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**COVID-19 communication management in Europe: A comparative analyses of the effect of information-seeking in the public's sense making in Italy, Spain and the UK**

## **Abstract**

### **Purpose**

Governments around the world have shown poor capabilities in responding effectively to the COVID-19 health emergency outbreaks. After the declaration of COVID-19 as an international pandemic by the World Health Organization (WHO) on the 31st of January 2020, three countries experienced the greatest initial impact in Europe. Sequentially Italy, Spain and the United Kingdom (UK) were hit by the highest numbers of contagion and death in the first few months in Europe. The aim of this paper is to assess how information channels and sources influenced the public's evaluation of the three government's communication response strategies.

### **Design/methodology/approach**

An online survey was conducted between March 14 and April 14, 2020, during the first wave of lockdowns and declarations of States of Emergency in the three countries.

### **Findings**

Findings show particularities for the different countries, but also similarities in response and reactions of the public in the three scenarios. The response strategy of the UK Government was the most untrusted and criticized by citizens. In contrast the Italian and Spanish Governments, which both chose to respond with the severest restrictions, attracted more support from citizens, especially in Italy, which was the first to close borders and impose lockdowns for the population.

### **Research limitations/implications**

Despite the national differences in the preference of information channels and sources, overall, an empirical relationship between government communication assessment and media use were found in all the scenarios.

### **Practical implications**

This empirical study has theoretical and practical implications. Theoretically, findings will add evidence of implications of the Channel Complementary Theory to the field of risk, crisis and emergency communication. The results also provide insights for

communication practitioners in the public sector of how forms of information and trust in sources influence the public's assessment of authorities' communication.

### **Originality/value**

Implications for theory and empirical research about communication during a health pandemic are identified and discussed.

*Keywords:* COVID-19 pandemic, crisis communication, risk communication, emergency communication, media, governmental communication, strategic communication, trust.

## **1. Introduction**

COVID-19 first made its appearance in China on December 31st, 2019 and spread quickly to South Korea, Iran, Italy, and across Europe and then the rest of the world. The World Health Organization (WHO) declared the 2019-nCoV outbreak a public health emergency of international concern under the International Health Regulations (IHR) on 30th January, 2020. Italy was the first European country significantly impacted by the pandemic with a high number of infections in the population and deaths, along with an overload on the country's healthcare system. Shortly afterwards the same effects were experienced in Spain, and in a few days the UK experienced rapidly rising infections and deaths, soon to lead the European tables. These three countries were the most affected by the first wave of the COVID-19 pandemic in Europe, however their governments took diverse strategic approaches to balance the competing demands of protecting the population's health and the economy within each country (Petridou & Zahariadis, 2021).

In Italy on January 30th the Italian government decided to suspend flights to and from China, based on the last information coming from the city of Wuhan. On January 31st the Prime Minister, Giuseppe Conte, confirmed the first two cases of the virus contracted by two Chinese tourists and declared a state of national health emergency, by reaffirming "the truth is the strongest antidote, transparency is the first vaccine we need" (Lab24, 2020). On February 21st the first patient was identified and immediately after the first lockdowns were implemented for the so-called "red zones" in the North of Italy. On March 9th the Italian government extended the containment measures to the

whole country: through these early actions, Italy is identified as the first western economy to adopt such restrictive measures which lasted until the end of the “first-wave” in June 2020. During the first wave of the COVID-19 emergency in Italy 236,134 individuals contracted the virus (Giorgi, 2021), with 33,415 dying from the disease (Fasano, Imarisio & Ravizza, 2020). From a communication viewpoint, communication analysts and media system actors reproached the government for not having pre-prepared plans ready to manage the crisis and for effectively communicating during the emergency situation. More specifically, the following criticisms have been made: firstly a lack of a unique voice from the Italian government and inadequate coordination for messages of concern coming from the Prime Minister, Ministry of Health, the Commissioner Delegate for the emergency, presidents of regions and Civil Protection. There was also an absence of any real dialogue with citizens posing questions within the official social media environment, reflecting an uncoordinated communication strategy. This plurality of different voices exacerbated the dispute between different territorial levels, such as between the National Government and individual regions with a consequent increasing chaos in the messages shared with the population. By analyzing the content of communication during the first wave, the communicative process has been characterized by two facets: the continuous references to the emergency from a health point of view, without any explanations of the policy priorities and their impact on individuals’ lives; a continuous conflict between the need for scientific communication to explain objectively the situation and the media logic characterizing mainstream and social media.

In Spain the virus was first detected on January 31st, one day after the WHO declaration, when a German tourist tested positive on the Canary Islands. On March 13th, following the Italian precedent, the Prime Minister of Spain, Pedro Sánchez, announced a nationwide State of Emergency, banning all trips that were not essential and confining the population to their homes to flatten the infection curve and contain the epidemic. By May 11th, there had been 26,744 deaths and 268,143 infections in Spain (Ministerio de Sanidad, 2020), making it the country with the second highest number of coronavirus deaths relative to its population (Saura, 2020). The unexpected emergence and rapid spread of the virus triggered government officials’ efforts to provide information about the rate of transmission, the best means of containment, treatment of patients, the de-escalation process, and so on. However, despite the task

force holding daily briefings, numerous press conferences, and speeches by members of the government, the management of communication has been widely questioned by professional organizations (FAPE, 2020; RSF, 2020) and experts in political communication (González-Harbour, 2020). The main criticisms have to do with the delay in offering information, the paucity of consistent and sufficient data, as well as the lack of clarity and empathy on the part of the Prime Minister. The communication strategy of the Spanish Prime Minister has been widely criticized, especially by the media and journalists' associations. More than 400 journalists sent an open letter to the government entitled "The Freedom to Ask", proposing a new system based on videoconferences granting a more transparent flow of information (RSF, 2020). The daily appearances of government representatives and the technical committee in charge of managing the health emergency received harsh criticism due to the filtering of questions by the Secretary of State for Communication. Unlike authorities of other European countries such as Italy, Germany, the United Kingdom, and France, neither the President nor any other member of the government agreed during the first three weeks of the State of Emergency to answer any questions asked directly by journalists electronically. The government argued, instead, that the formula followed was "simple and efficient," taking into account the high number of journalists and questions, which guarantees the right of participation and information (González-Harbour, 2020). Finally, and under pressure from the media, the Secretary of State for Communication yielded to pressure from the media, and from April 6th onwards agreed to hold press conferences with journalists by videoconference and allow them to reformulate questions. These communication mistakes have negatively affected the government's approval ratings (Castro, 2020).

In the UK the first case of COVID-19 was noted on January 31st 2020 (The Times, 2020). By March 16th, as cases had risen, the Prime Minister, Boris Johnson, advised against "non-essential" travel and urged people to reduce contact with others (BBC, 2020a). On March 23rd, the UK government imposed a stay-at-home order ("Stay Home, Protect the NHS, Save Lives") for England, with similar restrictions in Wales, Scotland and Ireland (the devolved government assemblies). Within the week, the number of deaths from COVID-19 had risen to over 100 a day, reaching a total of 578 (BBC, 2020b). Despite continued restrictions throughout the spring, by mid-June, the number of excess deaths in the UK had exceeded 65,000 (BBC, 2020c). A series of

local, regional and national restrictions, tier systems and lockdowns followed (Legislation.gov.uk, 2020). Despite such measures, by January 31st 2021, there had been 3,817,176 confirmed cases and 106,158 deaths, which was the world's fourth-highest death rate per hundred thousand population and the highest number overall in Europe (International SOS, 2021). At the beginning of the pandemic there were daily press briefings. As the pandemic continued, these daily meetings became less frequent and government health campaigns and messages took precedence. Despite the frequency of these communications, they were heavily criticized. Like in Spain, the main criticisms of the communication related to information being insufficient and lacking in transparency. Other issues related to a lack of trust in the government's communications (Reuters Institute, University of Oxford, 2020).

This paper aims to shed light on the most significant health crisis in recent history. It provides valuable information on the ability of public authorities to communicate effectively in risk, crisis, and emergency situations. To that end, an international survey (N = 1,785, 546 in Spain, 468 in Italy and 771 in the UK) was conducted during mid-March to mid-April 2020, when the threat of the first wave of COVID-19 impacted Italy, Spain and UK.

## **2. Literature Review**

### **2.1. The role of authorities in pandemic crisis and emergency risk communication**

This paper focuses on the combined notions of risk communication and crisis communication into a practice described as crisis and emergency risk communication (CERC) (Seeger, Reynolds, & Day, 2020; Ansell, Bion, & Keller, 2010; Reynolds, 2002; Reinolds & Seeger, 2005; Ringel, Trentacost, & Lurie, 2009).

This blended form of communication builds on two premises: the developmental features of a crisis and the various communication needs of the population at various points in the ongoing development of an event (Falkheimer & Heide, 2010). Accordingly, the goal is to find the most effective communication for institutions to follow during crisis and emergency situations, taking into account the crisis dynamics and the public perceptions.

As pointed out by Betsch et al. (2020), models of crisis and risk communication emphasize that, while risk perceptions influence individual protective behaviors, the level of perceived risk and consequent behavior might not be correlated with the actual risk. For instance, when analyzing the 2009 swine flu outbreak in the UK, Rubin et al. (2009) found evidence that perceptions that swine flu was severe and that the authorities could be trusted, were associated with individuals' highly protective behaviors. In contrast, they found that being uncertain about the outbreak and believing that the outbreak had been exaggerated were associated with a lower likelihood of change. More recently, Lee & Li (2021) have shown how individuals' perceptions and attitudes towards social distancing predict their social distancing behavior during the COVID-19 outbreak.

It follows that a constant monitoring of the risk perceptions of different groups in the society throughout the full display of a crisis is critical for building effective responses. As such, the crisis and emergency risk communication framework embraces a process view of crisis which begins with the prevention of risk and risk development, moves through the eruption of some triggering event during crisis stages, and passes into the postmortem and clean-up phases (Coombs, 1995; Seeger et al., 1998).

At the same time, this framework stresses the critical role played by communication in orienting the perceptions of individuals during a crisis, and strives to find the most effective ways in which institutions should reach out to society at large when dealing with risks and crises (Burton-Jeangros, 2019).

Experts in risk and crisis communication have stressed the importance of monitoring the needs and expectations of citizen groups, enhancing trust and offering timely, accurate, specific, sufficient, consistent, and understandable information (Laajalahti, Hyvärinen & Vos, 2016; Chen et al., 2021). Palttala et al. (2012) have also shown how, for organizations to provide effective communication during a crisis, preparedness is crucial as often gaps in the information flow within the network exist and cause even more uncertainty. Accordingly, Balog-Way and McComas (2020) have stressed how during the Covid-19 pandemic important preparedness actions have been overlooked, such as building risk communication capabilities. Furthermore, Howard et al. (2017) have shown how for being effective, communication during a crisis should be tailored around the diverse communication needs of different groups in the society that are



affected by the crisis in different ways, such as vulnerable groups, e.g. older people, people with disabilities, culturally, and linguistically diverse (CALD) populations, families with young children, and people with low income.

The crisis and emergency risk communication framework has proven particularly effective when dealing with risk with risk and crisis communication in responses developed to mitigate infectious diseases (Burton-Jeangros, 2019).

During public health emergencies, such as the COVID-19 pandemic, a well-coordinated and efficient communications strategy helps stakeholders to define risks, identify hazards, assess weaknesses and promote community resilience, thereby increasing the capacity to cope with the difficulties. In this regard, the report of the WHO Review Committee on the global response to the 2009 influenza A (H1N1) pandemic placed risk communication at the same level as technical skills among the essential capabilities required to tackle a pandemic (WHO, 2011). Studying the swine flu pandemic in the UK, Rubin et al. (2009) have shown that when clear, consistent and helpful information is given, uncertainty is reduced and an increased likelihood of undertaking recommended behaviors is observed. Similar conclusions were reached by Ning et al. (2020) when analyzing the COVID-19 pandemic, whose studies show how individuals trusting governmental media and paying high levels of attention to them were more likely to adopt protective behaviors.

The role of governments, public agencies, and expert sources in communicating key information is central to how a community anticipates, understands, prepares, and responds to an emergency such as the COVID-19 pandemic. Results of an online survey of American citizens carried out by Lee & Li (2021) during the early stage of COVID-19 have shown how state governments and health institutes' transparent communications built around information substantiality and participation, were effective in building public trust and encouraging health-protection behaviors (i.e. social distancing) during the COVID-19 outbreak.

However, public governance systems often turn out to be flawed, incompetent, and chaotic in the face of epidemic outbreaks (Gu & Li, 2020). For instance, by analyzing communication around chemical, biological, radiological and nuclear (CBRN) terrorism crises, Ruggiero & Vos (2015) have shown how the lack of resources, competences, and

cooperation in preparedness communication during a crisis can dramatically create uncertainty and chaos.

During previous health crises, such as the 2009 influenza A (H1N1) outbreak, numerous problems emerged with regard to the coordination of communication across institutions. In a survey conducted by the Swiss national public health authority, a large majority of medical doctors reported poor communication as the biggest challenge they had to face, considering that information had been partial, insufficient, and contradictory (WHO, 2011). In fact, the post-A(H1N1) review confirmed that the absence of a coordinated and coherent strategy fostered confusion between citizens and professionals, affecting the credibility of the authorities (Van-Tam et al., 2010).

According to Burton-Jeangors (2019) an early and intensive communication can counter rumors, alternative views and potential panic. Moreover, a strategic approach entails matching the content, form, and style of communication with the media, timing, and frequency so that information will reach the intended audience and serve the desired purpose.

According to Mileti & Fitzpatrick (1991), the public must (a) receive the information; (b) understand that information; (c) understand that the message relates to them directly; (d) understand the risks they face if they do not follow the protective action provided; (e) decide that they should act on the information; (f) understand the actions they need to take; and (g) actually be able to take action.

Nevertheless, these communication processes can be affected by trust in authorities and sources of information. Trust plays an essential role in reducing uncertainty (Luhmann, 1973) and the Edelman research (2020) found that the source of information least trusted during the first weeks of the COVID-19 outbreak was government officials (48%), who were narrowly ahead of journalists (43%). In contrast, scientists, health officials, and medical doctors were the sources that citizens trusted most.

Initial mistakes negatively influenced the citizens' assessments of the governments, which highlights the importance of effectively managing any crisis. Building trust requires not just expertise in implementing rescue activities and mitigating harmful consequences but also openness and empathy when explaining decisions and alternatives (Palttala et al., 2012).

Trust is a multifaceted concept related to a general judgment, belief, or positive expectation (Valentini, 2020) that an entity, either an institution or a company, will fulfill its promises over time (Roulet, 2020). According to Bentele & Nothhaft (2011), trust is the result of a communicative process, which is built over time through numerous signals that are sent out by an entity. As for other social evaluations (Roulet, 2020), it grows rather slowly and it accumulates overtime. However, trust also “tends to erode very fast under certain circumstances” (Bentele & Nothhaft, 2011, p. 214), for instance when the communication is not transparent, or individuals perceive a discrepancy between the real and what is communicated (Bentele & Nothhaft 2011). Trust is built not only upon the credibility of the signals that are sent out over time, but also by the credibility of the signaler (Bentele & Nothhaft, 2011). Thus, it can be influenced by the characteristics and performance of the sender, such as the official spokespersons and by message content during the outbreak (Vaughan & Tinker 2009).

In the context of pandemics and emergencies, such as the COVID-19 pandemic, trust is defined by the degree of confidence that the citizens hold towards the public and regulatory institutions’ ability to protect public wellbeing (Esaiasson et al., 2020). In this situation, where people lack adequate knowledge to understand the best course of actions and feel uncertainty about how to behave (Siegrist & Cvetkovich, 2002), trust is vital to ensure citizens follow public health authorities’ recommendations.

## **2.2. An approach to Information Seeking from Complementary Media Theory**

Immediately after citizens learn of a public health-related outbreak, they start seeking and processing information from different sources, ranging from print media to television, radio, or social media channels (Masip et al., 2020). According to the Pew Research Center (Jurkowitz & Mitchell, 2020), more than two-thirds of American adults aged 65 or older (69%) followed the news of the pandemic very closely in late March. At the other end of the spectrum, only about four out of ten young adults between the ages of 18 and 29 were paying as much attention to COVID-19 news.

According to Comscore (2020), during the last week of March 2020, the consumption of information from social networks grew by 30% in Italy, 55% in Spain and 18% in the United Kingdom. These data track the diachronic evolution of the pandemic and contrast with the countries that were less affected in that first stage such as Germany

(11%) or France (14%). Focusing on information seeking related to the pandemic, 70% of the population followed coronavirus news at least once a day or several times a day, with 45% claiming to have had difficulty finding trustworthy sources and reliable guidance when they needed it (Edelman, 2020; WHO, 2020). Interestingly, some notable differences emerge among age groups, particularly in those following the news most closely.

Existing research has revealed the public's different motivations for crisis information seeking (Austin et al., 2012; Lu & Jin, 2020), emphasizing the need for additional information, receiving timely and unfiltered information, learning about the magnitude of a crisis, checking on family/friends, mobilizing, connecting with a community, and fostering emotional support (Fraustino, Fisher-Liu, & Jin, 2017). Zhao and Tsang (2021) reached a similar conclusion analyzing the information seeking process of a US representative sample during the COVID-19 pandemic. They found evidence how Americans consumed crisis information from multiple channels and sources to better understand the situation and fact-check COVID-19 information. They also found evidence that proactive preventive behaviors (e.g., washing hands frequently) were positively affected by information-seeking through interpersonal channels, news media, and the government, whereas avoidance preventive behaviors (e.g., avoiding social gatherings) were only positively affected by information-seeking through news media.

Some researchers have previously investigated how information forms and sources influence the public's information-seeking behaviors, emotional responses, and perception of crisis response strategies during crises (Austin et al., 2012; Coombs & Holladay, 2005; Fisher-Liu, Austin, & Jin, 2011; Schultz, Utz, & Goritz, 2011). Traditional crisis communication theories neglect the role of the medium and focus mainly on the interplay between crisis type and crisis communication strategy. Coombs and Holladay (2009) noted that the effect of media type on the public's evaluation of crisis response strategies is minimal. Conversely, other authors have found that the source type has a larger influence on stakeholders than the content of the message (Schultz et al., 2011). For example, Fisher-Liu et al. (2011) study showed that the source of the crisis response moderates the public's acceptance of crisis messages distributed via traditional media, social media, and word-of-mouth.

Active communicative behaviors in information-seeking serve as essential coping mechanisms in the face of crisis information exposure (Austin, Fisher-Liu, & Jin, 2012; Zhao, Zhan, & Fisher-Liu, 2018; Zhu, Anagondahalli, & Zhang, 2017). In risk and crisis communication, channel selection and trustworthiness are important predictors of information processing and, hopefully, adherence to recommended preventative behaviors (Park, Boatwright, & Avery, 2019). The impact of information sources is especially important during crisis times because of the potentially dramatic consequences that may arise as a result of how the public understands and frames the crisis (Van der Meer, 2018). The choice of a medium influences the individual's process of making sense of the crisis (Utz, Schultz, & Glocka, 2013).

In the context of crises, such as the COVID-19 outbreak, the media play a crucial role in the public awareness of risks that are often invisible or remote to most of the population (Roslyng & Eskjær, 2017). When a crisis hits, the media scrutiny intensifies and questions about the ineffectiveness of government authorities regarding prevention and containment will be raised. It is also important to note that criticism of public authorities is often harsher in the second stage of outbreaks (Hughes, Kitzinger, & Murdock, 2006; Nerlich & Koteyko, 2012), once journalists decide to stop uncritically endorsing official views. In a recent study on the effect of COVID-19 pandemic on citizens' trust in institutions in Sweden, Esaiasson et al. (2021) found evidence that the levels of trust towards the institutions were higher at the beginning of the crisis (t-1), then dropped significantly during the crisis (t0).

Existing research claims that traditional media are primarily used for information needs because citizens perceive them -especially broadcast news and newspapers- to be more credible than social media (Austin et al., 2012). The inclusive reach and capacity for rapid information dissemination makes traditional media, particularly television, ideal resources for sharing instructional messages during crises (Frisby, Veil, & Sellnow, 2014). Television, specifically, is the most common medium used in times of risk and crisis in the United States due to its delivery of immediate information with visual aids (Heath & O'Hair, 2009). Nevertheless, emerging research highlights the importance of social media because they uniquely provide an unfiltered, up-to-date line of communication (Procopio & Procopio, 2007; Tai & Sun, 2007) and emotional support during crises (Choi & Lin, 2009; Macias, Hilyard, & Freimuth, 2009). Social media use

increases during crisis events (Fraustino et al., 2017), and this trend continues to grow exponentially (Reuter & Kaufhold, 2018; Thompson et al., 2017).

Edelman's (2020) research conducted in 12 countries during the second week of March 2020 regarding COVID-19 confirms the crucial role played by traditional mass media during crises. The main sources of information were major news organizations (64%), followed by national government sources (40%), social media (38%) and global health organizations (34%). Even the younger cohort preferred major news organizations (56%) for information about the virus than social media channels. This finding, however, conflicts with other studies supporting the prevalence of social media during crises (Bates & Callison, 2008; Procopio & Procopio, 2007).

In the same line, 54% of U.S. adults say the news media have done an excellent or good job responding to the coronavirus outbreak, according to a survey conducted during the period March 19–24, 2020 as part of the Pew Research Center's Election News Pathways project (Gramlich, 2020). Opinions about the news media's response to the outbreak vary considerably, depending on the platform Americans use for obtaining news. Citizens who get the news from two network television stations and print publications are the most likely to say the news media are doing an excellent or good job responding to the coronavirus outbreak. When asked about source credibility, social media information received the worst score.

The present study utilizes the channel complementarity theory (Dutta-Bergman, 2004), which draws from selective exposure and uses and gratifications theories, to suggest that audiences select certain types of media based upon the functions relevant to them. During crises, people actively participate in the consumption of media types, choosing media forms that are most likely to serve the functions that are personally relevant to them (Dutta-Bergman, 2006). This theory was developed in response to arguments and theories predicting that the uses of some media -particularly new technologies facilitated by the Internet- displace the uses of other media. Channel complementarity theory stands in contrast to an earlier perspective that the rise of the Internet would displace the existing media for information-seeking (Dimmick, Chen, & Li, 2004). There is extensive literature on crisis management, especially reputational crisis management (e.g., Gaspar et al., 2014; González & Smith, 2008; Moreno-Millán, 2008). However, because the COVID-19 health crisis is something unprecedented, the research

in this paper provides valuable insights and information on the ability of public authorities to communicate effectively.

The empirical studies in this paper have theoretical and practical implications. Theoretically, findings will add to the literature in the field of risk and crisis communication. Practically, the results provide insights on how information forms and sources influence the public's information-seeking behaviors and perception of crisis-response strategies during crises and disasters.

Consequently, more research is needed to assess the effectiveness of information and crisis communication across various platforms. To understand how an organization can best position itself as the preferred source, communication professionals need to understand how crisis information forms and sources affect the public's levels of acceptance of crisis response strategies.

Existing research on health-related crises have partially addressed the role of information channels (e.g., Reifegerste, Bachl, & Baumann, 2017; Wang & Ahern, 2015; Wedderhoff et al., 2018; Zhang & Zhou, 2019), but few studies have adopted a comprehensive approach to evaluate how information channels and sources influence the public's perceived risks and their evaluation of the government's response. While crisis communication is a burgeoning field, a number of questions still remain to be answered about how people consume, process, retain, and evaluate information during health crisis events (Austin & Jin, 2016; Fisher-Liu et al., 2012). This study brings new evidence from three diverse national contexts facing the same health emergency.

Moreno, Fuentes-Lara & Navarro (2020) analyse the case of Spain and come to the conclusion that evidence from other national contexts needs to be explored in order to achieve further knowledge. This paper focuses on three research questions and four hypotheses derived from the literature review and the previous national case study of Moreno, Fuentes-Lara & Navarro (2020).

RQ1. What differences emerge in the use of information channels during the COVID-19 outbreak in Italy, Spain and UK?

RQ2. How do the Italian, Spanish and UK populations assess the management of communication by their governments?

RQ3. What is the level of trust in the government and other information sources of the population in Italy, Spain and UK?

H1. Mainstream news media are preferred as information channels during the crisis in the three countries.

H2. The public in the three countries show diverse levels of criticism

H3 People who get their news from traditional media are generally the most likely to express a positive opinion about the national crisis response.

H4. Experts rather than governments are the most trusted sources in the three countries.

### 3. Methodology

**Questionnaire.** The questionnaire was constructed using an online server and was active between March 14 and April 14, 2020. A snowball sample technique was used to deliver invitations through WhatsApp, Telegram, Twitter, Facebook, Instagram, and LinkedIn. The questionnaire was adapted to the countries in which it was implemented, so that a literal translation of each of the items and questions was not carried out. The adaptation of the questionnaires took into consideration the peculiarities of the countries, such as: the use of different social networks, the political systems and the distribution of competencies among the public administration, etc. At the same time, in order for the instrument to be valid, the challenges of Esser & Hanitsch (2013) regarding comparative research in communication, especially the methodological challenge, were taken into account. The online questionnaire included questions regarding information-seeking behavior, trust in different sources and channels, perception of government communication management, message retention, and demographic questions. In order to make all these items comparable between the three countries of the research, a literature review was carried out to validate them and, subsequently, an adaptation of the questionnaire was made for each country. Consequently, the items allow comparisons between the political, media and administrative systems.

To answer RQ1, participants were asked to indicate the channel they used for information during the crisis situation (e.g., “Which of the following information channels do you use to get information about COVID-19?”). There were 15 channels



listed: WhatsApp, Telegram, television news, radio news, print newspapers, online newspapers, magazines, Twitter, Facebook, Instagram, and others. To identify any differences among social media platforms, the most popular social media platforms (i.e., Twitter, Facebook, Instagram, YouTube, WhatsApp, and Telegram) were selected.

To explore the perception of the government's response to the crisis (RQ2) participants were asked to indicate their levels of agreement with the following statements on a 7-point scale (from 1 = Strongly disagree to 7 = Strongly agree): (a) "The government communication has been clear and adequate"; (b) "Has not revealed the whole truth"; (c) "Has been scheduled at the appropriate times"; (d) "Has been confused"; (e) "Has been the most reliable information"; and (f) "Has created social alarm."

Next, (RQ3) participants were asked to evaluate on a 7-point scale their levels of trust in 15 sources of information, such as authorities, mass media, social media influencers, friends, etc. (Newman & Fletcher, 2017). For RQ5, participants had to select from 24 statements related to COVID-19 risks, treatment or preventive measure that were correct.

Sample. Italy. In 2020 the Italian population was estimated at 60.4 million (Worldometer, 2020a). Therefore, a representative sample would be 452 questionnaires with a confidence level of 90%. The final convenience and snowball sample was composed of 469 respondents who completed the questionnaires. In the sample, 78.2% (n=367) are female, 21.3% (n=100) male and 0.4 no binary-gender (n=2). Most respondents were under 30 years old (86.8% n=408), with 78.1% holding a higher education degree of a bachelor or above (n=366) and (55.2% n=258) without university level education.

Spain. The Spanish adult population numbers 46.3 million people (INE, 2020). A representative sample would need a total of 385 respondents. In total, 1,216 respondents began the survey. The data for this study were cleaned by following Morrow and Skolits' (2014) process to bolster data quality. For example, participants with incomplete answers or those who took less than two minutes to complete the survey were excluded from the analysis. The final sample for analysis was based on 546 completed questionnaires by the target population. In the sample, 71.1% are women (n=387), 28% men (n=154), and 0.9% (n=5) no binary-gender. All age groups were in

the sample, with 36.6% (n=200) under 30 years old. Regarding their education, 43.7% (n=239) were educated to bachelor's degree level and 28.3% (n=154) held a higher master's degree or above.

As of 2020, the UK population was estimated at 67.8 million (Worldometer, 2020b) corresponding to a sample size of 564 questionnaires. For this survey, recruitment was conducted via convenience and snowball sampling using the researchers' personal and work networks and social media. 740 surveys were started, and of those, only a small number (n=5) had no data entry, those responses with less than 80% completed (n= 92) and those without a completed consent section (n= 34) were removed, leaving 609 fully completed surveys for analysis. In terms of demographics, most of the participants (n= 290, 48.1%) were 40-60 years old, female (n= 373, 62.27%) and educated to bachelor's degree or equivalent and above (n= 308, 51%), not currently employed (e.g. unemployed/ retired) (n= 253, 41.89%) and 202 live in England (n= 581, 96.18%).

**Statistical analysis.** Data were codified in operative variables for statistical analysis (Bardin, 1996) and once operationalized and re-codified, they were analyzed using the Statistical Package for the Social Sciences (SPSS) 22 version. Univariable and bivariable analysis with frequencies, contingent tables and correlations were run and tested with chi-square and independent sample t-tests. Results from these statistical tests are included in notes in the tables.

## **4. Findings**

### **4.1. Media Use and Complementarity in the COVID-19 Crisis**

Media research underlines the increase in information seeking and media consumption during emergencies. RQ1 explored media consumption during the first wave of the pandemic in Italy, Spain, and the UK. As shown in Table 1, there was an elevated consumption of diverse media in the three countries during the first lockdowns, especially in Italy and Spain. Television was the preferred channel in all three countries to seek information, but differences are shown in the rest of the channels.

In Italy the channels most used by the population to get information are television (83.9%), online newspapers (74.3%), Instagram (50.6%), Webs/Blogs of public

institutions (50.6%) and Facebook (48.1%). In this country, there is a widespread use of social networks for information, as evidenced by the use of Instagram and Facebook.

In Spain television (86.2%), WhatsApp (77.6%), online newspapers (75%), radio (42.6%) and Webs/Blogs of public institutions (41.9%) were the most frequent information channels. A peculiarity of the country is the extended use of the chat application WhatsApp at nearly double the use of Twitter (40.2%) in the region. Emphasizing this difference is the finding that in the UK and Italy WhatsApp is not among the top five channels used for information. In contrast to Italy and Spain, UK audiences showed a greater preference for Facebook (76.9%) over other social networks and other channels. Facebook is followed by television (75.7%), online newspapers (62.8%), radio (54.1%) and Webs/Blogs of public institutions (45.7%).

Table 1. *Preferred channels to seek COVID-19 information*

	Italy		Spain		UK	
Television	83.9%	Television	86.2%	Facebook	76.9%	
Online newspaper	74.3%	WhatsApp	77.6%	Television	75.7%	
Instagram	50.6%	Online newspaper	75.0%	Online newspaper	62.8%	
Webs/Blogs of public institutions	50.1%	Radio	42.6%	Radio	54.1%	
Facebook	48.1%	Webs/Blogs of public institutions	41.9%	Webs/Blogs of public institutions	45.7%	

*Note:* Q1: Which of the following information channels do you rely on to get COVID-19 information? Scale 1 (Never) – 7 (A great deal). Percentages: Frequency based on scale points 5-7.

These information-seeking trends do reveal some differences regarding the gender of respondents. Women had a higher use of media in general in Italy and Spain and in the selection of the first or preferred channel, television, in particular. In the UK men engage more insensitively with each channel than women, except for online newspapers. In the statistical analysis we didn't find significant differences by age, but we found a strong significance between channels by gender.

Table 2. *Preferred channels to seek COVID-19 information by gender*

	Italy		Spain		UK			
	Women	Men	Women	Men	Women	Men		
Television*	84.7%	81.2%	Television**	88.9%	79.2%	Facebook*	73.0%	77.3%
Online	73.5%	77.2%	WhatsApp	79.3%	72.7%	Television*	62.6%	63.1%

newspaper*			**			*		
Instagram*	52.6%	43.6%	Online newspaper**	74.2%	77.3%	Online newspaper*	55.9%	52.7%
Webs/Blogs of public institutions**	50.2%	50.8%	Radio**	39.8%	50.0%	Radio*	73.9%	78.7%
Facebook*	48.5%	46.6%	Webs/Blogs of public institutions**	45.0%	35.0%	Webs/Blogs of public institutions*	40.6%	49.0%

*Note.* \*\*Highly significant difference (chi-squared  $p \leq 0.01$ ). \*Significant difference (chi-squared  $p \leq 0.05$ ). Scale 1 (Never) – 7 (A great deal). Percentages: Frequency based on scale points 5-7.

Hypothesis 1 (H1) is only partially confirmed. Apart from the exception of WhatsApp in Spain, the most used information channel, television and online press, are considered mainstream news media. Nevertheless, a top five analysis shows a mix in the three countries between mainstream news media, social media platforms and Webs/Blogs. Results show that citizens engage at a high level and synchronize their use of multiple media and platforms in all the three national scenarios.

#### 4.2. Criticism of Governmental Crisis Communication Management

There are clear differences in the public's evaluation of the governmental crisis communication during the period of data gathering. The highest level of criticism came from the UK, probably related with the government's strategic shift from an initial minimal-interventionist strategy to another of introducing more severe restrictions on the public and their movement. Criticism in Spain and Italy was moderated, with Italy showing the higher rates of reliability on the government's information. Italy decided to suspend flights to and from China, based on the last information coming from the city of Wuhan, at a very early stage of the crisis. On January 31st the Italian Prime Minister, Giuseppe Conte, confirmed the first two cases of the virus contracted by two Chinese tourists and declared a state of national health emergency. Italy was also the first country to introduce restrictive measures and more than half of the respondents (54.1%,  $p \leq 0.01$ ) believe that the government generated social alarm. This is higher than in Spain (48.4%) and the UK (42.5%). A peculiarity in the Italian case is the trust towards

the government. Fifty percent ( $p \leq 0.01$ ) of citizens say that the information provided by the government has been the most reliable. However, only one in five Italians say that the government's actions have been timely; and 26.5% ( $p \leq 0.01$ ) say that the information has been clear and sufficient at all times.

In addition, 37% of the Italian citizenry state that they believe that the government has hidden parts of the truth, and more than half of the respondents (56.8%,  $p \leq 0.01$ ) believe that the government has confused the population.

In Spain 38% of the citizens claimed that the government was the most reliable source of information. More than one-third of the respondents (33.8%,  $p \leq 0.01$ ) evaluated this information as clear and sufficient at all times, and 22.8% ( $p \leq 0.01$ ) thought that it was timely. Nevertheless, 52.8% of the citizens believed that the whole truth was not revealed; 45.9% that the information confused the population, and 48.4% that it had caused social alarm.

Half of the Spanish citizens stated that the government has not revealed the whole truth (52.8%), followed by “has caused social alarm” (48.4%) and “has confused the population” (45.9%). Nevertheless, four out of ten citizens strongly believed that the government was “the most reliable information source” (38.4%), and one in three thought it was clear and sufficient (33.8%). The timing of communication is the most critical aspect: Only 22.8% thought the information was timely.

UK citizens were the most critical of its government with 65.5% ( $p \leq 0.01$ ) believing the government had confused the population. They also had the highest criticism rates regarding honesty with 60.8%, ( $p \leq 0.05$ ) believing the government hides parts of the truth. Only 36% think that government information has been the most reliable and, one in three Britons believe that government communication has been clear and sufficient at all times.

However, nearly half of UK citizens (49.3%,  $p \leq 0.05$ ) believe that the government has delivered its communication in a timely manner. Introducing later restrictions seem to have had a positive impact over the assessment of the appropriate timing and over the statement “the government's information has generated social alarm”. Only 42.5% of UK citizens believe that, which is lower compared to the Spanish (48.4%) and Italian (54.1%) responses.

Table 3. *Perception of the government's communication*

	Italy	Spain	UK
Has always been clear and sufficient**	26.5%	33.8%	32.5%
Has not revealed the whole truth*	36.9%	52.8%	60.8%
Has been scheduled at the appropriate times*	20.9%	22.8%	49.3%
Has confused the population**	56.8%	45.9%	65.5%
Has been the most reliable information**	50.0%	38.4%	36.0%
Has generated social alarm**	54.1%	48.4%	42.5%

*Note.* Scale 1 (Strongly disagree) – 7 (Strongly agree). Percentages: Frequency based on scale points 5-7. \*\*Highly significant difference (independent simple T test  $p \leq 0.01$ ). \* Significant difference (independent simple T test  $p \leq 0.05$ ).

Results corroborate hypothesis 2: Criticism of the government was different based on the diverse country's response strategies. The UK's communication started with the government's emergency management strategy of achieving early 'herd immunity' or a natural immunization. This approach was in line with the initial response from the US, but soon changed to a more restrictive strategy which was in line with most EU countries, but it did result in lower agreement scores for the perception of honesty.

#### **4.3. Media Use and Government Crisis Communication Management**

The three countries show particularities regarding the relationships between media use and governmental communication assessment.

In Italy the more favorable assessments of the government, its specialized committees and overall crisis communication management were expressed by particular media consumers. Perceiving that "communication has always been clear and sufficient" and "has been the most reliable information" was mainly expressed by respondents who extensively use institutionally owned media (Websites and blogs) and news media (mainly television and print newspapers). Also respondents who are high users of WhatsApp and television supported that information "has been scheduled at the appropriate times".

When it comes to negative criticism, online media had a stronger presence. The statement "The government has not revealed all the truth" was mainly supported by

people who extensively use print newspapers (44.4%  $p \leq 0.01$ ) and social media (WhatsApp, 44%  $p \leq 0.01$ ; Twitter 43.8%  $p \leq 0.01$  and Facebook 42.7%  $p \leq 0.01$ ).

Most audiences for all media agree with the statement “The Government information has generated social alarm”, especially online media like online press (65.2%,  $p \leq 0.01$ ) Twitter (65%) and Facebook (63.6%  $p \leq 0.01$ ) users.

In Spain the crisis communication management by the government and its specialized committees achieved the most favorable assessments about the statements “communication has always been clear and sufficient”; “has been scheduled at the appropriate times”; and “has been the most reliable information” were mainly made by people who use the news media extensively. Indeed, print newspaper consumption had the highest values for these three favorable statements about government communication (40.2%, 29.9%, and 43.3%, respectively). By contrast, most people who used social media more believe that government communication caused social alarm and confused the population. People who were mainly informed through Twitter (53.4%,  $p \leq 0.01$ ) and Facebook (52.5%,  $p \leq 0.01$ ) strongly believed that the government’s communication caused social alarm, and confused the population (50.7 and 49.5%, respectively). However, most audiences for all media agree with the statement “The government has not revealed the whole truth,” especially Twitter users (57.1%,  $p \leq 0.01$ ) and print press readers (56.7%,  $p \leq 0.01$ ).

In the UK, there is also a high significant relation between favorable assessments - “communication has always been clear and sufficient”; “has been scheduled at the appropriate times”; and “has been the most reliable information”- and extensive use of news media, primarily both print and online newspapers. 40.4% ( $p \leq 0.01$ ) of print newspapers’ readers think the information was clear and sufficient and 45.1% ( $p \leq 0.01$ ) that the government provided the more reliable information. Timely information was strongly supported by the overall audiences.

When it comes to negative assessment most audiences for all media in the UK agree with the statement “The government has not revealed all the truth”, but online media users were especially critical: online newspapers (67,1%,  $p \leq 0.01$ ), WhatsApp (68.8%) and Twitter (64%) users. Twitter users were significantly the most critical regarding the generation of social alarm (50.6%,  $p \leq 0.01$ ).

Table 4a. *Perception of the government's communication strategy by media consumption*

	WhatsApp			Facebook			Twitter			Websites/Blog institutions			public
	Italy	Spain	UK	Italy	Spain	UK	Italy	Spain	UK	Italy	Spain	UK	UK
Has always been clear and sufficient**	32.5%	32.4%	30.9%	32.0%	31.5%	31.2%	30.0%	33.3%	28.4%	33.0%	35.4%	29.4%	%
Has not revealed all the truth**	44.0%	54.6%	68.8%	42.7%	53.5%	62.6%	43.8%	57.1%	64.0%	40.5%	53.3%	63.6%	%
Has been scheduled at the appropriate times**	24.5%	22.9%	47.5%	23.6%	23.5%	46.8%	21.3%	23.7%	47.2%	23.8%	24.9%	48.6%	%
Has confused population**	64.5%	47.8%	72.2%	68.4%	49.5%	67.1%	63.7%	50.7%	72.4%	59.5%	44.1%	66.7%	%
Has been the most reliable information**	57.5%	39.0%	43.0%	55.6%	37.5%	34.7%	56.3%	43.4%	31.0%	60.8%	43.2%	37.6%	%
Has generated social alarm**	62.0%	50.8%	41.3%	63.6%	52.0%	42.4%	65.0%	53.4%	50.6%	63.0%	47.2%	43.0%	%

*Note.* Q2. To what extent you agree with the following statements regarding the Government's communication on COVID-19. Q1: Which of the following information channels do you rely on to get COVID-19 information? Scale 1 (Strongly disagree) – 7 (Strongly agree). Percentages: Frequency based on scale points 5-7. \*\*Highly significant difference (independent simple T test  $p \leq 0.01$ ).

Table 4b. *Perception of the government's communication strategy by media consumption.*

	Print newspapers			Online newspapers			TV			Radio		
	Italy	Spain	UK	Italy	Spain	UK	Italy	Spain	UK	Italy	Spain	UK
Has always been clear and sufficient**	32.1%	40.2%	40.4%	31.9%	34.5%	26.4%	29.5%	35.7%	36.2%	30.9%	36.5%	35.6%
Has not revealed all the truth**	44.4%	56.7%	62.9%	42.0%	54.5%	67.1%	40.7%	54.1%	59.0%	39.9%	49.8%	62.6%
Has been scheduled at the appropriate times**	27.8%	29.9%	60.0%	25.0%	24.0%	45.8%	23.7%	23.8%	56.3%	24.2%	27.5%	55.3%
Has confused population**	63.1%	45.4%	60.2%	63.2%	46.7%	74.0%	63.6%	45.9%	60.0%	60.7%	43.8%	65.2%
Has been the most reliable information**	56.7%	43.3%	45.1%	57.8%	39.4%	31.2%	55.5%	39.9%	42.5%	55.1%	42.5%	39.8%
Has generated social alarm**	65.2%	51.5%	42.5%	61.5%	47.9%	42.9%	59.3%	48.8%	41.0%	61.2%	44.6%	44.2%

*Note.* Q2. To what extent you agree with the following statements regarding the Government's communication on COVID-19. Q1: Which of the following information channels do you rely on to get COVID-19 information? Scale 1 (Strongly disagree) – 7



(Strongly agree). Percentages: Frequency based on scale points 5-7. \*\*Highly significant difference (independent simple T test  $p \leq 0.01$ ).

These results partially prove hypothesis 3. People who relied more on the mainstream news media for COVID-19 information are generally most likely to express positive opinions of the government's communication strategy. Stronger criticism is provided by online media, especially social media and online press, with the exception of owned media, meaning Websites and Blogs of public institutions.

#### **4.4. Trust in information sources**

Regarding trust in the sources of information, a clear difference is also shown in the results from the three countries.

Italians trusted their national political authorities like the government (71.4%) and the COVID-19 Committee (82.3%) was even more trusted than the main international health agency, the WHO (79.4%). Italy also showed trust in local governments (51.9%). Compared with Spain and the UK, trust in government institutions in Italy was stronger and could be explained by the higher use of Webs/Blogs of public institutions for information seeking.

The government was also a highly trusted source for half of the Spanish citizens (50.60%). Even more credible was the government's COVID-19 Committee (58.3%). Conversely, regional (37%) and local (33.6%) authorities did not command high public trust. The WHO (79.3%) and health staff were the most trusted sources of information. They stand out in comparison to prestigious health staff figures (75.1%), personally known health staff (73.5%), and health bodies and associations (61.4%). Other health personnel not personally known who disseminated messages via social media were credible only for half of the population.

We find a very different situation in the UK where the majority of the population distrusted governmental information (60%). Regional authorities were far more trusted than national. UK citizens placed their trust in national and international health agencies: Health services and associations (82%), personal acquaintances with health personnel (79%) and the WHO (76%),

Notwithstanding the high consumption of information, citizens in the three countries didn't trust the media overall. In Italy and Spain only about four out of ten respondents considered news media a trusted source. More alarming is the situation in the UK, where only one out ten respondents trusted the media.

Hypothesis 5 is proven: Experts were the most trusted sources in the three countries.

Table 5. *Trust in information sources in Italy, Spain and UK*

	Italy	Spain	UK
Government **	71.4%	50.6%	40.1%
COVID-19 committee	82.3%	58.3%	S/D
Regional authorities **	28.8%	37.0%	63.4%
Local authorities **	51.9%	33.6%	37.6%
Media*	38.5%	42.5%	12.5%
Friends on social networks**	10.5%	17.7%	9.3%
Unknown health personnel who have spread on social networks*	18.4%	49.9%	4.9%
Personal information from the health sector*	45.3%	73.5%	79.3%
Health influencers**	11.4%	15.1%	9.3%
Influencers on alternative therapies**	6.0%	2.4%	3.0%
Influencers of other topics (not health) on social networks*	9.7%	3.7%	1.2%
World Health Organization**	73.1%	79.3%	75.8%
Associations of health groups (e.g. professional associations of doctors etc.)*	50.0%	61.4%	81.8%
Prestigious healthcare personalities (e.g. epidemiologists)*	56.5%	75.1%	73.3%

*Note.* Scale 1 (Strongly disagree) – 7 (Strongly agree). Percentages: Frequency based on scale points 5-7. \*\* Highly significant difference (independent simple T-test  $p \leq 0.01$ ). \* Significant difference (independent simple T-test  $p \leq 0.05$ ).

## 5. Discussion

Public relations research has documented that information forms and sources affect the public's information-seeking behaviors and highlighted the importance of strategically aligning forms and sources of information (Fisher-Liu et al., 2011). This study yields evidence that people rely on different information channels during crisis situations, as it

supports the channel complementarity theory (Dutta-Bergman, 2004). First, results corroborate the high use of mainstream mass media channels, such as television, newspapers and radio, during the COVID-19 crisis in Italy, Spain and the UK. The inclusive reach and rapid dissemination of news by television has previously been discussed, particularly as an ideal medium for sharing instructional messages during crises (Frisby et al., 2014). It could be said that the health crisis returned television to its purpose as a nation-building medium (Moreno, 2003). These results are consistent with previous research (Austin et al., 2012; Casero-Ripollés, 2020; Hornmoen & Backholm, 2018; Rodero, 2020; Turner, Shaikh, & Rimal, 2016), suggesting that professionals need to thoughtfully incorporate social media platforms into crisis communication plans, while not neglecting traditional media.

We have corroborated in three diverse national contexts (Italy, Spain and the UK) that media consumption during the first wave of the COVID-19 crisis can be best explained through the channel complementarity theory as high consumption and simultaneous information seeking from multiple media and channels. This entails challenging consequences for public risk and crisis communication professionals. Today, the quick and clear relay of information through different media platforms is essential to achieving effective management (Park et al., 2019). Even from the early moments, authorities' messages should not disregard any potential channel or platform. Results are consistent for diverse national contexts and media preferences.

Second, the choice of medium influences the public's sense-making of the crisis and moderates their acceptance of crisis messages (Fisher-Liu et al., 2011). Although only partially supported, in general, people who got news from institutionally owned media and mainstream news media had a better retention of authority messages and expressed more positive opinions of the government's crisis response. This is not surprising since journalists can show a preference for institutional political sources (López-Rabadan & Casero-Ripollés, 2012). Mainstream news media are used to being more aligned with authorities' information at the start of a crisis (Nerlich & Koteyo, 2012). This suggests that classical crisis theories based on the type of crisis and responses are not enough for understanding citizens' responses today, and more factors related to media choice need to be operationalized for risk and crisis communication research.

Third, the scope of crisis communication is to prevent or lessen the negative outcomes of a crisis. When public health depends on people understanding the actions they need to take, the possibility of lessening harm and disobedience is highly dependent on trust. Pandemic preparedness is based on trust in the information, trust in the sources, and particularly trust in public authorities. But at the same time results show low trust in the traditional news media, which corroborated previous research (Edelman, 2020; Jurkowitz & Mitchell, 2020).

Citizens in the three diverse national contexts were aligned on placing their trust in experts, but they show less agreement on governments as information sources. The kind of response of each government to the health crisis seems to be an important factor for the evaluation that citizens made on governmental crisis communication. Thus, Italy, Spain and the UK took different initial responses to the crisis which impacted on trust. Results corroborate findings from earlier studies (Hughes, Kitzinger & Murdock, 2006; Nerlich & Kotevko, 2012) that criticism of public authorities and trust in sources are moderate during the first stages of an emergency. This statement has been proven for Italy and Spain where the response time of the governments were relatively short, but was excluded for the UK where a change of response strategy occurred after the first few weeks of the crisis.

This paper doesn't find direct relations between government policies, severity of the crisis and public evaluation of the response, but points to further exploration on communication mediators as media choice and trust in the information sources. Further research could explore factors such as trust in the government and its communication prior to a crisis, or political ideology of the government could be explored in relation to information seeking during health emergencies and crises. Public authorities can only be prepared if they invest in reflective relations (Tench et al., 2018) as well as agile and robust management of communication systems (Van Ruler, 2019) before any crisis erupts.

## **6. Conclusions**

This paper introduces new empirical knowledge on the effectiveness of health information and crisis communication across various platforms in a comparative country by country study. Channel complementarity theory has proven useful for

explaining the use of media during the COVID-19 pandemic and crisis in Italy, Spain and the UK for establishing relationships between media choice and criticism of crisis communication response.

Implications for theory and empirical research, recommendations, and new issues for investigation have been identified and discussed.

Communication is one of the biggest challenges identified by health authorities, at the same level as technical skills among the competencies required to tackle a pandemic (WHO, 2011).

## 7. Limitations

This research has several limitations. First, the results are self-reported. It cannot make associations of causality; it only demonstrates relationships. Thus, future research should explore the causal relationships between the variables in the current study. Next, we analyzed a single case: the COVID-19 outbreak during the early phase. Therefore, the applicability of the current study's findings to other crisis cases might be limited. Future research may want to test relationships among variables in other health crises. Lastly, online surveys exclude parts of the population that do not use or have access to the Internet. Although the demographics of participants were diverse, a survey with a mix-mode sampling method is desirable for increasing the generalizability of the study results. Although the sample is representative, a limitation is that the sample has a 90% confidence level, instead of the 95% that is more optimal in our discipline. Finally, a greater number of countries out of Europe with diverse crisis management response strategies should be approached to corroborate the results and further explore the variables involved in the relationships between media choice, trust in sources, information communication retention and assessment.

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