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RESEARCH

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TWEETING PANDEMIC PREPAREDNESS: CRISIS AND RISK COMMUNICATION BY CHILEAN AUTHORITIES

Twitteando la preparación de la pandemia: comunicación de crisis y riesgo de las autoridades chilenas

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ABSTRACT

Introduction: This study aims to learn how the Chilean Ministry of Health communicated with its audience on social networks during the initial phases of the COVID-19 crisis, in a context of national instability and a lack of trust by citizens in the government due to a previous social crisis. **Methodology:** By using the situational theory of crisis communication (SCCT) and the integrative model of risk and emergency communication (CERC), we conducted a content analysis of 3,306 Tweets posted by the Ministry of Health and its spokespersons during a 37-day period between February and March 2020. **Results:** The analysis revealed a prevalence of sender-oriented messages over audience-oriented publications. The reinforcement strategy emerged as the most common crisis communication maneuver in the messages, eclipsing the less prevalent instructional and adjustment strategies. Multivariate analysis revealed that reinforcement messages were more likely to be sender-focused, whereas instructional messages tended to be direct appeals to the

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audience. **Discussion:** The findings indicate that, in the early weeks of the pandemic, Chile's Ministry of Health and its authorities opted for a reputation protection strategy on Twitter. This approach relegated the goal of providing citizens with essential information to protect themselves from the health emergency to a lower priority This study is unique in characterizing a Latin American government agency's social media communication during the COVID-19 crisis in the broader context of a significant social and political crisis, using a risk and crisis communication approach.

Keywords: social networks, government, crisis communication, risk communication, COVID-19, pandemic preparedness.

RESUMEN

Introducción: Este estudio tiene como objetivo conocer cómo el Ministerio de Salud de Chile se comunicó con su audiencia en redes sociales durante las fases iniciales de la crisis de COVID-19, en un contexto de inestabilidad nacional y una falta de confianza por parte de los ciudadanos en el gobierno debido a una crisis social previa. **Metodología:** Empleando la teoría situacional de comunicación de crisis (SCCT) y el modelo integrador de comunicación de riesgos y emergencias (CERC), llevamos a cabo un análisis de contenido de 3.306 Tweets publicados por el Ministerio de Salud y sus portavoces durante un período de 37 días entre febrero y marzo de 2020. **Resultados:** El análisis reveló una prevalencia de mensajes orientados al remitente por sobre publicaciones orientadas a la audiencia. La estrategia del reforzamiento surgió como la maniobra de comunicación de crisis más común en los mensajes, eclipsando las estrategias menos prevalentes de instrucción y ajuste. El análisis multivariado reveló que los mensajes de reforzamiento tenían más probabilidades de centrarse en el remitente, mientras que los mensajes instructivos tendían a ser apelaciones directas a la audiencia. **Discusión:** Los hallazgos indican que, en las primeras semanas de la pandemia, el Ministerio de Salud de Chile y sus figuras de autoridad optaron en Twitter por una estrategia de protección de la reputación. Este enfoque relegó la meta de proporcionar a los ciudadanos información esencial para protegerse de la emergencia de salud a una prioridad inferior. Este estudio es único al caracterizar la comunicación de un organismo gubernamental latinoamericano en redes sociales durante la crisis de la COVID-19 en el contexto más amplio de una significativa crisis social y política, utilizando un enfoque de comunicación de riesgos y crisis.

Palabras clave: redes sociales, gobierno, comunicación de crisis, comunicación de riesgos, COVID-19, preparación para la pandemia.

1. INTRODUCTION

The first case of COVID-19 was officially reported in Chile on March 3, 2020. Two weeks later, on March 18, the total number of cases reached 238 and the then President of the Republic, Sebastián Piñera, declared a state of catastrophe. This declaration allowed the government to implement various measures to restrict personal freedoms in order to stop the spread of the virus. However, the coronavirus was not the only outbreak Chile was dealing with at the time. Exactly five months earlier, on October 18, 2019, the country entered a state of social unrest with massive street protests and

demonstrations against the government that lasted at least until social distancing measures were implemented for the prevention of COVID-19 (Somma et al., 2021). In short, the Chilean government had to face the COVID-19 crisis while still dealing with a huge social crisis that dramatically affected public confidence in the agency (Centro de Estudios Públicos, 2020).

Crises develop in stages (Ulmer et al., 2011), and one of these stages has been somewhat overlooked in the crisis communication literature: the pre-crisis stage. Authors agree that the pre-crisis is critical to prepare the ground for when the crisis hits (e.g., Jasmi et al., 2021). In the context of a health crisis such as the SARS-CoV-2 pandemic, for example, the pre-crisis period is a time for building trust between the parties in order to ensure the legitimacy of the measures taken to control the crisis. This legitimacy becomes fundamental for citizens' adherence to social distancing measures which, prolonged over time, may be resisted by individuals. In addition, the pre-crisis stage is considered a time to develop the skills and capabilities that the audience needs to face the emergency and take care of themselves and their loved ones (Reynolds and Seeger, 2005). Social networks have become a fundamental channel for organizations during crisis, and especially in the pre-crisis stage, because through these channels crisis planning becomes visible to the audience (Coombs, 2017; Diddi and Wei, 2022).

In this article we explore the communication strategy used by Chilean health authorities on Twitter to account for the government's preparedness for the coronavirus pandemic. This health crisis preparedness took place in the midst of a social crisis, which probably influenced decisions on how to deal with the public health emergency and its communication, as citizens' trust in government agencies and the reputation of these organizations was severely affected by the time the pandemic began. To guide this research, we draw concepts from two fields of theory: the Situational Crisis Communication Theory SCCT (Coombs, 2007b) and the risk and emergency communication model CERC (Reynolds and Seeger, 2005). Both SCCT and CERC are crisis communication models; however, while the former can be considered a public relations approach to a crisis, since its main concern is the effects of a crisis on organizational reputation and image repair, the latter is more specific to a public health crisis, so its focus is on emergency preparedness and response to mitigate risks among the population. Although both SCCT and CERC emerged before the massification of social media, their original approaches do not refer to any specific medium and easily apply to organizational communication that can take place on such platforms (Coombs, 2017). In fact, several studies examining communication via social networks in the context of the Coronavirus pandemic have been guided by these theoretical models (Brewer and Imes, 2023; Fissi et al., 2022; Michelow et al., 2023; Troy et al., 2022).

1.1. Reputation and crisis communication: the SCCT model

Coombs' situational theory of crisis communication, as already defined by its acronym SCCT, in 2007, relates crises to the response strategy in terms of attribution of responsibility. According to the SCCT, the public seeks to understand why negative

events occurred, and the answer they find to that question influences the way they perceive the event and how they react to it (Weiner, 1995). Accountability in a crisis is defined as the degree to which the public believes that the crisis is due to the actions of the organization (Coombs, 2007a, b; 2017). According to the SCCT, accountability should guide the way in which the organization responds to the crisis (Coombs, 2007b). The attribution of responsibility depends on the type of crisis. A crisis is considered to be of minimal responsibility when its origin is not due to the organization's actions. A crisis is considered to be of low responsibility when the organization has a certain degree of responsibility, but does not have total control over it. Finally, a crisis is considered to be of high responsibility when the organization has complete control over its occurrence, for example, when a product may be dangerous for consumers due to human error within the organization (Coombs, 2004).

Along with the type of crisis, the SCCT argues that there are two factors that intensify the attribution of responsibility. First, crisis history, which refers to whether the organization has faced a crisis before; and second, prior reputation, which is how the organization was perceived before the crisis began (Coombs, 2014). For example, research has found that a prior favorable organizational reputation acts as a halo that protects organizations from reputational damage due to a crisis, as people cling to their original beliefs about the organization and attribute less responsibility to companies that had high prior reputational scores (Claeys and Cauberghe, 2015). Intensifying factors can change the responsibility attributed to an organization in a crisis; for example, an organization facing a low responsibility crisis may end up with a high responsibility crisis if its reputation prior to the crisis was poor. In that sense, although the coronavirus crisis may be considered a low liability crisis for the Chilean government, the previously damaged reputation may have caused citizens to view the government's liability as higher than it actually was.

The SCCT states that an appropriate crisis response is one in which the response is commensurate with the level of responsibility for the crisis. While a response commensurate with the level of responsibility protects the organization against reputational damage, an inadequate response leads to severe damage to the organization's reputation (Coombs, 2007a, b). Recommended responses to crises depend on the nature of the crisis and can be divided into instructional, adjustment, and reputation repair messages (Holladay, 2009). While instructional messages provide elements for stakeholders to practically address the crisis, adjustment information addresses psychological aspects, such as feelings of sympathy and corrective actions. Together, instructional and adjustment information are considered by SCCT to be fundamental ethical responses to a crisis and can be implemented at any time and in any type of crisis. When a crisis is of minimal or low responsibility, only these fundamental ethical messages are needed to address the crisis.

Reputation repair messages, in turn, can be classified as denial, reconstruction and reinforcement. Denial consists of stating that the crisis does not exist and should only be used when the crisis originated in the context of misinformation. Reconstruction focuses on the positive aspects of the organization's performance, such as apologies

and compensation. Reinforcement, in turn, refers to messages that attempt to remind stakeholders of the organization's past positive actions and the things the organization has done to mitigate the crisis. Reconstruction strategies are only recommended in cases of crises with high attribution of responsibility, but reinforcement can be used in addition to instructional and adjustment strategies in any type of crisis and regardless of organizational responsibility (Coombs, 2004).

Although the SCCT principles have been formulated and tested primarily to study communication during a crisis, we believe that they can also be applied to the pre-crisis stage. One of the most prominent concerns in research addressing the pre-crisis stage has been crisis prevention and mitigation (Diddi and Wei, 2022). One of the strategies for mitigating a crisis before it occurs has been the inoculation approach, which proposes providing stakeholders with information about potential crises to build resilience to the negative messages the public might receive about the organization in the midst of the crisis. Research has found that building reputation before a crisis protects the organization from significant damage (Coombs and Holladay, 2002). For example, Wigley and Pfau (2010) found that inoculation and reinforcement messages were effective strategies for protecting organizational image in anticipation of a crisis.

1.2. Communication in a public health crisis: The CERC model

Reynolds and Seeger (2005) proposed the CERC model as a conceptual model that merges the notion of public health risk communication with the organizational concept of crisis communication. Risk communication refers to communication aimed at informing the public about potential threats, such as an infectious disease having pandemic potential, and providing them with tools to deal with those threats (Sellnow et al., 2019), more specifically, persuading people to adopt certain behaviors that will protect them from the threat.

A key difference between crisis communication and risk communication, according to CERC advocates, is that while crisis communication tends to be more informational, risk communication messages are geared toward persuading people to adopt protective behaviors. In this sense, while a crisis communication approach is expected to be sender-centered, as the organization has an interest in being accountable for its actions and decisions, the risk communication approach is recipient-centered, as it aims to provide tools and increase the audience's capabilities to cope with the crisis (Reynolds and Seeger, 2005).

1.3. Twitter, crisis and government

Twitter, renamed X in the first half of 2023, is a popular microblogging tool used by millions of users worldwide. Unlike other social networks, such as Facebook or Instagram, Twitter is primarily a source of information, as it collects short messages from different sources and groups them into a timeline. Even if users do not follow every news account, Twitter displays an up-to-date list of the top 10 most commented terms for each location, allowing users to quickly check which events are being

discussed most intensely in their country. This capability is particularly useful for crisis management.

Twitter has proven to be a fruitful medium for government agencies to reach and connect with their audiences (Liu et al., 2018; Zeemering, 2021). Policymakers have frequently used this social network to release information to the community, trying to motivate interaction and feedback, and this use has been strongly visible since the COVID-19 pandemic (Gong and Ye, 2021).

Since the early years of social networks, people have preferred them as communication vehicles in crisis contexts (Jin et al., 2011; Liu et al., 2011) and natural disasters (Saroj and Pal, 2020). In the AH1N1 influenza pandemic in 2010 there was a first experience of health crisis with social networks (Kim and Liu, 2012; Lui and Kim, 2011), even though the massiveness of these was not the same as 10 years later, when the SARS-CoV-2 virus gave rise to the largest pandemic of the century. In fact, the COVID-19 crisis gave rise to an extensive line of research on the use of social networks for pandemic communication (Gong and Ye, 2021; Michelow et al., 2023; Rufai and Bunce, 2020; Wang et al., 2021; Zeemering, 2021).

2. OBJECTIVES

Through this article, we aim to determine which elements of the two conceptual models for addressing crisis communication, the SCCT and the CERC, were present in the communication strategy of Chilean authorities in the pre-crisis stage through Twitter. With this inquiry, we contribute to the crisis communication literature by filling the knowledge gap regarding how a reputational crisis immediately prior to another crisis can influence how a government organization chooses to communicate with its audience through social networks in preparation for an emergency. First, following the premises of the SCCT and considering that in the wake of the social crisis that preceded the pandemic this can be seen as a crisis of more than minimal responsibility for the Chilean government, the authors anticipate that:

> H1: Reinforcement messages will be common in pre-crisis communication.

In addition, and considering the relevance of the focus of the messages, we pose the following research questions:

> RQ 1: Are audience-focused messages more or less prevalent than sender-focused messages in pre-crisis communication?
>
> RQ 2: Were instructional and/or adjustment messages more or less common than reinforcement messages?
>
> RQ 3: Is there an association between message orientation (sender-centered or recipient-centered) and message content (reinforcing/instructional/adjusting)?

3. METHODOLOGY

3.1. Unit of analysis and sample

The unit of analysis for this study was the tweet. The tweets were obtained using the Social Media Foundation's NodeXL Pro Excel extension (Smith et al., 2010), which connects to Twitter's streaming application programming interface (API) for data download. We used NodeXL Pro's Twitter user network importer, which allows the download of the 3,200 most recent tweets from any user, including their original tweets, retweets, mentions, and replies. In April 2020, we downloaded the tweets published by the Twitter account of the Chilean Ministry of Health (@ministeriosalud), as well as the accounts of the minister at the time, Dr. Jaime Mañalich (@jmanalich), and the two deputy secretaries, Dr. Paula Daza (@pdazan) and Mr. Arturo Zúñiga (@arturozunigaj). The Chilean Ministry of Health account was created in June 2010 and has 829.2 K followers; Dr. Mañalich's account was created in February 2010 and has 275.9 K followers; the account of Dr. Daza was created in May 2014 and has 146.2 K followers, and finally, Mr. Zúñiga's account was created in July 2014 and has 60.7 K followers. The oldest downloaded tweets are from February 11, 2020, therefore, that was the start date of the period under study. It is important to note that at that time there were no reported cases of COVID-19 in the country. Tweets were included if they were posted between that start date and March 18, which corresponds to the day the president of Chile declared a state of catastrophe; we noted that date as the start of the crisis. Since the unit of analysis in the NodeXL Pro database is the relationship between two accounts, the same tweet could be in the database more than once, for example, if it mentioned two or more Twitter accounts. Before conducting the analysis, we eliminated all duplicates by reviewing the content of each tweet and retained only one version of each tweet. We ended up with 3,306 unique tweets posted by any of the four accounts under study in the 37 days between February 11 and March 18.

The tweets were coded using quantitative content analysis procedures by six second- and third-year journalism students (undergraduate) in two rounds of coding. The coders were trained in four online sessions in which they were introduced to the codebook and coded subsamples of the data to test their understanding of the process. In the first round of coding (N = 3,306), the objective was to identify those tweets that specifically referred to COVID-19. In the second round, only those tweets that were classified as "referring to COVID-19" in the first round were coded (N = 2,297). For both rounds, and following the guidelines of Neuendorf (2017), a subsample of approximately 10% of the units of analysis (N = 334 in round 1 and N = 245 in round 2) was coded to obtain intercoder reliability statistics, which are presented next to each variable.

3.2. Codebook variables

The following variables were used to code the Tweets:

COVID-19 content. Tweets were coded as tweets about COVID-19 if they explicitly referred to the virus, the pandemic, or other related topics, such as social distancing measures, quarantines, etc. Also included in this category were tweets whose content could be inferred to be about COVID-19, even if they did not mention any of the

specific keywords identified. Response options were "yes" or "no" (Krippendorff's alpha = .98).

Message orientation. Tweets were coded according to whether they were sender-oriented or audience-oriented. Audience-oriented messages were those that appealed directly to audience members (e.g., "Learn how to wash your hands to prevent coronavirus infection"), whereas sender-oriented messages were those that (a) presented a spokesperson's statement (e.g., "The Minister of Health said that hand washing was key to preventing coronavirus infection") in the form of a direct or indirect quote, or (b) featured an activity performed by a Ministry official (e.g., "The Minister visited the city of x to invite people to wash their hands to prevent coronavirus infection"). An "other" category was also added for those cases in which the message orientation could not be clearly distinguished (Krippendorff's alpha = .80).

Reinforcement. To assess reinforcement strategies in the messages, the authors classified messages according to whether they addressed crisis preparedness in terms of material or human resources, e.g., new hires, staff training, simulations, as well as investment in infrastructure (e.g., new hospitals or hospital beds), equipment (e.g., acquisition of mechanical ventilators), or supplies (e.g., personal protective equipment), with the goal of showing that the government was preparing for the crisis (Krippendorff's alpha = .75).

Instructional messages. The authors classified messages according to whether they sought to educate about coronavirus prevention, e.g., delivered recommendations to prevent transmission, special care for COVID-19 patients, travel recommendations, or any call for preventive behaviors (Krippendorff's alpha = .76).

Adjustment messages. The authors classified messages according to whether they had an emotional component, such as recognition of the uncertainty or fear that people might experience, and/or recommendations for dealing with the emotional consequences of the crisis. The authors also focused on explicit terms such as sadness, worry, anxiety, uncertainty, etc. (Krippendorff's alpha = .86).

4. RESULTS

From a total of 3,306 tweets posted by the Chilean Ministry of Health accounts and the three Ministry spokespersons between February 11 and March 18, 2020, 2,297 (69.5%) addressed the COVID-19 pandemic. Descriptive statistics for the sample of tweets are available in Chart 1.

Research question 1 addressed the prevalence of sender-oriented versus audience-oriented messages. From the total number of tweets that addressed the COVID-19 pandemic, 50.5% were classified as sender-oriented, i.e., the tweets reported the statement of a Ministry spokesperson or featured an activity of a ministerial figure, compared to 15.0% that were classified as audience-oriented, as they were direct appeals to the audience.

Hypothesis 1 proposed that reinforcement strategies would be common in pre-crisis communication via Twitter. Our data reveal that, in fact, reinforcement was the most common communication strategy present in 24% of tweets about COVID-19 during the pre-crisis stage, compared to instruction and adjustment. In fact and answering the second question, it is found that the instructional strategy was present in 16% of the tweets and the adjustment was present in only 2% of the publications. Moreover, within the period examined, reinforcement messages tended to increase over time, while instructive messages remained relatively low (see Figure 1).

Question 3 inquired about the orientation of the messages that were associated with each of the crisis management strategies. We fit binomial logistic regression models with reinforcement and instruction as dependent variables, and message orientation variables as categorical predictors (i.e. audience-oriented, statement-type sender-oriented, activity-type sender-oriented, or other), controlling for the source account (from the Ministry or from one of the Ministry authorities' personal accounts). The results are presented in Tables 2 and 3 respectively. In the case of reinforcement, we found that sender-oriented messages reporting an activity by the authority ($B = 1.46$, $SE = 0.21$, $p < 0.001$) and those sender-oriented messages focused on statements by public officials ($B = 1.09$, $SE = 0.20$, $p < 0.001$) were significantly more likely to be used for reinforcement compared to audience-oriented messages. Instructional messages, in turn, were significantly more likely to be audience-oriented compared to reinforcement messages ($B = -3.42$, $SE = 0.17$, $p < 0.001$), activities ($B = -4.08$, $SE = 0.20$, $p < 0.001$), or other types of messages ($B = -4.21$, $SE = 0.0$, $p < 0.001$). Given the low frequency of fit messages, we did not perform multivariate analysis for that variable.

5. DISCUSSION

The coronavirus pandemic hit Chile when the country was facing the aftermath of a massive social crisis initiated in October 2019 with several street demonstrations against the government, which severely undermined citizens' trust in the authorities and their evaluation of government performance. In order to determine how this legitimacy crisis affected communication during the pre-crisis stage of the coronavirus outbreak in the country, this study analyzed the use of Twitter by Chilean health authorities during the pre-crisis stage and the initial phase of the crisis, before a state of catastrophe was declared due to the pandemic in the country.

First, we found that sender-oriented messages were considerably more prevalent than persuasive messages. According to Reynolds and Seeger (2005), a key difference between crisis and risk communication approaches lies in the message orientations. While in the crisis communication perspective, messages are sender-oriented and therefore focus on communicating organizational activities and actions taken to address the crisis, the risk communication perspective is receiver-oriented and therefore messages in this framework are characterized by directly addressing audience members in order to persuade them to adopt behaviors that will protect them against the threat (Sellnow, 2015). Given that messages directed at the audience were a minority of the posts examined, while more than half of the posts were oriented to

report on the activities or opinions of the ministry or its authorities, the authors conclude that the sender-oriented approach predominated.

This finding contradicts common conceptualizations of organizations' social media use in the context of crisis or risk communication situations, where social media accounts are expected to be used as vehicles for official messages to reach target audiences directly without media mediation (Rains et al., 2015). Other studies in the context of the COVID-19 pandemic showed that social networks were used by key actors in addressing the crisis to react to expressions made known through the mass media (Wang et al., 2021); however, in the case of the Chilean Ministry of Health and its main authorities during the pre-crisis phase of the coronavirus pandemic, the authors observed the use of their social network accounts as channels to transmit messages that had already appeared in the traditional media or to highlight the appearances of the Ministry's authorities in the traditional press.

A second finding worth discussing is the prevalence of reinforcement messages over instructional and adjustment messages in the presentation of Chilean health authorities' pre-crisis communication on Twitter. In the pre-crisis stage, the ultimate goal of risk communication is expected to help people recognize potential threats and familiarize audience members with the steps that should be taken to minimize the hazards associated with the threat (Sellnow, 2015). Furthermore, according to SCCT theory (Coombs, 2007b), when a crisis has minimal responsibility, the recommended communication strategy is to prefer messages that provide audience members with information about the crisis. It could be argued that the coronavirus pandemic is a crisis of minimal responsibility for an organization such as the Chilean Ministry of Health, because neither the organization nor its members played a role in the origin of the crisis. However, the context of the social crisis in which the COVID-19 crisis unfolded in Chile could have had an impact on organizational reputation and, therefore, could have influenced the perception of organizational responsibility, which, in turn, could have motivated the use of reinforcement strategies instead of instructive or adjustment messages in the pre-crisis phase. This decision could be seen as a mechanism to protect organizational reputation in advance, informing the public about the measures undertaken by the authorities to address the upcoming crisis, probably seeking recognition in the face of short-term accusations and achievements (Coombs, 2017). The analysis carried out herein reveals that while reinforcement messages traditionally use a sender-centered approach, instructional messages tend to be audience-centered. In that sense, the predominance of reinforcement messages could be connected to the finding related to the higher prevalence of sender-centered messages compared to audience-centered messages and, therefore, the underutilization of official social network accounts as direct channels with the target audience.

Altogether, the results of this study contribute to the understanding of communication during the initial stages of a public health crisis. The case of the Chilean Ministry of Health is particular and interesting to examine closely, due to the fact that the coronavirus crisis emerged in the midst of a social and political crisis. This study

supports the idea that the existence of a previous crisis may influence the way in which communication was managed in the pre-coronavirus crisis stage, mainly because the previous social crisis damaged the government's reputation and, therefore, changed the attribution of responsibility (Coombs, 2007a, b). Previous studies show that public health crises place organizations in a challenging position, as they must balance the role of protecting reputation with the need to manage public anxiety and uncertainty (Woods, 2016). This study shows that Chile's Ministry of Health chose to protect its reputation and present itself as an organization that was taking the necessary steps to address the crisis.

Despite its contributions, this study is not without its limitations. Like any case study, the selected case is not sufficient to fully understand how a country's authorities handle the pre-crisis stage. In addition, the selection of accounts to examine may also generate a narrow analysis, as four Twitter accounts, even if they are the official account of the Ministry and belong to the highest ranking authorities, may not be sufficient to cover all the pre-crisis communication of the Chilean Ministry of Health.

The choice of Twitter as the only social media platform to analyze should also be mentioned as a limitation. Although this particular platform is a preferred channel for crisis communication for both policymakers and the general public (see for example Saroj and Pal, 2020), other social media platforms such as Facebook and Instagram are also used for crisis communication, and are even more popular than Twitter. One of the reasons why Twitter is so popular for analyzing crisis communication is because most of its messages are public and easily accessible to researchers. An important limitation of the present work is that it only focuses on the content of the original posts of the chosen accounts and does not take into account some indicators of the involvement of other participants in the social networks, such as likes, retweets and mentions. Subsequent studies would benefit from integrating these variables into the analysis.

Future research should take into account different case studies and consider a comparative research approach. This could help elucidate whether the damaged reputation of the Chilean government prior to the COVID-19 crisis determined the crisis communication strategy of the authorities, causing them to prefer reinforcing rather than instructive or adjustment messages. Similarly, studying communication at each stage of the crisis using the SCCT and CERC frameworks could improve the validity of the measurements and explore changes over time and particularities of each stage of the crisis.

Chart 1
Descriptive statistics of the sample.

Variable	N (%)
Account	
@ministeriosalud (Ministry)	1,773 (53.6)
@jmanalich (Minister)	1,126 (34.1)
@pdazan (subsecretaria)	247 (7.5)
@arturozunigaj (subsecretario)	160 (4.8)
COVID-19- related content	2,297 (69.5%)

Variable		N (% of tweets with COVID-19 content)
Message approach		
	Focus on the audience	335 (14.6)
	Sender-centered	1,159 (50.5)
	Other/cannot be determined	803 (35.0)
Type of message		
	Reinforcement	506 (22.0)
	Instructional	371 (16.2)
	Adjustment	35 (1.5)

Source: Elaborated by the authors.

Chart 2
Regression coefficients for reinforcement as dependent variable

Variable	*B*	*SE*	*Wald*	*Df*	*p*	Odds Ratio (95% CI)
Source account	.01	.10	.01	1	.93	1.01 (.83, 1.22)
Message orientation*						
Sender oriented: Statement	1.09	.20	31.03	1	.00	2.98 (2.03, 4.37)
Sender oriented: Activity	1.46	.21	43.37	1	.00	4.30 (2.84, 6.52)
Other	1.05	.20	28.1	1	.00	2.84 (1.94, 4.18)

Source: Elaborated by the authors.

Note: *Reference category is audience oriented.

Chart 3
Regression coefficients for instruction as dependent variable

Variable	*B*	*SE*	*Wald*	*Df*	*p*	Odds Ratio (95% CI)
Source account	-.03	.14	.05	1	.82	.97 (.73, 1.28)
Message orientation*						
Sender oriented: Statement	-3.42	.17	418.42	1	.00	.03 (.02, .05)
Sender oriented: Activity	-4.08	.27	230.56	1	.00	.02 (.01, .03)
Other	-4.21	.20	437.34	1	.00	.01 (.01, .02)

Source: Elaborated by the authors.

Note: *Reference category is audience oriented.

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