International Journal of Communication 15(2021), 1349–1371 1932–8036/20210005

What "Emergency Sources" Expect From Journalists: Applying the Hierarchy of Influences Model to Disaster News Coverage

DANIELA GRASSAU
SEBASTIÁN VALENZUELA
SOLEDAD PUENTE
Pontificia Universidad Católica de Chile, Chile

This study analyzes what "emergency sources" (authorities, emergency managers, and experts) expect from journalists during a disaster, using a mixed-method approach with six focus groups and a survey of 166 official Chilean sources. Based on the first three levels of the hierarchy of influences model, we explore how they perceive journalists' roles and performance when covering disasters. The results suggest that emergency sources' evaluations, while affected by a combination of individual, routine, and organizational variables, are mostly shaped by sources' direct and mediated experience with journalists. Thus, a more fluid relationship between journalists and emergency sources, as well as more communication experience by sources, could lead to a better understanding between both groups, which, ultimately, may lead to delivering more accurate and timely information.

Keywords: authorities, communication, disasters, experts, journalism, sources

Existing research on media coverage of disasters shows significant gaps between what journalists, audiences, and authorities think that the media should inform (Ewart & McLean, 2019; Scanlon, 2011; Swindell & Hertog, 2012). Emergency sources, such as governmental officials, emergency managers, and experts, often criticize the deficiencies of news coverage (Joye, 2018). Furthermore, opinion polls show that audiences often replicate these criticisms (Willnat, Weaver, & Wilhoit, 2017). Such critical perceptions tend to be dismissed by media professionals, who argue that deficient news coverage stems mostly from lack of access to information held by emergency sources (Lowrey et al., 2007). The wide gap between them and journalists in the evaluation of disaster news and the factors that determine it may be an obstacle to the delivery of timely, accurate, and useful information to the population. This is because sources' attitudes toward journalists can influence the information they provide to news professionals and, indirectly, to the larger population. Thus, it is important to study the factors that shape emergency sources' attitudes and expectations toward journalists and disaster news in general.

Daniela Grassau: dgrassau@uc.cl
Sebastián Valenzuela: savalenz@uc.cl
Soledad Puente: spuente@uc.cl
Date submitted: 2020-01-17

Though journalistic work on disaster coverage has been studied extensively in the United States, Europe, and Asia, scant work exists in Latin America—a region that regularly suffers catastrophic events. Take, for instance, the case of Chile. In the past decade only, it has experienced two 8-plus moment magnitude (M_W) earthquakes, floods, forest fires, and volcanic eruptions. Consequently, countries like Chile have vast experience in disaster management and in news media coverage of disasters, resulting in an appropriate context to study emergency sources' evaluations of journalism.

As a theoretical framework, the study uses Shoemaker and Reese's (2014) hierarchy of influences model. Traditionally used to examine factors shaping news media content, in the current work we propose that the model's first three levels of influence—namely, sources' individual attributes, their work routines, and the characteristics of their organization—can explain some of the variance in the perception that emergency sources have about journalists. This is a significant contribution, as this model has not been used to study the attitudes of professionals outside the fields of news and communication. Yet, we find it useful for disentangling the relationships among different levels of influence (Reese & Shoemaker, 2016).

Ultimately, this article sheds light on how sources and journalists can develop a working relationship that helps the population to become better informed during moments of high uncertainty and social vulnerability. By knowing which variables determine positive and negative evaluations, journalists may adopt more effective strategies to obtain information from sources and deliver it to news users.

Theoretical Framework

Journalism and Disasters

In journalistic contexts, a disaster is understood as an unforeseen, sudden event (Seeck & Rantanen, 2015), often dangerous and even inexplicable, which entails the need of access to information of all kinds; it does not require a press release or a media conference to trigger the work of the media (Seeck & Rantanen, 2015). A disaster occurs as a "consequence of human action or inaction, the failure of people to mitigate and respond to risks that arise from new technology, conflict and lack of governance, amongst others" (Matthews & Thorsen, 2020, p. 1). Within journalism, disasters imply sustained news coverage of socially significant events that challenge authorities, break media routines, and force journalists to work under pressure in a highly uncertain and vulnerable context (Puente, Pellegrini, & Grassau, 2013b).

Either natural or man-made, disasters trigger a series of risks and vulnerabilities that can amplify the tragedy (Armstrong, Cain, & Hou, 2020). Disasters make it difficult for authorities and the population to obtain and disseminate life-or-death information directly. Often, the news media become primary channels through which critical facts are spread (Potter & Ricchiardi, 2009). When this happens, journalists are considered first responders (Rupar, 2020) who play a critical role in how the consequences of the disaster are communicated and how these are interpreted by the population (Pantti, Wahl-Jorgensen, & Cottle, 2012; Wahl-Jorgensen, 2020).

The roles played by journalists (Grassau, Puente, Vatter, & Rojas, 2019; Veil, 2012) and the frame they use in covering a disaster (Entman, 2004; Wisner, Gaillard, & Kelman, 2012) can affect the perception

that audiences have about their surroundings (Amend, Kay, & Reilly, 2012). The Dart Center for Journalism and Trauma insists that journalists must understand "that the coverage of a traumatic event will always have an impact on its readers, viewers or listeners" (Hight & Smyth, 2003, p. 6). Current literature attributes other roles to journalism during disasters, such as promoting national identity and the union of the population (Levine & Thompson, 2004) and holding authorities accountable (Ewart & McLean, 2019).

News coverage, especially visual news, can damage users' mental health during a traumatic event (Otto et al., 2007)—effects that can last for years (Puente, Marín, Álvarez, Flores, & Grassau, 2019). At the same time, journalism can play an important role in supporting the population to overcome trauma and PTSD (Goldmann & Galea, 2014; Marín, 2015) by telling stories that favor spontaneous recovery (Puente et al., 2019). Thus, the news media and emergency sources may both highlight progress in people's behaviors, considering the five elements that Hobfoll and colleagues (2007) defined as key to support spontaneous recovery: a sense of safety, calming, a sense of self- and community efficacy, connectedness, and hope. Journalistic roles may vary according to the stages of the disaster (mitigation, preparedness, response, or recovery), and the media should be aware of the typical activities of disaster operations management of each of them, so that they can adapt their reporting accordingly (Altay & Green, 2006). Veil's (2012) work emphasizes what roles should be performed by journalists in any disaster coverage, including resource manager, public safety official, public advocate, emotional support system, and catalyst in increasing the salience of emergency management in the policy arena.

From an applied perspective, the Pan American Health Organization (2013) has stated that journalists should adopt a service and preventive attitude, educate people about the disaster, and provide individuals with moments of entertainment and relaxation to overcome the stress. In the wake of the COVID-19 pandemic, the Pan American Health Organization (2020) also stressed the educational role of journalism. For example, they recommend explaining complex public health concepts in a way the general public can understand them, or educate the population about health.

The International Center for Journalists' handbook, *Disaster and Crisis Coverage*, insists on the need for journalists to avoid speculation and warns of its risk, stating that "those mistakes remain even after they have corrected them" (Potter & Ricchiardi, 2009, p. 33). Some authors highlight the need to address other ethical issues, such as how to portray death, select appropriate images (Kahle, Yu, & Whiteside, 2007), avoid sensationalism, and respect the privacy of victims (Mujica et al., 2020).

Emergency Sources' Critical Perception

A consistent finding in past research is the tension between what journalists and emergency sources understand as good disaster news coverage (Sallot, Steinfatt, & Salwen, 1998). Emergency sources are often dissatisfied with journalists and accuse them of obstructing their work, being sensationalist, generating panic, reproducing rumors, and portraying those in charge as liable for the crisis (Scanlon, 2011; Swindell & Hertog, 2012). In turn, journalists criticize emergency personnel and authorities for restricting their access to information or providing low-quality data (Netzley & Banning, 2011). Yet emergency sources need the news media to reach out to the population (Lowrey, Gower, Evans, & Mackay, 2006), while journalists need emergency sources to gather information and communicate it (Puente, Pellegrini, & Grassau, 2013a).

Emergency managers often believe that the information they provide to journalists is so newsworthy that the media should relay all of it to the public in exactly the same fashion as sources crafted it (Littlefield et al., 2010). However, journalists' duty to inform in democratic systems should be accomplished without regard of the interests of the authorities (McQuail, 2010). Furthermore, journalists are aware that there is no need to coincide with emergency sources in terms of issue priorities and news framing (Houston, Pfefferbaum, & Rosenholtz, 2012).

Scant work exists on the reasons behind the mutual distrust. Emergency sources disagree about the effects of news coverage, with some believing that disaster news will often lead to panic (Swindell & Hertog, 2012). Authorities tend to be explicitly more critical of the media than experts are (Pellegrini, Puente, & Grassau, 2015), with the former describing members of the press as adversaries, whereas the latter criticize journalists' ignorance of disaster management (Ewart & McLean, 2019).

Regardless, several authors insist on the need for journalists to create productive bonds with emergency management organizations (Ewart & McLean, 2019; Wilkins, 2016). An opportunity to analyze such bonds could be exploring possible differences in the relationship between local emergency sources/journalists with respect to their peers working in the national media. The literature indicates that the journalist–source relationship could be closer in local than national contexts (Ewart & McLean, 2019), especially when considering that local media actively participate in the efforts of recovery promoted by emergency managers (Matthews, 2017). This could be associated with a better mutual evaluation of their work. Heeding this call, the current study explores emergency sources' attitudes, perceptions, and behaviors toward journalists.

The Hierarchy of Influences Model

Shoemaker and Reese's (1996, 2014) hierarchy of influences model posits that journalistic work and content is determined by five factors that can shape the quality of information coverage. These factors include, from micro to macro level: individual characteristics of specific news workers, their work routines, organizational concerns, institutional issues, and larger social systems (Reese & Shoemaker, 2016). Since its inception in the early 1990s, the model has been used to study the process, selection, creation, and publication of news (Milojević & Krstić, 2018). Its success and application in academic research are probably due to its simplicity, testability, falsifiability, parsimony, explanatory power, scope, and heuristic value (Shoemaker, Tankard, & Lasorsa, 2004). It can be applied to multiple contexts (e.g., Kwanda & Lin, 2020) and has the potential to evolve and incorporate new elements to the extent allowed by new research perspectives and hypotheses.

In our view, three of the five factors are applicable to understand emergency sources' attitudes and behaviors toward the news media: the sources' individual characteristics, the professional practices and routines that their organizations have regarding the treatment and dissemination of social information during an emergency, and the factors linked to the sources' workplaces that could influence their perceptions of journalistic work. Level 5 ("social system"; Reese & Shoemaker, 2016) is excluded from this analysis because we are studying actors located in the same social system and facing the same type of disaster; thus, this level could be considered a constant. As Reese and Shoemaker (2016) state, "A direct and variable-oriented way to examine influence of factors at the social system level is through cross-national comparison" (p. 404), which is not possible, here. Additionally, we have excluded Level 4 ("social institutions") because in the Shoemaker and

Reese model, emergency sources are part of it, so their analysis would be redundant. By considering several levels of influence on sources' perceptions, we increase the possibility of achieving greater explanatory power (Reese & Shoemaker, 2016).

Based on the previous discussion, this study seeks to address what the emergency sources (authorities, emergency managers, scholars/experts in risk and disasters) expect from journalists during the coverage of a large-scale disaster and which are the main variables that influence their perception. Specifically, we posit three research questions:

RQ1: How do emergency sources perceive the informative and noninformative roles of journalists (IRJ and NIRJ, respectively) in managing a disaster response?

RQ2: How do emergency sources evaluate journalists' performance (EJP) when covering disasters?

RQ3: What are the individual-, routine-, and organizational-level antecedents that explain the variance in emergency sources' assessments of IRJ, NIRJ, and EJP?

Method

Study Context

Chile's media system has usually been described as small, concentrated, and market-oriented with a rather homogeneous coverage of news (Gronemeyer & Porath, 2015; Mujica & Bachmann, 2015). This is because for most of the past 50 years there was a national press duopoly and all major broadcast television stations were based in the capital city. This picture, however, has changed in the last few years with the rise of niche investigative news websites and foreign ownership in radio and in cable news (Sinclair, 2011).

The tabloid press is almost nonexistent, with most newspapers geared toward the political and economic elite. Talk radio is popular and broadcast television remains as the main source of news for most Chileans (Newman, Fletcher, Schulz, Andi, & Nielsen, 2020). Though use of print newspapers has decreased considerably, usage of radio news has remained steady, at around two-thirds of the population.

In 2020, social media rivalled television as the most frequent source of news (Newman et al., 2020), especially during emergencies (Grassau, Valenzuela, et al., 2019). Existing work shows that users value the speed and immediacy of digital media over traditional news media (Valenzuela, Puente, & Flores, 2017). In this regard, it is important to explore whether use of social media by emergency sources influences their expectations of journalism.

Furthermore, opinion polls in Chile show that radio is the most trusted news medium, surpassing newspapers and TV. Previous studies on disaster coverage (Pellegrini et al., 2015) show that broadcast news is perceived as sensationalist and disrespectful of traditional quality standards. While we know that media use is a significant predictor of evaluations of journalists' performance during disasters (Grassau, Valenzuela, et al., 2019), we do not know whether the same holds true for sources and first responders.

Exploring variables belonging to the different levels of influence of Shoemaker and Reese's (1996, 2014) model may help fill that knowledge gap.

Methodological Approach

This study relied on a mixed-methods approach that combines findings from several focus groups with the results of an elite survey. Following Creswell and Plano Clark's (2017) typology, we used an exploratory sequential design, in which a first stage of qualitative data collection and analysis (i.e., focus group discussions) is followed by a quantitative analysis (i.e., statistical tests of survey data). With the qualitative assessment, we explore how news sources perceive the work of journalists in times of disasters. The survey examines the influence of micro-, meso-, and macro-level factors on the emergency sources' evaluations of professional journalists.

Since the total universe of Chilean emergency sources on disasters is unknown, before the data collection we created a database with all the available members of the country's institutions in charge of analyzing, intervening, and managing emergencies. This database was based on the National Civil Protection Plan of the Ministry of Internal Affairs, the document Planning in Civil Protection and Emergency of the National Emergency Office of Chile (ONEMI), and a list of institutions recommended by the Research Center for Integrated Disaster Risk Management (CIGIDEN). All the sources included in the database had work experience in at least one of the main disasters occurred in Chile since 2010, either in decision making (senior positions), coordination (middle positions) or fieldwork (low positions: volunteers or rescuers). We sampled sources from state agencies, the private sector, NGOs, and experts affiliated to universities and research centers (see Appendix Table A4). The sample of participants of the focus groups, as well as the survey respondents, were obtained from this database, too.

Qualitative Analysis

During 2016, we conducted six focus groups of combined sets of journalists and emergency sources: three in Santiago, Chile's capital, and the other in the main cities of the areas most affected by major disasters:

1. Concepción—the city closest to the epicenter of the 2010 earthquake (8.8 M_W), located 13 kilometers away from the coastal area destroyed by the subsequent tsunami.
2. Iquique—the area most affected by the 2014 earthquake (8.3 M_W).
3. Valparaíso—Chile's main port, which experienced a tsunami in 2010 and one of the greatest fires ever in 2014.

These focus groups included 49 participants: 13 journalists and 36 emergency sources (20 authorities, seven emergency managers, and nine scholars/experts). The research team directly invited the sources in each city, via e-mail and telephone, to participate in the focus groups. Journalists were invited directly through the media of each region. Participation was voluntary, and before starting, all participants signed an informed consent form. The sessions lasted 90 minutes and were divided in three stages: a written questionnaire, a semistructured group interview, and free discussion. We chose this technique since it is the most appropriate to

observe the interaction between the prominent members of these groups and to collectively show their points of agreement and disagreement (Wimmer & Dominick, 1996).

We conducted a textual analysis to uncover main themes (Guest, MacQueen, & Namey, 2012), followed by data reduction and matrices to validate or collapse emergent themes. Specifically, we incorporated the results of the questionnaires into an Excel datasheet and systematized them into a matrix of qualitative analysis per question. We transcribed all the conversations of the six sessions, identifying for each intervention the role that each participant normally plays during a disaster. Finally, we incorporated their responses and comments into a second data matrix. Once we had obtained data patterns, and after discussing their potential theoretical significance as standalone concepts or in support of larger themes, we grouped the most salient points as main findings.

Quantitative Analysis

Based on the information obtained in the focus groups and the main concepts extracted from the literature review, we developed an elite survey that was fielded using an original database compiled by the authors. In total, 873 emergency sources were invited to fill the survey during the first semester of 2017. The questionnaire was applied via e-mail, with up to seven reminders, and reinforced with telephone calls.

The quota sampling was defined with the initial expectation of interviewing 100 cases, which was surpassed: 166 individuals gave complete responses. While the sample is small compared with general population surveys, it is within the expected number of interviewees in elite surveys (Hoffmann-Lange, 2007), as they constitute a hard-to-reach population (Best, Lengyel, & Verzichelli, 2012). The survey consisted of 78 multiple-choice questions. Of these, we extracted the following indicators for this analysis.

Dependent Variables

To answer the research questions, we constructed three dependent variables: (1) relative importance of the informative role of journalists in the management of a disaster (IRJ, herein); (2) relative importance of the noninformative roles of journalists in the management of a disaster (NIRJ); and (3) subjective evaluation of the effectiveness and relevance of journalists' performance during a disaster (EJP). We now detail each of these constructs.

As defined by Altay and Green (2006), IRJ (relative importance of the *informative role of journalists*) was operationalized by measuring "typical activities of disaster operations management" (p. 481). These included (a) the activation of the country's emergency plan for these events; (b) the activation of the emergency office; (c) the systems to evacuate the affected populations; (d) the operation of shelters and the ways in which care is organized for the affected population, and (e) on emergency medical care. Using a 5-point scale (range: 1 = *not important at all*; 5 = *very important*), respondents were asked how important is it that journalists conduct each of the listed activities. Individual responses were then averaged into a single index.

NIRJ (relative importance of the *noninformative role of journalists*) was gauged by averaging responses to five indicators extracted from the literature on journalistic roles during disasters (Levine & Thompson, 2004;

Veil, 2012), supplemented by Hobfoll and associates' (2007) activities that promote the spontaneous recovery of the population. Using the same 5-point scale used for IRJ, we asked the importance that journalists (a) educate people about how to deal with disasters; (b) provide entertainment and relaxation to the audience undergoing a disaster; (c) promote national identity and union in times of disaster; (d) highlight the progress in the population's behavior in times of disaster; and (e) highlight the resilience of infrastructure and antiseismic construction.

EJP (evaluation of journalists' performance) was measured with four indicators developed from the literature on disasters (Hight & Smyth, 2003; Pan American Health Organization, 2013; Potter & Ricchiardi, 2009) and mentioned in the focus groups. Using a 5-point Likert scale (range: 1 = *strongly disagree*; 5 = *strongly agree*), respondents were asked their agreement with the following statements: (a) journalists are effective in controlling the authorities' management during a disaster; (b) journalists usually interview the right people to inform about a disaster; (c) journalists tend to confirm the information with the relevant authorities or responsible before disseminating it among the population; and (d) journalists are a contribution to disaster management and population recovery. Responses were averaged into a single scale.

To check whether the dependent variables measured separate constructs, we conducted a confirmatory factor analysis (CFA). We first estimated a three-factor model, with items loading separately onto three latent factors: IRJ, NIRJ, and EJP. The fit indices of the modified model were very good: χ^2/df = 1.65; CFI = .92; RMSEA = .06; pclose = .17. Furthermore, the internal consistency of each factor was adequate. Cronbach's α of IRJ, NIRJ, and EJP were .77, .71, and .69, respectively. As expected, the factors were positively correlated: IRJ correlates with a coefficient of r = .61 (p < .001) with NIRJ, and with a coefficient of r = .17 (p = .08) with EJP. There is a correlation of r = .31 (p < .01) between NIRJ and EJP. Because of these correlations, the model was tested against two alternative models: a single factor model, which contains one factor that explains all items, and a two-factor model, in which the two factors with the highest correlation (IRJ and NIRJ) were matched. Thus, we could test whether a one-, two- or three-factor model fitted the data best. The results showed that both single- (χ^2/df = 3.88; CFI = .63; RMSEA = .13; pclose < .001) and two-factor (χ^2/df = 2.49; CFI = .81; RMSEA = .10; pclose < .001) models had worse fit to the data than our proposed three-factor solution. Hence, the CFA supported our measurement choice for the dependent variables.

Independent Variables

Considering Shoemaker and Reese's (1996, 2014) model of hierarchy of influences and the potential factors that could influence the perception that emergency sources have about journalists, we defined three groups of independent variables, according to the level of the model to which they correspond (descriptive statistics are detailed in the Appendix, Tables A1, A2, and A3):

- *Individual*: age (in years); gender (1 = male; 0 = female); highest educational level (range: 1 = *high school or less*; 10 = *graduate studies*); work on large-scale disasters (continuous variable from 0 to 11, which adds up how many disasters from a predefined list a person has worked on); frequency of media consumption for information (number of days per week exposed to national broadcast TV; radio news; newspapers [print and online] and social media [Facebook and Twitter]), and position in the organization

(nominal variable, coded 1 = *senior* [decision makers, as commanders or ministers]; 2 = *middle* [responsible for coordination]; 3 = *low* [working in the field, without direct responsibility]; and 4 = *experts/scholars*).

- *Routine*: use of the institution in which the respondent works of the following media or supports as a way to deliver information to the population in case of disaster (dichotomous for each case: 1= *yes*; 0 = *no*): press releases, press conferences or press points interviews in media, tweets, posting on Facebook, publication of messages on the institution's website.

- *Organizational level*: type of organization (nominal variable, coded 0 = *public*; 1 = *private*; 2 = *NGOs*); organization's role in the disaster (nominal variable, coded 1 = *responsible/manager*; 2 = *volunteering*; 3 = *specialist, academy/consultancy*); and organization's scope (nominal variable, coded 1 = *national*, 2 = *regional/local*).

The data were analyzed using the statistical analysis software STATA 13, specifically through differences of means tests and linear regression models.

Results

As Table 1 shows, the importance given by emergency sources to the IRJ is rather high, close to the scale's maximum (M = 4.2, SD = 0.75). Perceptions of importance of NIRJ are also on the high end of the scale (M = 3.6, SD = 0.73), $t(165) = 10.59$, $p < .001$. Thus, regarding RQ1, emergency sources appreciate more the purely informative role that journalists play during a disaster than their noninformative roles, such as educating, entertaining, emotionally supporting the population, or promoting its unity.

Table 1. Descriptive Statistics—Dependent Variables.

Variable	*M*	*SD*	Min	Max	Cronbach's α
IRJ	4.20	0.75	1.20	5.00	0.77
NIRJ	3.60	0.73	1.40	5.00	0.71
EJP	2.60	0.82	1.00	5.00	0.69

The survey results are consistent with the data obtained from the focus groups. Most participants declared that news coverage is a relevant, but challenging, social activity in times of disasters. A participant said that journalists play a crucial role in quickly delivering information to the population, because it "needs a response instantly, about both what is happening and the emergency institutions" (Fire Department, Iquique). Another interviewee stated, "I think that the media have a very important leading role; be an ally of these teams, participate as a team" (Chilean Army, Santiago).

Emergency sources participating in the focus groups also recognized the importance of media, especially radio. Although sources valued media's purely informative work, there were few mentions regarding journalism's noninformative roles. The most frequent were the need to highlight positive elements, to help the population overcome the trauma "and also to start to control, at the communicational level, the psychological

aspect of the affected community" (Expert, Concepción). Among NIRJ, emergency sources highlighted educating the public about disasters, especially preparedness: "The media should also work in coordination with the institutions before the event happens . . .; thus, the media is going to educate, support coordination, guide the community" (Scholar, Concepción).

Regarding RQ2, sources' evaluations of the performance of journalists (EJP) were rather critical (M = 2.6, SD = 0.82), at least when compared with the IRJ, $t(165) = 25.14$, $p < .001$, and NIRJ scores, $t(165) = 15.71$, $p < .001$. A possible explanation for this finding relates to sources' critical assessment of journalists' story selection and their sensationalistic coverage. As one interviewee said, "They generate a fictitious perception in the community, because as they are interested in selling the news, they focus on aspects that are not very representative of the event" (Expert, Concepción). Another participant stated, "We have always asked the media to point out . . . vital information for people, but they usually are more interested in sensationalism" (Expert, Iquique).

Another possible explanation for this low assessment of journalists' performance derived from the focus groups has to do with the distrust that emergency sources have about the journalists' handling of the information, whom they accuse of interpreting rather than reporting. These quotes from the interviewees can be enlightening in this regard: "This antiethical process of interpreting the phenomenon entails all these problems of bias, misinterpretations and rumors, which aggravate the communication process" (Expert, Concepción); "You are afraid of the journalist. . . . Anything I say can be used against me" (Local Authority, Concepción).

The tendency of journalists to focus on aspects deemed not very relevant to disaster response is also criticized. One of the sources interviewed reflected on this: "I am critic of the media; if someone kills another person, I cannot ask the affected person: 'How do you feel?' What would he feel? And the journalists always ask the same question" (Municipality Authority, Valparaíso).

In the focus groups, the sources also expressed a constant concern about the journalists' lack of specific technical knowledge: "I think there has been a great advance since 2010 until now . . . , but there still are trivial mistakes, such as confusing magnitude with intensity, or technical issues that are misreported, and that contributes to misinform the population" (Scholar, Valparaíso).

With RQ3, we examined possible antecedents of the emergency sources' perceptions about journalists in times of disasters. For each dependent variable (IRJ, NIRJ, and EJP), we estimated a separate regression model using the variable groupings of Shoemaker and Reese's (1996, 2014) hierarchy of influences model. The goodness of fit of these models (adjusted R^2) shows that between 4% and 10% of the variance of these three dependent variables could be explained from individual-level variables, approximately 6% can be explained by routine variables, and—in the case of EJP—nearly 4% by organizational variables. Within individual-level variables, education and exposure to radio news were negative, significant predictors of IRJ, whereas newspaper use was a positive, significant predictor of it. At the routines level, sources that participate in press conferences, and those who usually communicate via WhatsApp with other institutions related to disaster management, tend to have higher IRJ scores (see Table 2).

Table 2. Models IRJ.

IRJ: Perception of the importance of the informative role of journalists					
Individual level		Routine level		Organizational level	
Age	0.001	Use of press releases	−0.143	Private (vs. public)	0.175
	(0.006)		(0.163)		(0.162)
Male	0.077	Use of press conferences or press	0.272*	NGO (vs. public)	0.102
	(0.129)	points	(0.159)		(0.392)
Educational level	−0.127***	Giving interviews	0.151	Voluntary (vs.	−0.143
	(0.048)		(0.153)	manager)	(0.407)
TV	0.032	Posting on Twitter	−0.176	Expert (vs. manager)	−0.245
	(0.025)		(0.154)		(0.174)
Radio	−0.058**	Posting on Facebook	0.176	Local (vs. national)	0.235
	(0.025)		(0.144)	Private (vs. public)	(0.244)
Print press	0.061*	Publishing in an institutional	0.038		
	(0.032)	website	(0.144)		
Social networks	0.020	Communication with journalists	0.016		
	(0.027)	via WhatsApp	(0.152)		
Work in disasters	0.014	Communication via WhatsApp	0.327***		
	(0.029)		(0.124)		
Middle position	−0.118	Having a protocol for disasters	0.190		
(ref. senior)	(0.208)		(0.133)		
Low position (ref.	−0.076				
senior)	(0.285)				
Expert (ref. senior)	−0.013				
	(0.157)				
Constant	4.986***	Constant	3.756***	Constant	4.241***
	(0.481)		(0.153)		(0.126)
Observations	160	Observations	166	Observations	166
R^2	0.114	R^2	0.115	R^2	0.025
Adj. R^2	0.048	Adj. R^2	0.063	Adj. R^2	0.002

Standard errors in parentheses
***$p < .01$, **$p < .05$, *$p < .10$.

In Table 3, we tested the same model to analyze the variance in the importance given to noninformative roles of journalists (NIRJ). Interestingly, some of the variables that predicted IRJ were also predictive of NIRJ. The higher the education level and radio news consumption of emergency sources, the lower the perceived importance of noninformative activities made by journalists, whereas participation in press conferences and the use of WhatsApp for disaster coordination was associated to higher NIRJ scores. Nevertheless, and contrary to the previous analysis, the use of other social networks for news consumption, such as Facebook and Twitter, as well as TV news use, were also found to be predictive of NIRJ.

Table 3. Models NIRJ.

NIRJ: Perception of the importance of the noninformative roles of journalists					
Individual level		Routine level		Organizational level	
Age	0.005	Use of press releases	−0.066	Private (vs. public)	0.145
	(0.006)		(0.158)		(0.157)
Male	−0.008	Use of press conferences or	0.366**	NGO (vs. public)	−0.300
	(0.124)	press points	(0.154)		(0.379)
Educational level	−0.079*	Giving interviews	0.036	Voluntary (vs.	0.253
	(0.046)		(0.149)	manager)	(0.393)
TV	0.053**	Posting on Twitter	−0.185	Expert (vs. manager)	−0.247
	(0.024)		(0.150)		(0.168)
Radio	−0.054**	Posting on Facebook	0.171	Local (vs. national)	0.316
	(0.024)		(0.140)	Private (vs. public)	(0.236)
Print press	0.035	Publishing in an institutional	0.055		0.145
	(0.031)	website	(0.140)		
Social networks	0.051**	Communication with journalists	0.013		
	(0.026)	via WhatsApp	(0.148)		
Work in disasters	0.013	Communication via WhatsApp	0.350***		
	(0.028)		(0.121)		
Middle position (ref.	−0.197	Having a protocol for disasters	0.047		
senior)	(0.199)		(0.129)		
Low position (ref.	0.084				
senior)	(0.273)				
Expert (ref. senior)	−0.026				
	(0.150)				
Constant	3.746***	Constant	3.271***	Constant	3.684***
	(0.460)		(0.149)		(0.122)
Observations	160	Observations	166	Observations	166
R^2	0.138	R^2	0.117	R^2	0.042
Adj. R^2	0.074	Adj. R^2	0.066	Adj. R^2	0.012

Standard errors in parentheses
***$p < .01$, **$p < .05$, *$p < .10$.

The answer of one of the emergency sources—a scholar, with an advance degree—to another participant's question about whether they use media to inform themselves in times of disaster, helps interpreting the results of the variables at the individual level of Tables 2 and 3:

> Lately, I am focusing much more on social networks than traditional media. Radio is very good because it has the immediacy of quickly going to the place. Television and [print] press are not so good, they don't have as much flexibility to respond in real time to what is happening. . . . In social media, you can access the most important sources directly and bypass the traditional media. (Scholar, Valparaíso)

Table 4 displays the regression analysis of sources' perception of journalists' performance (EJP). In contrast to IRJ and NIRJ, for EJP the age of the respondent is significant: Younger respondents are more critical of journalists' work than older respondents are. Likewise, frequency of consumption of broadcast TV news to obtain information is positively associated to EJP. Among the routine-level variables, sources that perform typical journalistic activities, such as participating in press interviews, posting content on Twitter, and publishing in websites, have a significantly higher likelihood of evaluating more positively how journalists cover disasters. Among the organizational-level variables, the only significant predictor was the geographical scope of the institution in which the respondent works: Sources at local organizations evaluated more positively the performance of journalists than those at national organizations (located in Santiago).

Table 4. Models EJP.

EJP: Evaluation of journalistic performance					
Individual level		Routine level		Organizational level	
Age	0.018***	Use of press releases	0.051	Private (vs. public)	0.220
	(0.006)		(0.178)		(0.173)
Male	−0.111	Use of press conferences or	0.090	NGO (vs. public)	−0.311
	(0.137)	press points	(0.173)		(0.419)
Educational level	0.043	Giving interviews	0.300*	Voluntary (vs. manager)	0.709
	(0.051)		(0.167)		(0.434)
TV	0.086***	Posting on Twitter	−0.344**	Expert (vs. manager)	0.020
	(0.026)		(0.168)		(0.186)
Radio	0.003	Posting on Facebook	0.137	Local (vs. national)	0.768***
	(0.027)		(0.157)	Private (vs. public)	(0.261)
Print press	−0.038	Publishing in an institutional	0.288*		0.220
	(0.034)	website	(0.157)		
Social networks	0.037	Communication with	0.242		
	(0.028)	journalists via WhatsApp	(0.166)		
Work in disasters	−0.027	Communication via	0.054		
	(0.031)	WhatsApp	(0.135)		
Middle position	0.067	Having a protocol for	0.003		
(ref. senior)	(0.220)	disasters	(0.145)		
Low position (ref.	0.430				
senior)	(0.302)				
Expert (ref.	0.150				
senior)	(0.166)				
Constant	1.003*	Constant	2.140***	Constant	2.348***
	(0.509)		(0.167)		(0.135)
Observations	160	Observations	166	Observations	166
R^2	0.164	R^2	0.120	R^2	0.071
Adj. R^2	0.102	Adj R^2	0.069	Adj. R^2	0.042

Standard errors in parentheses
***$p < .01$, **$p < .05$, *$p < .10$.

This last aspect could be related to a situation observed during the focus groups: In regions, journalists and emergency sources generally knew each other, they were on familiar terms, and had a much closer relationship, since in small towns the work teams are reduced both in the media and in the institutions. As one of the interviewees says, "We are 15 for the entire region. . . . Before the 2010 earthquake, in Tarapacá the ONEMI office was only conformed by the director, a support professional and an administrative" (National Emergency Office, Iquique).

Another reason that could explain the positive correlation between local organizations emergency sources and a better EJP is that these sources feel partly responsible for the delay in the information delivery from the capital. One of the emergency sources points out that the work, both in emergency management and in the relationship with journalists, is very different when it involves "working at the community level, at the provincial or regional level, (especially in) the first critical minutes." This source states that it is much more complicated to collect information and deliver it to the media in areas far from the capital, because "it goes through the official channel, and then it is delivered to the authority, who releases it, and that same information is what reaches Santiago" (Local Authority, Iquique). This explains that, in regions other than the capital city, the relationship with local journalists is much closer, to disseminate the communication more efficiently.

Even emergency sources from regions most distant to Santiago explicitly declare greater sympathy for journalists who must have "patience" and wait for "the capital" to process the information with an "excess of bureaucracy," which slows their work:

> There is a time lapse where this misinformation occurs . . . and in that lapse of an hour or two, the *poor* journalists have to invent . . . or not invent, but figure it out by themselves, to try to explain to the people what happens. (Expert, Iquique)

Discussion

Although literature on disaster management often considers journalists as important actors across the different stages of disasters, many fear that they are not up to the task. In this study, we sought to examine in more detail the emergency sources expectations and assessment of the journalistic performance in disasters. Because this area is fairly new, we designed an exploratory mixed-method study to explore what emergency sources expect from journalists during a disaster coverage.

The data show that, on average, emergency sources value IRJs (informative roles) better than NIRJs (noninformative), although the qualitative work detected that these sources are aware of how important it is for the media to educate the population regarding the disaster, as well as to offer spaces for emotional support or relaxation.

In general, journalists' performance (EJP) was the worst evaluated variable. This is consistent with what has been mentioned in the literature that highlights the critical position that authorities and emergency managers tend to have about media work.

Based on Shoemaker and Reese's (1996, 2014) hierarchy of influences model, we studied the individual-, routine-, and organizational-level variables that could explain the emergency sources' perceptions. We found that their perceptions about the work of journalists is heavily influenced by familiarity with journalistic work. At the individual level, it seems that familiarity relates to the habitual consumption of a certain type of media to be informed about current affairs. Depending on the specific outcome, consuming news on TV, reading newspapers, and using Facebook and Twitter more frequently are uniquely associated to IRJ, NIRJ, and EJP.

The role of age in the positive perception of journalists' performance (EJP) is also noteworthy. The older or more experienced appear less critical than the younger emergency sources. Meanwhile, the increase in the educational level of the respondents appears as a factor that diminishes the appreciation of the journalistic roles.

These results suggest the importance of socialization as a basis of journalistic role performance. Furthermore, it is consistent with the notion of critical citizens, who by virtue of their cognitive skills and youth, exhibit less trust in the media capacity.

The importance of familiarity at the routine level matters too. Our data show that emergency sources who conduct press conferences, give interviews, and work in areas that have content production, are more likely to give positive scores in our journalism scales.

In the organizational level, the geographic scope of the respondents' institutions plays an important role in the positive perception of the journalists' performance (EJP): The members of local or regional organizations tend to better evaluate journalists as a whole than those belonging to national agencies. The type of organization would not significantly influence any of the dependent variables. Again, it could be that the familiarity with journalists in small towns and rural areas is finally getting some traction in the capital.

We can conclude that the emergency sources' perception and assessment of the journalistic work during a disaster is affected by a combination of the first levels of influence proposed by Shoemaker and Reese (1996, 2014). However, those variables, that seem to be more relevant, tend to be related to the direct and mediated experience that these sources have with journalists during these coverages. Although these results were obtained from a single country, the vast experience of Chile in disasters as well as the characteristics of its media system allow us to think that the core of these conclusions may be extrapolated to other developing countries that have an independent, commercial-oriented media system.

As in any study, there are some limitations. The quantitative results offer descriptive and correlational evidence but are far from establishing firm causal–effect relationships among variables. The statistical models used accounted for little variance on the dependent variables, which may suggest idiosyncratic responding or that we missed measuring important IRJ, NIRJ, and EJP micro-, meso-, and macro-level predictors. Although the sample number complies with the size of comparable elite surveys, a Type II error in the results is always a possibility. Hence, a larger group of interviewed sources would be desirable in future surveys. The focus groups data assisted us in designing and interpreting the survey, but they did not always provide additional insights on the quantitative results.

Finally, this work contributes to literature on journalism and disasters on two major accounts: first, the analysis of the journalist–source relationship in the area of disaster response, finding that whether sources are personally or vicariously exposed to news stories and professional journalists, their perceptions of the importance and performance of journalists in times of disaster improves. Secondly, at the theoretical level, by adopting and applying the hierarchy of influences (Shoemaker & Reese, 1996, 2014) model to a hitherto neglected population: emergency sources. Building on these findings, future research needs to replicate the study in new contexts, as well as operationalize and include other micro-, meso-, and macro-level factors not studied here.

This is important because a more fluid relationship between journalists and sources may prove pivotal for managing disasters effectively. Major crises, such as the current COVID-19 pandemic, remind us that the typical gaps in expectations about disaster news do not necessarily meet the needs of a population that needs high-quality information to recover from trauma, or even to survive. Hence, in these contexts, it is more necessary than ever to have tools that promote the coordinated work of journalists and emergency sources, that they manage to understand each other, and overcome many of their usual differences.

References

Altay, N., & Green, W. G., III. (2006). OR/MS research in disaster operations management. *European Journal of Operational Research*, *175*(1), 475–493. doi:10.1016/j.ejor.2005.05.016

Amend, E., Kay, L., & Reilly, R. C. (2012). Journalism on the spot: Ethical dilemmas when covering trauma and the implications for journalism education. *Journal of Mass Media Ethics: Exploring Questions of Media Morality*, *27*(4), 235–247. doi:10.1080/08900523.2012.746113

Armstrong, C. L., Cain, J. A., & Hou, J. (2020). Ready for disaster: Information seeking, media influence, and disaster preparation for severe weather outbreaks. *Atlantic Journal of Communication.* Advance online publication. doi:10.1080/15456870.2020.1731512

Best, H., Lengyel, G., & Verzichelli, L. (Eds.). (2012). *The Europe of elites: A study into the Europeanness of Europe's political and economic elites*. Oxford, UK: Oxford University Press.

Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and conducting mixed methods research* (3rd ed.). Los Angeles, CA: SAGE Publications.

Entman, R. M. (2004). *Projections of power: Framing news, public opinion, and U.S. foreign policy*. Chicago, IL: University of Chicago Press.

Ewart, J., & McLean, H. (2019). Best practice approaches for reporting disasters. *Journalism*, *20*(12), 1573–1592. doi:10.1177/1464884918757130

Goldmann, E., & Galea, S. (2014). Mental health consequences of disasters. *Annual Review of Public Health*, *35*, 169–183. doi:10.1146/annurev-publhealth-032013-182435

Grassau, D., Puente, S., Vatter, N., & Rojas, R. (2019). Perfiles y roles de los conductores de TV en momentos de desastres: Propuesta conceptual a partir del caso del terremoto del 27F en Chile [Profiles and roles of TV anchorpersons in a disaster context: Conceptual proposal from the case of the 27F earthquake in Chile]. *Revista de Comunicación, 18*(2), 155–175. doi:10.26441/RC18.2-2019-A8

Grassau, D., Valenzuela, S., Bachmann, I., Labarca, C., Mujica, C., Halpern, D., & Puente, S. (2019). *Uses and attitudes toward news organizations and social media during the 2019 protests in Chile.* Santiago, Chile: School of Communications at Pontificia Universidad Católica de Chile. Retrieved from http://bit.ly/ChileMediaSurvey

Gronemeyer, M. E., & Porath, W. (2015). Un estudio de la homogeneidad entre las posturas editoriales y de las fuentes informativas en la prensa de referencia chilena [A study on homogeneity between editorials and news sources opinions in the Chilean reference press]. *Cuadernos.info*, *36,* 139–153. doi:10.7764/cdi.36.567

Guest, G., MacQueen, K. M., & Namey, E. E. (2012). *Applied thematic analysis*. Thousand Oaks, CA: SAGE Publications. doi:10.4135/9781483384436

Hight, J., & Smyth, F. (2003). *Tragedies and journalists: A guide for more effective coverage.* Seattle, WA: Dart Center for Journalism and Trauma. Retrieved from https://dartcenter.org/sites/default/files/en_tnj_0.pdf

Hobfoll, S. E., Watson, P., Bell, C. C., Bryant, R. A., Brymer, M. J., Friedman, M. J., . . . & Maguen, S. (2007). Five essential elements of immediate and mid-term mass trauma intervention: Empirical evidence. *Psychiatry: Interpersonal and Biological Processes*, *70*(4), 283–315. doi:10.1521/psyc.2007.70.4.283

Hoffmann-Lange, U. (2007). Methods of elite research. In R. J. Dalton & H. D. Klingemann (Eds.), *The Oxford handbook of political behavior* (pp. 910–927). Oxford, UK: Oxford University Press.

Houston, J. B., Pfefferbaum, B., & Rosenholtz, C. E. (2012). Disaster news framing and frame changing in coverage of major U.S. natural disasters, 2000–2010. *Journalism & Mass Communication Quarterly, 89*(4), 606–623. doi:10.1177/1077699012456022

Joye, S. (2018). When societies crash: A critical analysis of news media's social role in the aftermath of national disasters. *Journal of Applied Journalism & Media Studies*, *7*(2), 311–327. doi:10.1386/ajms.7.2.311_1

Kahle, S., Yu, N., & Whiteside, E. (2007). Another disaster: An examination of portrayals of race in Hurricane Katrina coverage. *Visual Communications Quarterly*, *14*(2), 75–89. doi:10.1080/15551390701555951

Kwanda, F. A., & Lin, T. T. (2020). Fake news practices in Indonesian newsrooms during and after the Palu earthquake: A hierarchy-of-influences approach. *Information, Communication & Society*, *23*(6), 849–866. doi:10.1080/1369118X.2020.1759669

Levine, M., & Thompson, K. (2004). Identity, place, and bystander intervention: Social categories and helping after natural disasters. *The Journal of Social Psychology*, *144*(3), 229–245. doi:10.3200/SOCP.144.3.229-245

Littlefield, R., Rowan, K., Veil, S. R., Kisselburgh, L., Beauchamp, K., Vidoloff, K., . . . & Wang, Q. (2010). "We tell people. It's up to them to be prepared." Public relations practices of local emergency managers. In W. T. Coombs & S. J. Holladay (Eds.), *Handbook of crisis communication* (pp. 245–260). New York, NY: Wiley-Blackwell.

Lowrey, W., Gower, K. K., Evans, W., & Mackay, J. (2006). Assessing newspaper preparedness for public health emergencies. *Journalism and Mass Communication Quarterly, 83*(2), 362–380. doi:10.1177/107769900608300209

Lowrey, W., Gower, K. K., Robinson, J. A., Ginter, P. M., McCormick, L. C., & Abdolrasulnia, M. (2007). Effective media communication of disasters: Pressing problems and recommendations. *BMC Public Health, 7*(97), 1–8. doi:10.1186/1471-2458-7-97

Marín, H. (2015). Operación San Lorenzo 2010. Dispositivo de apoyo psicosocial a familiares de los 33 mineros encerrados en la mina San José [Operation San Lorenzo 2010. Psychosocial support device to relatives of the 33 miners locked up in the San José mine]. *Cuadernos de Crisis y Emergencias, 14*(1), 1–10. Retrieved from http://www.cuadernosdecrisis.com/docs/2015/numero14vol1_2015_operacion_san_lorenzo_2010.pdf

Matthews, J. (2017). The role of a local newspaper after disaster: An intrinsic case study of Ishinomaki, Japan. *Asian Journal of Communication*, *27*(5), 464–479. doi:10.1080/01292986.2017.1280065

Matthews, J., & Thorsen, E. (2020). Introduction: Media, journalism and disaster communities. In J. Matthews & E. Thorsen (Eds.), *Media, journalism and disaster communities* (pp. 1–16). Cham, Switzerland: Palgrave Macmillan. doi:10.1007/978-3-030-33712-4_1

McQuail, D. (2010). *McQuail's mass communication theory* (6th ed.). London, UK: SAGE Publication.

Milojević, A., & Krstić, A. (2018). Hierarchy of influences on transitional journalism—Corrupting relationships between political, economic and media elites. *European Journal of Communication*, *33*(1), 37–56. doi:10.1177/0267323117750674

Mujica, C., & Bachmann, I. (2015). Beyond the public/commercial broadcaster dichotomy: Homogenization and melodramatization of news coverage in Chile. *International Journal of Communication*, *9*, 210–230. Retrieved from https://ijoc.org/index.php/ijoc/article/view/1894

Mujica, C., Grassau, D., Bachmann, I., Herrada, N., Flores, P. M., & Puente, S. (2020). Percepciones de la audiencia respecto del uso del melodrama en noticias por televisión: Entre el entusiasmo y el desprecio [Audience perceptions of the use of melodrama in news programs: Between enthusiasm and contempt]. *Palabra Clave, 23*(4), e2341. doi:10.5294/pacla.2020.23.4.1

Netzley, S. B., & Banning, S. A. (2011). Tomorrow's journalists: In-groups, out-groups, and news topic preference. *Journalism & Mass Communication Educator, 66*(1), 39–53. doi:10.1177/107769581106600104

Newman, N., Fletcher, R., Schulz, A., Andi, S., & Nielsen, R. K. (2020). *Reuters Institute digital news report 2020*. Retrieved from https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2020-06/DNR_2020_FINAL.pdf

Otto, M. W., Henin, A., Hirshfeld-Becker, D. R., Pollack, M. H., Biederman, J., & Rosenbaum, J. F. (2007). Posttraumatic stress disorder symptoms following media exposure to tragic events: Impact of 9/11 on children at risk for anxiety disorders. *Journal of Anxiety Disorders*, *21*(7), 888–902. doi:10.1016/j.janxdis.2006.10.008

Pan American Health Organization. (2013). *Ethical guidance for journalists covering emergencies and disasters*. San Jose, Costa Rica: Author/WHO.

Pan American Health Organization. (2020, April). *COVID-19: An informative guide: Advice for journalists*. Washington, DC: Author/WHO. Retrieved from https://iris.paho.org/bitstream/handle/10665.2/52392/PAHOCMUPACOVID-1920003_eng.pdf?sequence=1&isAllowed=y

Pantti, M., Wahl-Jorgensen, K., & Cottle, S. (2012). *Disasters and the media*. New York, NY: Peter Lang.

Pellegrini, S., Puente, S., & Grassau, D. (2015). La calidad periodística en caso de desastres naturales: Cobertura televisiva de un terremoto en Chile [Journalism quality in natural disaster's coverage: The case of Chilean television in a major earthquake]. *Estudios sobre el mensaje periodístico*, *21*(Especial Noviembre), 249–267. doi:10.5209/rev_ESMP.2015.v21.50678

Potter, D., & Ricchiardi, S. (2009). *Disaster and crisis coverage*. Washington, DC: International Center for Journalists.

Puente, S., Marín, H., Álvarez, P. P., Flores, P. M., & Grassau, D. (2019). Mental health and media links based on five essential elements to promote psychosocial support for victims: The case of the earthquake in Chile in 2010. *Disasters*, *43*(3), 555–574. doi:10.1111/disa.12377

Puente, S., Pellegrini, S., & Grassau, D. (2013a). Journalistic challenges in television coverage of disasters: Lessons from the February 27, 2010, earthquake in Chile. C*ommunication and Society, 26*(4), 103–125. Retrieved from https://www.unav.es/fcom/communication-society/es/resumen.php?art_id=471

Puente, S., Pellegrini, S., & Grassau, D. (2013b). How to measure professional journalistic standards in television news coverage of disasters? 27-F earthquake in Chile. *International Journal of Communication, 7*(1), 1896–1911. Retrieved from http://ijoc.org/index.php/ijoc/article/view/2176/978

Reese, S. D., & Shoemaker, P. J. (2016). A media sociology for the networked public sphere: The hierarchy of influences model. *Mass Communication and Society*, *19*(4), 389–410. doi:10.1080/15205436.2016.1174268

Rupar, V. (2020). Journalists as first responders. *Kōtuitui: New Zealand Journal of Social Sciences Online*, *15*(2), 349–359. doi:10.1080/1177083X.2020.1741405

Sallot, L. M., Steinfatt, T. M., & Salwen, M. B. (1998). Journalists' and PR practitioners' news values: Perceptions and cross-perceptions. *Journalism and Mass Communication Quarterly, 75*(2), 366–377. doi:10.1177/107769909807500211

Scanlon, J. (2011). Research about the mass media and disaster: Never (well hardly ever) the twain shall meet. In J. R. Detrani (Ed.), *Journalism: Theory and practice* (pp. 233–269). Binghamton, NY: Apple Academic.

Seeck, H., & Rantanen, T. (2015). Media events, spectacles and risky globalization: A critical review and possible avenues for future research. *Media, Culture & Society*, *37*(2), 163–179. doi:10.1177/0163443714553493

Shoemaker, P. J., & Reese, S. D. (1996). *Mediating the message: Theories of influences on mass media content* (2nd ed.). White Plains, NY: Longman.

Shoemaker, P. J., & Reese, S. D. (2014). *Mediating the message in the 21st century: A media sociology perspective* (2nd ed.). New York, NY: Routledge.

Shoemaker, P. J., Tankard, J. W., & Lasorsa, D. L. (2004). *How to build social science theories*. Thousand Oaks, CA: SAGE Publications.

Sinclair, J. (2011). *Chile: Media system: The international encyclopedia of communication*. doi:10.1002/9781405186407.wbiecc020.pub2

Swindell, C., & Hertog, J. (2012). Dimensions of emergency messages as perceived by journalists and sources. *Public Relations Journal, 6*(1), 1–21. Retrieved from https://prjournal.instituteforpr.org/wp-content/uploads/2012SwindellHertog.pdf

Valenzuela, S., Puente, S., & Flores, P. (2017). Comparing disaster news on Twitter and television: An intermedia agenda setting perspective. *Journal of Broadcasting & Electronic Media*, *61*(4), 615–637. doi:10.1080/08838151.2017.1344673

Veil, S. R. (2012). Clearing the air: Journalists and emergency managers discuss disaster response. *Journal of Applied Communication Research, 40*(3), 289–306. doi:10.1080/00909882.2012.679672

Wahl-Jorgensen, K. (2020). An emotional turn in journalism studies? *Digital Journalism*, *8*(2), 175–194. doi:10.1080/21670811.2019.1697626

Wilkins, L. (2016). Affirmative duties: The institutional and individual capabilities required in disaster coverage. *Journalism Studies*, *17*(2), 216–230. doi:10.1080/1461670X.2014.974985

Willnat, L., Weaver, D. H., & Wilhoit, G. C. (2017). The American journalist in the digital age: How journalists and the public think about journalism in the United States. *Journalism Studies*, *20*(3), 423–441. doi:10.1080/1461670X.2017.1387071

Wimmer, R. D., & Dominick, J. R. (1996). *La investigación científica de los medios de comunicación* [Scientific research of the media]. Barcelona, Spain: Bosch.

Wisner, B., Gaillard, J. C., & Kelman, I. (2012). Framing disaster: Theories and stories seeking to understand hazards, vulnerability and risk. In B. Wisner, J. C. Gaillard, & I. Kelman (Eds.), *Handbook of hazards and disaster risk reduction* (pp. 47–62). Abingdon, UK: Routledge.

Appendix

Table A1. Continuous Independent Variables.

Variable	*M*	*SD*	Min-Max
Age	41.5	11.8	24–79
Educational level	9.0	1.3	4–12
Consumption broadcast TV	5.0	2.7	1–8
Consumption of radio	4.9	2.6	1–8
Consumption of newspapers	4.6	2.0	1–8
Consumption of social media	4.4	2.4	1–8
Work in disasters	2.3	2.2	0–10

Table A2. Categorical Independent Variables (Individual Level).

Variable	Categories	*N*	%
Gender	Women	69	41.6
	Men	97	58.4
Position	High	42	25.3
	Middle	19	11.4
	Low	9	5.4
	Expert	90	54.2

Table A3. Categorical Independent Variables (Routine Level).

Variable		*N (Yes)*	%
Use or nonuse (of the institution in which you work) of the following media or platforms to deliver information to the population in case of a disaster:	Press releases	100	60.2
	Press conferences or press points	72	43.4
	Interviews in the media	114	68.7
	Posting messages on Twitter	91	54.8
	Posting messages on Facebook	70	42.2
	Publication of messages in the website of the institution	118	71.1
	Communication with journalists via WhatsApp	43	25.9
	Communication via WhatsApp groups with other institutions related to the disaster	81	48.8
Existence of a work protocol in case of disaster in your workplace		122	73.5

Table A4. Categorical Independent Variables (Organizational Level).

Variable	Categories	*N*	%
Type	Public (0)	66	39.8
	Private (1)	73	44.0
	NGO (2)	27	16.3
Role	Responsible/manager (1)	51	30.7
	Volunteer (2)	27	16.3
	Expert (academia/consultant) (3)	88	53.0
Scope	National (1)	153	92.2
	Regional/local (2)	13	7.8
Sectors	Universities	33	19.9
	Ministries	13	7.8
	Regional/local governments	12	7.2
	Police/Army	2	1.2
	Emergency management offices	20	12.1
	Public health services	5	3.0
	Private consultants	35	21.1
	Research centers	21	12.7
	Other volunteer organizations	17	10.2
	Firefighters	4	2.4
	Red Cross	4	2.4