supported.

5 | DISCUSSION

An increasing number of studies discuss the effective crisis/risk communication strategies during the COVID-19 in diverse settings (e.g. Clark-Ginsberg & Petrun Sayers, 2020; Petridou & Zahariadis, 2021; Subert, 2020). This study particularly examines the role of organizations' transparent communication and trust levels in influencing American publics' perceptions, attitudes and social distancing behaviour during the COVID-19 pandemic. The results of the online survey indicated that information substantiality significantly increased publics' trust in the state government and health institutes during the pandemic. Participation enhanced publics' trust in health institutes, whereas accountability demonstrated no effect on trust for both organizations. Organizational trust played an important role in increasing publics' perceived risks, norms and behavioural control, which ultimately fostered their social distancing behaviour. This study provided important theoretical and practical implications.

First, the current study advanced public relations and strategic communication scholarship by understanding publics' health-related behaviours during a global pandemic. Previous studies have long demonstrated the overall effectiveness of communication transparency, such as openness or mutuality, in increasing public trust

(e.g. Yang, 2018). However, distinct transparent communication elements may play different roles during a public health crisis. One of the key findings of this study was that information substantiality was positively and strongly related to publics' trust in organizations, whereas publics' evaluation of accountability and participation did not consistently lead to trust. During uncertain times, such as a public health crisis, publics have intrinsic needs to know what is going on and what should be done. This study revealed that in the context of the COVID-19 pandemic, the state government and health agencies, as truthful information sources for the outbreak, were responsible for providing substantial information that is truthful, timely and relevant to satisfy publics' needs. As noted by numerous public relations and crisis communication studies, releasing information is crucial for building public trust during a crisis (e.g. Chang, 2020; Huang, 2004), which was also demonstrated empirically in the current study.

Moreover, participation, which is similar to the concept of listening and mutuality, has been considered as a normative and ethical communication model in the literature (e.g. Kang et al., 2018). Our results indicated that the idea of participation, as a core element of transparency, was effective in establishing public trust in health institutions during a public health crisis. However, state governments' participative efforts were not significantly related to publics' level of trust. The risk communication literature suggests that publics will trust the government when the government sends empathetic and caring messages and demonstrates competence and expertise in their promises and actions (Reynolds & Quinn, 2008). The literature likewise posits that publics may expect reassurance and directional leadership from the government during a pandemic to feel relieved and take immediate specific steps to avoid health risks rather than speaking up on an issue to the government. In other words, not all publics may want to participate in the decision-making process. Some may want to merely follow directions provided by authorities during an uncertain period. In addition, public participation occasionally delays organizations' decision-making process (Godschalk et al., 2003), thereby preventing organizations from providing information quickly and timely. Therefore, whether or not publics perceived opportunities to express their opinions or for the state government to listen to them did not necessarily increase trust during a pandemic.

TABLE 4 Results of direct and indirect effects of organizational trust on social cognitive factors in SEM model

Paths	Model 1			Model 2		
	Direct effect	Indirect effect	Total effect	Direct effect	Indirect effect	Total effect
	Parameter Estimates (Standard Error)					
Organizational Trust → Social Distancing Behaviour (SDB)	-		0.554 ^{***} (0.04)	-		0.224 ^{***} (0.05)
Trust (→Perceived risks ^a) → SDB		0.047 (0.03)			0.018 (0.01)	
Trust (→Attitude ^a) → SDB		-0.016 (0.02)			-0.027 (0.02)	
Trust (→Norm ^a) → SDB		0.306 ^{***} (0.06)			0.121 ^{**} (0.04)	
Trust (→Perceived behavioural control ^a) → SDB		0.049 ^{**} (0.02)			0.045 [†] (0.02)	
Trust (→Norm ^a) (→Perceived risks ^a) → SDB		0.056 [†] (0.03)			0.023 (0.02)	
Trust (→Norm ^a) (→Attitude ^a) → SDB		0.072 ^{***} (0.01)			0.029 ^{**} (0.01)	
Trust (→Norm ^a) (→Perceived behavioural control ^a) → SDB		0.040 ^{**} (0.01)			0.015 [†] (0.01)	
Organizational Trust → Attitude	-0.061 (0.01)		0.212 ^{***} (0.05)	-0.103 (0.02)		0.010 (0.01)
Trust (→Norm ^a) → Attitude		0.273 ^{***} (0.04)			0.113 ^{***} (0.03)	
Organizational Trust → Perceived Risks	0.291 ^{***} (0.05)		0.636 ^{***} (0.04)	0.114 [†] (0.05)		0.259 ^{***} (0.05)
Trust (→Norm ^a) → Perceived Risks		0.345 ^{***} (0.04)			0.145 ^{***} (0.04)	
Organizational Trust → Perceived Behavioural Control	0.300 ^{***} (0.06)		0.544 ^{***} (0.04)	0.331 ^{***} (0.05)		0.446 ^{***} (0.05)
Trust (→Norm ^a) → Perceived Behavioural Control		0.244 ^{***} (0.04)			0.115 ^{***} (0.03)	

^aMediated path(s).

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Furthermore, accountability was not a key element for enhancing publics' trust during a pandemic. Generally, though the notion of accountability based on reporting balanced information, that is, positive and negative information, and admitting mistakes helps organizations establish quality relationships with publics, our findings suggested that this situation was not always the case during a pandemic. One possible explanation was that publics may not consider these organizations responsible for the pandemic, unlike other types of organizational crises. When publics perceive a pandemic as uncontrollable and view government organizations and health institutes as victims (Coombs, 2007), they will not necessarily expect these organizations to acknowledge their mistakes, which is not related to how much they trust these organizations to address the crisis. In summary, the findings of the current study suggested an effective communication model in the public health crisis context, that is, the COVID-19 outbreak, based on the public relations literature by analysing the distinct roles of information substantiality, participation and accountability in building organizational trust with publics.

Second, this study demonstrated the theoretical applicability and practical utility of health behaviour theory via the social cognitive approach in the public health crisis context. As expected in the theory, original TPB components (i.e. attitudes, subjective norms

and perceived behavioural control) and an additional component (i.e. perceived risks) contributed to people's decisions on social distancing. One interesting finding was that, among the four predictors, subjective norms were the strongest determinants of social distancing behaviours. Moreover, as shown in Table 4, subjective norms, among other factors, played a significant mediating role in the relationship between trust and social distancing behaviour. In the public health crisis management literature, individual factors, such as risk perceptions or self-efficacy, were hypothesized to exert more impact on the adoption of preventive measures than social factors in a national cultural environment that emphasizes individualism (Cho & Lee, 2015). However, our findings highlighted the significant predictive power of social factors in terms of social distancing behaviour. As we noted above, such a pattern may be explained by the novel and uncertain situations created by COVID-19 in the United States. The ambiguity and uncertainty of the crisis situation may encourage publics to use other people as references to decide whether or not to follow the same behaviour (e.g. Kim et al., 2015). Moreover, in addition to the direct impact of subjective norms on behaviours, our findings showed that individuals' cognitive behaviours (i.e. perceived risks, attitudes and perceived behavioural control) also depended on how their important referents, such as family and friends, viewed the adoption of social distancing (see Table 4 for the results of direct

and indirect effects). The findings once again highlighted the importance of social environments and social pressures in decision-making in uncertain and ambiguous situations.

Another contribution of this study was to expand key theoretical frameworks in health communication by integrating public relations research to understand public behaviours during a pandemic. The findings suggested that organizational trust significantly increased publics' perceived risks, norms and perceived behavioural control during an outbreak. However, trust in both organizations did not significantly affect publics' attitudes towards social distancing. Although we expected trust in government organizations to enable publics to understand the benefits of social distancing practices, this insignificant result may be explained by the American individualistic culture. Although publics trust organizations to address the public health crisis, they may not agree with social distancing practices, as such preventive measures may violate their beliefs about personal freedom and independence (Davis et al., 2015). Therefore, such individual-first thinking may discredit preventive measures that prioritize community benefits but constrain individual freedom (Davis et al., 2015). As shown in Table 4, however, it was found that normative beliefs acted as a significant mediator that increased the effect of organizational trust on publics' agreement towards social distancing practices. Such social reinforcement may help publics move beyond the individualistic frame of thinking and believe in the benefits of social distancing, thereby aligning with their trust in organizations. However, this assumption warrants further investigation by exploring the role of Americans' individualistic values in shaping social distancing behaviour. This finding suggested that, to understand publics' conflicting viewpoints and complicated motivations to engage in social distancing, examining the effectiveness of government- or health institution-initiated efforts in reinforcing publics' favourable attitudes towards social distancing may be a worthy direction for future communications research.

In summary, by testing an integrative model of publics' health behaviours during a pandemic and incorporating organizational-, social- and individual-level antecedents, this study provided a satisfactory foundation for future interdisciplinary research on public relations and health communication, particularly in the context of a public health crisis.

The current study also provided important practical implications for managing a pandemic through strategic communication. Organizations' transparency is expected more than ever through direct inputs on issues that affect publics. Based on the tested model, organizations responsible for public health crises (i.e. the state government and health institutes) should provide relevant, accurate and timely information to help publics (re)build trust, which can enhance individuals' perceived risks and community norms and ultimately lead to desired behaviours, such as social distancing in this case. Health institutions, such as the CDC, should also provide opportunities for publics to participate in obtaining and creating information related to the crisis. This situation would create the impression that organizations prioritize publics' interests, which will encourage them to build trust and develop positive perceptions of the guidelines or

actions of an institution. Meanwhile, state governments need to consult with public health and crisis communication experts and collaborate closely with health institutions to identify situations accurately, which will help them communicate the benefits of social distancing to publics clearly and effectively. Moreover, promotion programmes may consider perceived risks, attitudes, norms and perceived behavioural control related to social distancing. Given that social norms were the strongest predictors in this study, generating positive social pressure for individuals to follow social distancing instructions will likely be considerably effective in enhancing their recommended cognitive behaviour, thereby increasing the likelihood of practising social distancing. Thus, proposing programmes and messages that can help establish general prosocial distancing norms is essential.

6 | LIMITATIONS AND FUTURE STUDIES

This study has several limitations that should be addressed. First, this study was based on cross-sectional survey data collected in early April during the early stage of the stay-at-home order and lockdown. After the implementation of state-led orders, public opinions on social distancing changed and became polarized with the occurrence of anti-social distancing rallies across the nation (Corse & Calvert, 2020). In addition, the data were collected during the early stage of COVID-19, which limited our choice of organizations (e.g. health institutes, local government) in this study. For example, although the CDC generally holds a communication leadership role in public health emergencies, its credibility may have been diminished as a result of its acquiescence to the administration's demands (Sun & Achenbach, 2020). A longitudinal design is thus needed for future studies to understand the dynamics of public responses to government communication and social distancing. Second, publics tend to use presidential communications as a crucial information source (Brenan, 2020). The significant impact of the word of the president, the White House, and the federal government was not examined in this study. Thus, future studies should investigate how transparent communication from the president and the federal government affects public perceptions and behaviours during a public health crisis. Third, though participation did not increase government trust, the notion of mutuality was a significant predictor of government trust in the South Korean context in a previous study (Kang et al., 2018). This finding suggested possible cultural differences in terms of strategic communication effects. Given the nature of the COVID-19 global pandemic, future research should explore and compare the effectiveness of communication in a global setting to enrich the understanding of strategic public health crisis communication. Finally, to delimit the scope of the study, our model included transparent communication and organizational trust as the key antecedents of individuals' social cognitive factors. Other variables in relation to individuals' risk perception (e.g. uncertainty, knowledge level) or communication through technology such as social media (Silver &

Andrey, 2019; Zhao et al., 2019) could also be examined as mediating or moderating factors in future studies.

CONFLICT OF INTEREST

The author declares that there is no conflict of interest.

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