Politicization of a disaster and victim blaming: Analysis of the Sewol ferry case in Korea

Ji-Bum Chung [a,*], Eugene Choi [b], Leo Kim [c], Byeong Je Kim [a]

[a] *School of Urban and Environmental Engineering, Ulsan National Institute of Science and Technology (UNIST), UNIST-gil 50, Ulsan, 689-798, Republic of Korea*
[b] *School of Social Science, Kangnam University, Kangnam-ro 40 Yongin Gyeonggi-do, Republic of Korea*
[c] *Ars Praxia, Glass Tower, 20F, 534 Teheran-ro, Gangnam-gu, Seoul, South Korea*

ABSTRACT

This study aimed to analyze the public perception of disaster victims through survey and media analyses. To compare the impact of the politicization of disasters, we examined three disaster cases that had a major impact on Korean society: *the Sewol ferry tragedy*, *the Cheonan warship sinking accident*, and *the Humidifier disinfectant disaster*. A comparative regression analysis showed that the *Sewol ferry tragedy* had strong political biases compared to the others. From a media big data analysis, the criticism to the *Sewol* victims intensified following the impeachment of President Park Geun-hye and the inauguration of a new government, both in number and discursive power. We concluded that legitimization theory can successfully explain this victim blaming mechanism. Conservative respondents blamed the *Sewol ferry* victims more because they had a strong tendency to defend the politically conservative regime of Korean society to maintain the traditional power landscape.

1. Introduction

All disasters are more or less political. In the case of South Korea, many disaster related issues have entered into the political debate, giving rise to large social conflicts [1]. Notably, the 2014 *Sewol ferry tragedy* developed into one of the severest political contentions in Korean society, and eventually triggered the impeachment of President Park Geun-hye in 2017. This kind of political escalation is not unique to Korea. Particularly, in many democratic political systems, a disaster that resulted in a large death toll increased voters' criticism of the government and hastened the downfall of the political leader [2]. For example, the COVID-19 pandemic developed into a controversial political issue surrounding the 2020 United States' presidential election and might have led to the defeat of the incumbent president, Donald Trump. In another incident, Hurricane Sandy, in 2012, had a significant impact on the voters' attitudes and voting intentions in the 2012 presidential election in the United States [3], and might have played a role in Barack Obama's victory.

The *Sewol ferry tragedy* was an accident in which a ferry named Sewol overturned and sank in the sea near Jindo, Korea, on April 16, 2014. Out of 476 passengers and crew, 304 died in the accident. Especially, the fact that most of the deaths are high school students (250) who had gone on school trips made a huge impact on Korean society. Following the incident, the Park Geun-hye administration bore considerable criticism because the government had not responded quickly and effectively and did not conduct a proper investigation into the cause of the accident. Moreover, with the government suspected of intentionally delaying and interrupting the fact-

finding process, the *Sewol ferry tragedy* became one of the most political disasters in Korean history.

During this turmoil, the victims of the *Sewol ferry tragedy*, along with their families, were in the spotlight of the media and the public. Following the disaster, bereaved family members organized large-scale protests to investigate the truth of the accident and engaged in fierce political activities, including hunger strikes. Because most Korean people were sympathetic and compassionate, many of them supported the bereaved families' political actions. However, as this disaster developed into a political problem, more people began to view the political actions of the bereaved families critically, with some blaming the families. The victim-blaming phenomenon developed and lasted for years.

In disaster situations, victim blaming often arises in a variety of situations. Although, generally, most people are inclined to help disaster victims, some people blame, rather than help, disaster victims under circumstances of an intricate interplay of intrapersonal, psychosocial, and situational factors [4,5]. We can easily find some notable examples in the 2005 Hurricane Katrina disaster and 2010 earthquake in Haiti. In these cases, people's tendency to blame victims was associated with many factors, such as victims' demographic characteristics, ideology, and the severity of the emergency situations [5]. In particular, following Hurricane Katrina, the media portrayed minority groups, including African Americans, in stereotypical ways that resulted in discrimination [6].

The media often function as a salient mediator to generate and proliferate social opinion. They translate and reframe disasters and following social conflicts into political issues. The meaning of "political" refers to a specific context in which actors struggle to find a cause to support their homogeneous opinion group and blame the opponent. In the process of communication, Kim (2011) notes, "mass media plays a role to highlight selective facts and concepts that could strengthen or weaken the actor's conviction." Thus, media discourses play a vital operation of discourse and power [7]. Such characteristics and strategies of mass media are often affected by political constraints. As observed in the debate over the *Sewol ferry tragedy* and the victims, the salience and frames of the media discourses reflected specific national and political realities [8]. The Park Geun-hye administration represented South Korea's conservative political forces and was fully supported by conservative media. In the case of media reports of the *Sewol ferry tragedy*, it was confirmed that progressive media continued to report content criticizing the government for almost a year after the disaster, while conservative media continued to report content criticizing the opposition party and victims [9].

This study aimed to analyze the public perception of disaster victims through survey and media analyses. In particular, to identify the impact of the politicization of disasters, we examine the three incidents of disaster that had a major impact on Korean society: *the Sewol ferry tragedy, the Cheonan warship sinking accident,* and *the Humidifier disinfectant disaster.* The interest is in how the politicization of the disaster affected the blaming of the disaster victims.

We expect to make the following academic and policy contributions. First, the study expands the scope of the existing victim blaming theory that has mainly focused on crime victims, such as those of sexual violence. This study expands the target and scope of the theory to major disaster cases and contributes to the academic literature on victim blaming in large-scale disaster situations. Second, it analyzes the socioeconomic and political factors in the tendency of people to blame victims. Thus, we can suggest policy recommendations to mitigate or prevent the blaming of disaster victims.

2. Background

2.1. Three disasters in Korea

In this section, three main disasters that have profoundly impacted Korean society are reviewed. While the presumed causes and victims of the *sinking of the Cheonan, the sinking of the Sewol ferry,* and *the Humidifier disinfectant disaster* in Korea are different, the impact on Korean society has been profound. The sinking of the *Cheonan* and the *Sewol* ferries occurred on March 26, 2010 and April 16, 2014, respectively. To Korean people, the *Humidifier disinfectant disaster* came to be known as a social disaster, as the number of patients with lung disease among those who had used the humidifier disinfectant increased sharply from May 2011.

The *Cheonan*, a patrol ship of the Korean Navy, sank in the middle of the night on March 26, 2010, on the coast of Baengnyeong Island in the Yellow Sea. The *Cheonan* was carrying 104 personnel, of whom 46 died. This tragedy recorded the highest number of naval deaths since the Korean War. Some progressives and media have suggested several causes for the tragedy: the ship was stranded, there was a collision, or it sank due to structural fatigue; however, the current dominant view is that North Korea (the Democratic People's Republic of Korea) was responsible for it. North Korea denied these allegations, resulting in criticisms and conflicts between South Korea's progressives and conservatives [10]. Most Korean people perceived this tragedy as provoking a security sentiment, resulting in a favorable impact on the continued leadership of the conservative regime. The "red purge" factions' stigmatization by the conservative party and military, caused the reporters or broadcasters to engage in self-censorship [11]. Although it has been pointed out that the incident led to highly negative consequences for freedom of expression [12], there was no apparent victim blaming in this case.

As a world first, a Korean company succeeded in developing and commercializing a humidifier disinfectant in 1994. According to the Special Act of Relief from Humidifier Disinfectant Damage enacted in 2017, "humidifier disinfectant" refers to a substance added to the water in the humidifier to prevent the growth of microorganisms and occurrence of scale. However, two deaths, including one infant, were reported in 1995, a year after the product was released. When the first two deaths occurred, the government as well as the medical community could not determine the exact cause. Therefore, the two deaths were presumed to be due an unknown lung disease. Deaths from similar symptoms continued to rise in the middle 2000s; finally, in 2011, the Korea Center for Disease Control and Prevention (KCDC) conducted an epidemiological investigation, and officially announced that humidifier disinfectants seemed to cause the lung disease. Based on the epidemiological investigation, the KCDC ordered the suspension and collection of all the deadly humidifier disinfectants produced by six Korean companies. The National Assembly conducted an official investigation in 2016, and subsequently enacted the Humidifier Sterilizer Damage Relief Act in 2017. According to the KCDC, the official death toll from the

Humidifier disinfectant disaster was approximately 1500 by 2020; however, according to the Special Investigation Commission on Social Disasters, which was organized to investigate the causes and effects of the two disasters (the *Humidifier disinfectants disaster* and the *Sewol ferry tragedy*), the death toll is approximately ten times higher [13].

To be compensated for health damage, the victims, who are not experts, have had difficulty proving the damage themselves. At the beginning of the outbreak, when the investigation into the victims was not carried out, people did not suspect that products marketed under the slogan of hygiene could result in unhygienic conditions and blamed themselves for the unexpected tragedies [14]. In addition, the controversy over the causality between the humidifier disinfectants and deadly lung disease continues in Korea. In the first trial, a Korean court acquitted the executives of the company that launched the deadly humidifier disinfectant—the rationale for which, was a lack of causality. In the case of the *Humidifier disinfectant disaster*, we could not observe any significant victim blaming issues.

The sinking of the Sewol ferry in April 2014 was one of the most tragic disasters in modern Korean history. Of the 476 Korean people on board, the disaster claimed the lives of 304 passengers. Since most of the victims were teenagers on a school trip to Jeju Island, there was considerable national sadness and anger. Despite a joint rescue team comprising many private and public personnel [15], following the initial emergency rescue, no additional lives were saved. The government's late response was severely criticized by the public for not having rescued additional passengers. This tragedy is widely accepted as a human-made disaster attributed to the utter incompetence of the government during the rescue process in addition to the crew's incompetence and irresponsibility and inefficient ferry design [16,17]. Unlike the other two disasters, the *Sewol ferry tragedy* caused extreme social resistance. The bereaved families held a prolonged hunger strike, and many citizens attached yellow ribbons that were used as the icon of this resistance to show their solidarity with the bereaved families. The citizens' protests were linked with the corruption scandal of then President Park Geun-hye, causing long-term, large-scale protests, which ultimately resulted in her impeachment [18].

The *Sewol ferry tragedy* was an unfavorable incident for the conservative Park administration. Accordingly, the conservative media that supported the government attempted to alleviate the government's political responsibility by blaming the victims. The formulation of public opinion on victim blaming was led by these conservative media through three stages. First, the media emphasized the illegality of the victims' rallies. Second, the media portrayed the victims' demands of compensation as excessive. Finally, the media emphasized personal scandals and deviations by the bereaved families based on unconfirmed news reports. While the government had failed to intervene properly, the conservative media attacks on the bereaved families became increasingly meticulous, while public opinion grew in sympathy for this victim blaming tendency. Consequently, the bereaved families' distress increased, rather than decreased, over time [17].

The abovementioned disasters are very different—their causes, phases of evolution, and characteristics of victims. However, they have the following common characteristics for comparative research: first, to varying degrees, all three disasters had a great impact on Korean society; second, there were many controversies during the fact-finding process, requiring official investigations by the National Assembly; and finally, they resulted in political debates. In terms of research methodology, it will be meaningful to find out why victim blaming is clearly observed in the *Sewol ferry tragedy* compared with the other two disasters.

2.2. Scaling social distance and victim blaming

Although most people sympathize with disaster victims, in some cases, people have prejudice against them. Many researchers have attempted to measure this prejudice using a cognitive approach, such as stereotypes and affective approaches including social distancing or degree of intimacy [19,20]. Bogardus' social distance scale measures the distances of a group that are considered acceptable by members of different groups. Social distance can be defined as "a low level of sympathy and understanding between groups or individuals" [21]. Therefore, many researchers have used a social distance scale to measure the level of acceptance toward various ethnic, religious, and other minority groups, while its longitudinal changes have been a main research focus [22]. Meanwhile, studies about the willingness to accept stigmatized groups of people [23] who are associated with stigmatized events such as crime, diseases, or disasters can be a topic of special interest.

This study measures the social distancing and blaming of disaster victims among various minority groups. Victim blaming is a kind of discrimination, a behavioral counterpart of prejudice, while social distancing has a great influence on this prejudice [19]. Shechory and Idisis [21] investigated the social distances from sex crime victims and their relationship with rape myths and gender role stereotypes among students and therapists. They concluded that traditional gender-role stereotypes in rape myths were positively related to longer social distance. Lee [24] examined the victim blaming tendency and desired social distancing toward people with AIDS, using a survey of university students in the United States. They found that the desired social distance was one of the significant direct determinants of the victim blaming tendency toward people with AIDS. Likewise, previous studies have demonstrated that the affective component of social distance can be an important factor in victim blaming, a typical example of discrimination.

Dyer et al. [19] suggested several theories for the causes and dynamics of prejudices, including social identity theory, social learning theory, and balance theory. Williams [25] noted, in summary, that the literature explaining the tendency to attribute responsibility to victims yielded two types of interpretations: ego-defensive (similar to social identity theory) and information-processing (similar to social learning theory). One of the most well-known theories that explains the tendency to blame victims is Lerner's just world theory [25–27]. The theory holds that victim blaming is a distinct way of maintaining the belief that "the world is a just place where people get what they deserve." [25].

Although the just world theory is well known for explaining victim blaming, the experimental evidence in its support is unclear. Lambert and Raichle [27] pointed out this limitation and compared three hypotheses explaining victim blaming in the case of rape crime: the just world hypothesis, the personal responsibility hypothesis, and the legitimization hypothesis. Of these, the legitimization hypothesis had the most significant effect in their research, which meant that conservative perceivers were motivated to maintain

traditional power differences between dominant and nondominant groups. Williams [25] similarly argued that conservatives tended to blame victims more than liberals, while conservatives tended to derogate victims' characters to a greater extent than liberals. Likewise, political orientations have a significant impact on the social distance toward various minority groups. In a similar survey conducted in Korea, people with a right-wing authoritarianism orientation tended to feel more distance from minority groups [28].

Research on victim blaming has mainly been conducted in studies on victims of crime, especially victims of sex crimes [25,27, 29–31]. These studies analyzed why victims were blamed, who blamed more, and how media and social media influenced them. However, research on non-crime victims such as disaster victims is scant.

3. Methods

This study was based on both survey and media content analysis. A public survey was conducted to understand Koreans' general perception of disaster victims, focusing on the *Sewol ferry tragedy*. Additionally, we utilized a media content analysis to establish the trend of discourse around the *Sewol ferry tragedy* and its victims.

3.1. Survey analysis

A survey was conducted to investigate Korean public perceptions of disaster victims, along with demographic characteristics and political disposition. In particular, to clearly distinguish the characteristics of the perceptions of the *Sewol ferry tragedy*, we designed comparative survey questionnaires for the *Cheonan sinking accident* and the *Humidifier disinfectant disaster*. The survey was conducted on July 9, 2020. The data were collected by an online survey company that surveyed 1000 online panels aged 19 and older using a structured questionnaire that was delivered through a mobile platform, with a response rate of 24.53%. The sample was selected through stratified random sampling based on sex, age, and region.

Table 1 provides a summary of the demographic features of the survey respondents: gender, age group, and political party supported. Gender was coded as a binary variable (0 = "female" and 1 = "male"). Age was originally coded as the participants' exact age and converted to a categorical variable with 5 categories, ranging from "age between 19 and 29" (coded as 1) to "over 60s" (coded as 5). The respondents' political party supported, which was originally a four-category variable—"Democratic Party," "United Future Party," "Justice Party," and "Others"—was reorganized as dummy-coded variable for statistical analysis (0 = "not support" and 1 = "support"). The Democratic Party and the United Future Party (which has now changed its name to the People Power Party) are the two major political parties in Korea. The former is a centrist liberal party, while the latter is conservative. The Justice Party is a progressive social democratic political party.

The respondents were asked their perception of the *Sewol ferry tragedy* regarding three items: (a) sympathy, "I sympathize with the victims of the Sewol ferry," (b) blaming 1, "The victims of the Sewol ferry hold rallies to receive more compensation," and (c) blaming 2, "The bereaved families who emphasize governmental responsibility for the Sewol ferry have political objectives." Each item assessed respondents' perceptions of the Sewol ferry tragedy using a five-point Likert-scale, from 1 = "strongly disagree" to 5 = "strongly agree." For clarity of analysis, the three items were termed (a) "emotional sympathy," (b) "blaming 1 (compensation)," and (c) "blaming 2 (political objective)."

To measure the respondents' trust in society and in people, three types of organizations were questioned: government, civic organizations, and the media (television networks). Trust in people was a four-point Likert-scale variable, from "not trust at all" (coded as 1) to "trust completely" (coded as 4). Items for trust in organizations were Likert-scale variables that comprised three categories, from 1 = "little or no trust" to 3 = "trust quite a lot."

Social distance scores were measured for minority groups and victims of disasters using Bogardus' social distance scale, ranging from "1 = Unacceptable" to "5 = as Acceptable as close relatives by marriage." The scores were reverse coded differently from the original Bogardus' scale to facilitate analysis. In other words, the higher the social distance score for a group, the closer the respondents felt to the group. The minority groups used to measure the social distance scores were the disabled, foreign immigrants and workers, ex-convicts, homosexuals, and North Korean refugees. The disaster victims comprised four groups: the *Sewol ferry tragedy* victims, the *Humidifier disinfectant disaster victims*, the *Cheonan sinking accident* victims, and sexual violence crime victims.

3.2. Media analysis

While the survey of people canvasses their general thoughts about the event and issue, a thorough analysis of the media reveals clues to understand the kind of discourses that have been privileged or neglected in formulating the politicized opinion about the disaster. From a methodological perspective, there have been a few notable approaches to studying the salience and frames of media discourses. While the classical content analysis [32] focuses on word frequency in the text, the limitation of the method becomes obvious when two sets of texts, with exactly the same word list and with the same frequency, form contrasting arguments against each other [33]. Whereas the media frame represents a "central organizing idea" [34], the alternative operation of semantic network analysis attempts to measure the centrality and to visualize the most salient concepts that operate in the discursive network [8].

We focused on lay people's responses to the media representation. We collected and used people's on-line comments in news websites. To quantify their characteristics, we used word frequency and a centrality measure (Bonacich Power[1] [35]) to show,

---

[1] Bonacich power centrality measures the influence of each concept in relation to the neighboring concepts' prestige index, in addition to its own degree of centrality. It considers the relations to the adjacent referents and their collective influences. Thus, a concept with high Bonacich power can represent the change of its influence in the entire network of news frames (Kim and Kim, 2015).

Table 1
Summary of the respondents' demographic features.

Variable	Category	n	%
Gender	Female	489	48.9%
	Male	511	51.1%
Age group (years)	19–29	183	18.3%
	30–39	187	18.7%
	40–49	222	22.2%
	50–59	235	23.5%
	>60	173	17.3%
Political disposition (party supported)	Democratic Party	537	53.7%
	United Future Party	221	22.1%
	Justice Party	101	10.1%
	Others	141	14.1%

respectively, people's frequently used terms and the most influential concepts in the discursive network. By comparing the two indices, researchers attempt to extract the underlying meanings. If frequently used terms represented common rhetoric and related cliché, the terms with high Bonacich power would imply more connotative, culturally embedded, interests and sentiments [36]. The text was also classified and analyzed as thematic categories beyond the set of individual words by applying the latest Topic Modeling method[2] [37]. We calculated the Bonacich Power of the combined keywords in each thematic cluster to trace the change of influence of the sentiment and discourse within each homogeneous opinion group.

We collected data from the two biggest news portal websites, (Naver (http://www.naver.com) and Daum (http://www.daum.net)), in Korea. We applied two search words for Sewol ferry ('세월호') and the victimized family ('유가족') for the period April 17, 2014–April 16, 2020, from the day after the accident to the day of the 6th anniversary of the incident. The collected dataset comprises 6520 news articles and 740,239 responses (comments) to the news reporting the incident and the following debates (Fig. 1).

4. Results

4.1. Survey results

Table 2 shows the descriptive statistics of the survey items. We found that the respondents generally sympathized with the bereaved families in their loss in the *Sewol ferry tragedy* (emotional sympathy: M = 4.45, SD = 0.810). Only 3% of the respondents reported that they did not sympathize with the families (strongly disagree: 0.8%, disagree: 2.2%). However, opinions differed among the respondents on the question of whether the intention of the bereaved families was to receive more compensation or was a political objective. For the question about compensation, 59.1% of the respondents disagreed, while 21.1% agreed with it (M = 2.41, SD = 1.222). For the question about political objectives, 53.8% of the respondents disagreed with the statement, while 28.0% agreed with it (M = 2.60, SD = 1.315). The average trust in people was 2.62, with 62.1% of the respondents tending to trust people, while 37.9% of the respondents did not. Trust in institutions was in the order of the government (M = 1.64), civic organizations (M = 1.57), and television networks (M = 1.56). In terms of social distance, the respondents felt similar distances from the disaster victims (the *Cheonan sinking accident*, the *Humidifier disinfectant disaster*, and the *Sewol ferry tragedy*) to what they felt from the victims of sex crime (Table 2).

The three perceptions (a, b, and c) and the social distance score showed significant correlations with (p < 0.01) each other: sympathy (a) had a positive correlation with social distance; the two items of blaming, compensation (b) and political objective (c), had a negative correlation with the perceived social distance (Table 3). Therefore, the respondents' blaming was statistically related to the negative perception of the victims of the Sewol ferry.

Regression analysis was performed to identify the factors in the social distance score of the disaster victims. Three regressions were conducted, with the social distance score for each disaster victim as a dependent variable, and the demographic variables of gender and age group, trust in people and organizations, and party support as the independent variables. Table 4 reports the results of the regression analyses with standardized coefficients β.

The demographic variables showed a consistent effect on all three groups of disaster victims. Males felt closer to the disaster victims than females, while the higher the age group, the more socially distant they felt. In the case of trust, the influence of the variables on the victims of the *Sewol ferry tragedy* was different from that on the other disasters. Generally, the higher the trust in people, the closer the respondents perceived the victims of the *Sewol ferry tragedy*; however, this trend did not appear for the other two groups of disaster victims. In the case of the *Sewol ferry tragedy*, trust in the civic organizations and television networks had a significant effect on perceived social distance, whereas, for the other two disasters, trust in the government and television networks had a significant effect. Respondents with higher trust in the government and civic organizations tended to feel closer to the disaster victims, and those with higher trust in the television networks tended to feel psychologically distant from disaster victims.

Of all the disaster victims and political parties supported, only the United Future Party supporters (most conservative) had a significant effect on the perceived social distance toward the victims of the Sewol ferry; the supporters perceived a greater social

---

[2] The Topical PageRank (TPR) algorithm uses latent topic distribution inferred by Latent Dirichlet Allocation (LDA) to perform ranking of noun phrases extracted from documents. The proposed Salience Rank (Teneva and Cheng, 2017) modified the algorithm to use Google's PageRank approach more efficiently when extracting key phrases and concepts in the hierarchically clustered list.
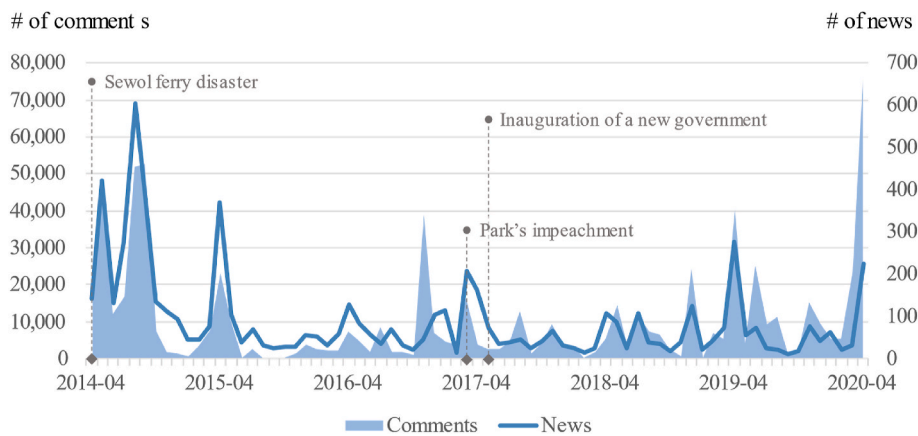
Fig. 1. Dataset: News and comments.

Table 2
Descriptive statistics of survey items.

	Item	Range	Mean	SD
Perceptions of the Sewol ferry tragedy	Emotional sympathy[a]	1(Strongly disagree)–5(Strongly agree)	4.45	.810
	Compensation[b]		2.41	1.222
	Political objective[c]		2.60	1.315
	Blaming index (b + c)	2–10	5.01	2.320
Trust	Trust in people	1–4	2.62	.624
	Trust in government	1–3	1.64	.582
	Trust in civic organizations		1.57	.534
	Trust in television networks		1.56	.544
Social distance score	Victims of the Sewol ferry case	1: unacceptable	2.69	1.160
	Victims of the Humidifier disinfectant	2: neighbor	2.78	1.155
	Victims of the Cheonan sinking	3: coworker	2.90	1.184
	Victims of sexual violence crime	4: personal friends	2.71	1.306
	The disabled	5: marriage	2.98	1.046
	Foreign immigrants/workers		2.86	1.086
	Ex-convicts		1.52	.860
	Homosexuals		2.04	1.191
	North Korean refugees		2.60	1.063

Note: (a) I sympathize with the victims of the Sewol ferry; (b) The victims of the Sewol ferry hold rallies to receive more compensation; (c) The bereaved families who emphasize governmental responsibility for the Sewol ferry have political objectives.

Table 3
Pearson's correlation coefficients for the relation of the respondents' perceptions of the Sewol ferry tragedy and the social distance scores.

Variables		Social distance score of victims		
		Sewol Ferry	Humidifier disinfectant	Cheonan
Perceptions of the Sewol ferry tragedy	Emotional sympathy[a]	.133**	.046	-.015
	Compensation[b]	-.322**	-.185**	-.094**
	Political objective[c]	-.292**	-.166**	-.057

Note: **p < 0.01, *p < 0.05.

distance from the victims. However, we cannot find any effects of political disposition on the other groups of disaster victims.

We constructed a blaming index for the victims of the *Sewol ferry tragedy*, which was calculated as the sum of two items, compensation (b) and political objective (c). The results of the regression analysis using the blaming index as the dependent variable are as follows (Table 5). The demographic variables were not significantly related to the blaming index, while trust in civic organizations, party supported, and the social distance score toward the victims were found to have a significant influence on the blaming index score. When the level of trust in civic organizations was high, the degree of blaming against the victims of the Sewol ferry significantly decreased. In the case of political disposition, the degree of blaming tended to decrease when the Democratic Party and the Justice Party were supported, while the level of blaming increased when the United Future Party was supported. Last, the higher the social distance score to the victims of the Sewol ferry, the lower the blaming index. The significance level for all variables was set at p < 0.001.

Table 4
Linear regression analyses on the social distance score for each disaster victim (standardized β).

Independent variables	Social distance score of the victims		
	Sewol Ferry	Humidifier disinfectant	Cheonan
Demographics			
Sex (female = 0; male = 1)	.067*	.081*	.118***
Age group	-.260***	-.246***	-.194***
Trust			
Trust in people	.091**	.046	.008
Trust in government	.069	.079*	.114**
Trust in civic organizations	.142***	.058	.018
Trust in television networks	-.100**	-.082*	-.074*
Political disposition (party supported)			
Democratic Party (dummy)	.024	-.010	-.037
United Future Party (dummy)	-.143**	-.087	-.006
Justice Party (dummy)	.028	.032	.027
R^2 (Modified R^2)	0.173 (0.163)	0.108 (0.098)	0.073 (0.062)

Note: *p < 0.05, **p < 0.01, ***p < 0.001.

Table 5
Linear regression analysis for the blaming index.

Independent variables	Standardized coefficients (β)
Demographics	
Sex (female = 0; male = 1)	.003
Age group	.059
Trust	
Trust in people	-.016
Trust in government	-.041
Trust in civic organizations	-.172***
Trust in television networks	.024
Political disposition (party supporting)	
Democratic Party (dummy)	-.280***
United Future Party (dummy)	.146***
Justice Party (dummy)	-.127***
Social Distance Score	
Victims of Sewol ferry	-.224***
R^2 (Modified R^2)	0.346 (0.338)

Note: ***p < 0.001.

4.2. Results of media analysis

Doubts about the status of "people" and the responsibility of "nation" after the *Sewol ferry tragedy* were reflected in people's comments on the online news portals of Naver and Daum. In the frequency measurement (Table A1), the bereaved "family" was one of the most referred keywords. Related to the family, emotional terms prevailed. News readers used two similar yet subtly different terms to designate the Sewol ferry victims: "sibling" (*jasik*) and "child" (*ai*). Whereas the latter term, child, resonates with a personal sense of sympathy, the former word, sibling, connotes the emotional state of a parent who has lost their genetic connection to life.

In 2014, the tragic maritime accident immediately drew attention from both political and legal angles. The "nation," "government," President "Park (Geun-Hae)" (along with the "Blue house"), and her ruling party, "Saenuri," (the former name of United Future Party) were under scrutiny for their political responsibility. People also questioned if any subsequent investigation would be effective, calling for a special law ("s. law") to delegate the investigative right to the newly formed commission of inquiry. On the other hand, there was an opposing voice to the investigation from the early stage of the debate as some framed the issue as an unfortunate but trivial "accident" that did not deserve further investigation.

The political characteristics of the online debate intensified in 2015, as the leader of the opposition party, Moon Jae-in ("Moon"), called for a comprehensive investigation that had been practically denied by the government. The call for "impeachment" of the then president, Park Geun-Hae, also emerged, for negligence in the governmental duty to save people' lives. Along with the claim that it was a mere accident, a new term circulated in the debate, emphasizing that any national efforts to aid the bereaved families and initiate a thorough investigation into the accident would cost people's "tax"; therefore, people should not listen to any "rubbish" claims to support the victims. Against such arguments, however, efforts at justifying investigative activities to find the "truth" of what and how

the tragedy actually happened also gained support.

In 2016, the claim for "truth" prevailed over some social groups' attempts[3] to denigrate the *Sewol ferry tragedy* to an ignorable "accident" (frequency: 2109 vs. 1390). The same year ended with a nationwide candlelight protest that eventually led to the impeachment of President Park Geun-Hae in the following year. The people's allegation that the *Sewol ferry tragedy* had been mishandled was one of the main political reasons for the impeachment, although the constitutional court turned down the legal course for the impeachment. As shown in Table A2, the negative framing of the investigation and the bereaved families' on-going protest to legislate a special law did not wane afterwards. The terms "tax" and "accident" thrived, even after the change of government that promised to support the victimized families.

From the perspective of the influence in the semantic network of discourse, we discovered interesting keywords that might explicate the meaning of the contrasting frame: truth vs. tax. One is "ascertainment," which requires a thorough investigation and an understanding of the causes of the fiasco. The other is "compensation," which mainly blames the bereaved families' assumed reactions to maximize the level of compensation from the government by legislating a special law. Interestingly, the keyword "family" disappeared, after 2014, from the top list of words of semantic influence; its presence became vague and distant in the highly politicized debate.

The topic modeling results (Table 6) summarize the discourse. Whereas Topic 1 contains the expressions that assess the *Sewol ferry tragedy* mainly from a political perspective, namely, how it will affect the next "election" and political "parties" through the quoted mass "media" comments, the four other topics display contrasting opinions and the typical frame of the people. Topic 2 criticized bereaved family members who would not cease to protest against the government to ensure a more thorough investigation. From the participants' point of view in Topic 2, the victims' families protested to claim more monetary "compensation," which is considered a tactic of "opportunism." In contrast, the opinions in Topic 5 stated the necessity for a more thorough "investigation" and "study" to understand the "responsibility" of the tragedy. In the same context, some emphasized the reason for a "special law" to support a lengthy investigation and punishment of the responsible members who neglected the rescue duty ("captain" and "maritime police"). In summary, the contrasting opinions reflected in Topics 2 (14.97%) and 5 (13.74%) are almost similar, apart from the expression of familial sympathy (Topic 4, 14.95%) to the victims. Topic 3 contains debates on how to evaluate the victims' protests against the government while partially representing the perspective of the pro-government group "Mom's Party." Topic 4 predominantly represents the emotion of sympathy for the bereaved family members and parents such as "mindset," "child," and "sorrow."

Finally, chronological analysis of the semantic network structure reveals an interesting characteristic: while the two contrasting opinions (Topics 2 and 5) were similar in the overall number of documents, their discursive influences, as measured by Bonacich Power, were not so even. As shown in Fig. 2, the discourse on victim blaming almost always prevailed over calling for an investigation. The victim-blaming discourse was slowly mobilized during 2014–2016 in the face of *the Sewol ferry tragedy* for political expediency. Such discourse intensified, following Park's impeachment movement at the end of 2016 and the inauguration of a new government in 2017, both in frequency and Bonacich Power (Fig. 2). We interpret the outcome as an effect of resentment and political consolidation of the former government sympathizers that lost power, either political or symbolic, after the mishandled disaster.

5. Discussions and conclusions

The Korean public's social distance scores to the victims of the major disasters seem to be similar to those to the victims of crime (here, sex crime); that is, while people sympathize with disaster victims, they also feel a certain degree of distance, and can even blame the victims in some situations. Meanwhile, as shown in the comparative regression analysis, the *Sewol ferry tragedy* in Korean society had strong quasi-political inclination compared to the other two major disasters. Accordingly, the social distance scores and blaming index of the disaster victims were significantly influenced by the respondents' political disposition, which was measured by political party preference and trust in civic organizations. That is, the more politically conservative they were, the longer distance to the Sewol ferry's victims they felt, and the more likely they were to blame the victims. In contrast, in the case of the *Cheonan* accident or the *Humidifier disinfectant disaster*, we cannot find any statistically significant correlations between the social distancing and the respondents' political disposition.

To summarize the results of the survey analysis, the legitimization theory [27] explains the victim blaming mechanism better than the just world or personal responsibility theories in reviewing the *Sewol ferry tragedy*. Following the legitimization theory, the reason that the conservative respondents tended to blame the *Sewol ferry* victims more could be because they were strongly inclined toward defending the authority of the state in the context of the traditional power landscape. The *Sewol ferry tragedy* functioned as a catalyst to dismantle the conservative President Park administration.

From the big data analysis of the media, it turns out that people were fully aware of the political implication of the *Sewol ferry tragedy*. Opinions diverged: Some described the tragedy as a mere accident for which the government itself had little responsibility and had no capability to rescue the lives of those on board; others labelled the incident a blatant case of government insensitivity to human rights (including life) and contended that the government only cared about its weakening authority. In this context, a sentiment of resentment rose and hardened among President Park's supporters, even after her impeachment. From the textual analysis, the mass media did contribute in framing the issue of compensation and spreading such rhetoric. According to Hong and Na [38], the Korean

---

[3] For instance, the ultra-right "Umma party" criticized and mocked the families' protest to legislate a special investigative law. Additionally, the party held a press conference on May 16, 2014, to propose an "anti-state force" that allegedly operated behind the victims' family members. As it transpired in 2017, following the change of regime, the party had been subsidized by Park's government, while the national intelligence agency had backed pro-government activities organized by the "civilian" party.

Table 6
Results of topic modeling.

| Topic	Keywords	Number of documents	Ratio	Contents
1	President, politics, government, regime, truth, family, accident, sibling, media, election, party, investigation	11,209	36.84%	Assessment of Sewol ferry disaster from the perspectives of politics and news media
2	compensation, sibling, tax, family, opportunism, responsibility, parent, family, accident	4556	14.97%	Opinions that regard the victims' family members as politicizing the incident to maximize compensation, thereby wasting peoples' tax
3	truth, investigation, president Park, regime, Mom's Party, child, organization, thought, debate	5931	19.49%	Debates on how to evaluate the victims' protest against the government
4	parent, truth, mindset, nation, child, sorrow, investigation, death, understand, special law	4549	14.95%	Expressions of sympathy for the bereaved family members and parents
5	study, responsibility, investigation, incident, special law, captain, problem, sink, maritime police, prosecute	4180	13.74%	Call for a thorough investigation, legislation of a special law to enable it, and punishment of the maritime police that neglected their duty to rescue the students
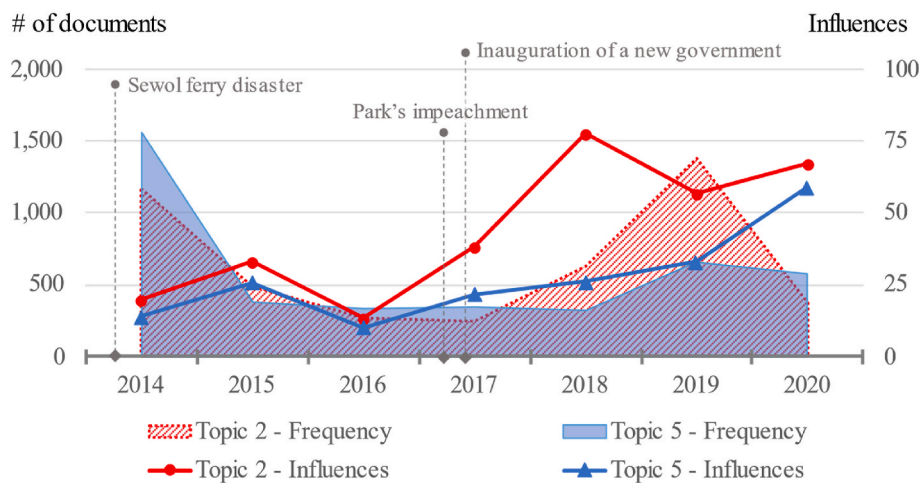
Fig. 2. Frequency and influence of contrasting opinions: Topic 2 vs. Topic 5.

media, in particular, the conservative ones framed the *Sewol ferry tragedy* victims into anti-government groups, focusing on the illegality of their assembly and violent acts. From a victim-centered approach, that is, from the perspective of victims' wishes, safety and well-being take priority; they should be protected during and after disasters [39]. However, in the case of the Sewol ferry in Korea, the victims had a difficult time because of the victim blaming phenomenon. Nonetheless, media coverage of disasters is sensational and appears to be more focused on attracting viewers' attention [40] than on protecting disaster victims. Korea already has media guidelines on disaster reporting, which advise that victims should be protected, and that the media should avoid sensational reporting. Perhaps stronger regulations, such as a hate speech law, are required, rather than mere guidelines. This may be the most basic human rights protection measure to overcome discrimination and prejudice.

Our study has some limitations. First, because the study design focuses on *the Sewol ferry tragedy*, we could not collect data on the victim blaming tendency of the other two disasters. Therefore, it is difficult to say that only *Sewol ferry tragedy* victims experienced disaster politicization and victim blaming. Second, it was challenging to distinguish between "conservatism of political orientation" and "conservatism in the sense of supporting the current regime." Therefore, it is difficult to say that politically conservative people are more prejudiced and prone to blame disaster victims than others. In other words, based on these results, we can't predict what would have happened if a progressive/liberal government had been in power during the Sewol ferry disaster. Finally, although the authors studied the correlation between political tendency and the victim-blaming phenomenon in the *Sewol ferry tragedy*, we did not scrutinize how such political representation and attitudes were formed and what it meant in Korean society. The sociological and psychological questions should be explored in detail in relation to the general attitude towards disadvantaged victims and perceived risks in society. We hope our work will contribute as a stepping stone for future research.

Funding

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix

Table A.1
Keywords with highest frequency.

Rank	2014		2015		2016		2017		2018		2019		2020	
	Keyword	Freq	Keyword	Freq	Keyword	Freq	Keyword	Freq	Keyword	Freq	Keyword	Freq	Keyword	Freq
1	people	35,741	Sewol	6,691	Umma party	9,084	Sewol	6,961	Sewol	10,922	Sewol	25,768	Sewol	16,205
2	family	31,687	people	5,289	Sewol	8,131	people	5,289	people	5,551	people	8,769	Cha	9,260
3	Sewol	29,432	government	3,657	people	6,212	Park	3,729	nation	5,080	family	7,499	insult	6,363
4	nation	21,311	Park	3,357	Park	5,758	Moon	3,266	Moon	4,360	nation	6,085	people	6,306
5	government	10,923	nation	3,224	nation	4,740	nation	3,224	soldier	3,345	sibling	5,925	expel	4,987
6	s. law	10,798	Moon	2,523	family	3,046	family	2,308	family	3,189	politics	5,650	family	4,024
7	Park	9,901	family	2,308	sibling	3,043	tax	1,948	regime	2,891	Moon	5,527	election	3,642
8	Saenuri	7,838	tax	1,948	truth	2,109	regime	1,862	politics	2,477	accident	4,378	Democrat	3,597
9	sibling	7,247	truth	1,787	child	2,047	government	1,795	inspection	2,270	insult	3,521	Saenuri	3,361
10	accident	6,762	refloat	1,630	government	2,017	truth	1,787	Park	2,163	Park	3,321	nation	3,145
11	politician	6,274	rubbish	1,424	rubbish	1,878	refloat	1,630	suicide	1,897	regime	2,985	Moon	2,997
12	Blue house	6,096	responsibility	1,239	Saenuri	1,783	rubbish	1,424	rubbish	1,832	rubbish	2,882	politics	2,935
13	prosecution	5,409	impeachment	1,125	student	1,686	responsibility	1,239	truth	1,797	politics	2,870	truth	2,810
14	child	5,388	support	1,093	spirit	1,403	impeachment	1,125	accident	1,794	child	2,678	J. Kim	2,801
15	Inv. right	5,360	accident	1,069	accident	1,390	support	1,093	government	1,631	leftist	2,602	politician	2,704

Table A.1. Keywords with highest frequency

Table A.2
Keywords with highest Bonacich power.

Rank	2014		2015		2016		2017		2018		2019		2020	
	Keyword	Bonacich	Keyword	Bonacich	Keyword	Bonacich	Keyword	Bonacich	Keyword	Bonacich	Keyword	Bonacich	Keyword	Bonacich
1	people	61.159	Sewol	52.911	people	43.361	people	68.636	Sewol	96.390	Sewol	118.487	Sewol	208
2	family	33.867	people	52.265	Sewol	32.357	Sewol	65.167	people	70.721	people	65.919	insult	104
3	nation	25.965	nation	31.794	Park	27.161	nation	39.180	nation	58.039	nation	37.074	people	99
4	Sewol	22.172	truth	18.167	nation	24.476	Park	28.798	Moon	40.953	politics	36.395	Democrat	74
5	politician	18.861	Park	17.060	sibling	13.648	impeachment	23.928	compensation	31.485	sibling	24.260	Cha	66
6	government	16.552	impeachment	16.472	mom	13.190	Moon	20.157	politics	31.484	heart	28.248	politics	65
7	spirit	13.878	refloat	16.160	fault	11.598	interest	19.725	tax	31.144	compensation	26.949	expel	64
8	support	13.878	protest	16.147	government	10.815	protest	19.725	regime	30.097	government	26.247	thought	60
9	representative	13.878	interest	16.147	refloat	9.441	refloat	19.242	sacrifice	28.854	parent	24.622	candidate	53
10	being	12.891	heart	15.713	Blue house	9.246	heart	19.170	problem	24.584	regime	22.648	politician	53
11	life	11.516	politics	15.147	resignation	9.246	government	19.123	president	24.218	Moon	21.889	election	48
12	sibling	11.324	responsibility	14.743	politician	9.146	politics	18.725	interest	22.889	sacrifice	20.869	nation	47
13	ascertainment	10.005	spirit	14.480	understand	8.857	spirit	18.474	politician	22.501	accident	20.787	Saenuri	43.517
14	s. law	9.005	government	14.118	family	8.675	responsibility	17.261	soldier	22.293	spirit	20.263	leftist	43.223
15	politics	9.005	compensation	12.588	future	8.475	compensation	15.043	government	21.968	child	20.228	incident	37.112

Table A.2. Keywords with highest Bonacich power

References

[1] J. Chung, Conflicts and natural disaster management: a comparative study of flood control in the Republic of Korea and the United States, Disasters 40 (3) (2016) 554–572.

[2] A. Quiroz Flores, A. Smith, Leader survival and natural disasters, Br. J. Polit. Sci. 43 (4) (2013) 821–843.

[3] J. Hart, Did Hurricane Sandy influence the 2012 US presidential election? Soc. Sci. Res. 46 (2014) 1–8.

[4] T.V. Avdeyeva, K. Burgetova, I.D. Welch, To help or not to help? Factors that determined helping responses to Katrina victims, Anal. Soc. Issues Public Policy 6 (1) (2006) 159–173.

[5] J.L. McManus, D.A. Saucier, Helping natural disaster victims depends on characteristics and perceptions of victims. A response to "who helps natural disaster victims? Anal. Soc. Issues Public Policy 12 (1) (2012) 272–275.

[6] K. Tierney, C. Bevc, E. Kuligowski, Metaphors matter: disaster myths, media frames, and their consequences in Hurricane Katrina, Ann. Am. Acad. Polit. Soc. Sci. 604 (1) (2016) 57–81.

[7] M. Foucault, Power/knowledge: Selected Interviews and Other Writings, 1972-1977, Vintage, 1980.

[8] L. Kim, Media framing of stem cell research: a cross-national analysis of political representation of science between the UK and South Korea, J. Sci. Commun. 10 (3) (2011) A02.

[9] J.H. Park, Estimation of media slants in South Korean news agencies using news reports on the Sewol Ferry Disaster, Korean Pol. Sci. Rev. 50 (1) (2016) 239–269.

[10] j.-s. Yoon, An empirical study on the cause of sinking of ROK ship Cheonan through the evidence, Soc. Sci. Res. Rev. 30 (3) (2014) 99–129.

[11] S.-G. Kim, H.J. Han, Cheonan patrol combat corvette sinking and media control: a production study on investigative programs, Koraen J. Commun. Info. 66 (2014) 242–272.

[12] J.-s. You, The "cheonan" incident and the declining freedom of expression in South Korea, Asian Perspect. 39 (2) (2015) 195–219.

[13] Special Investigation Committee on Social Disasters, A Thorough Investigation of the Damage Caused by Humidifier Disinfectants, 2020.

[14] Y. Choi, D. Paek, Humidifier Disinfectants, Unfinished Stories, Environmental health and toxicology, 2016, p. 31.
[15] M.S. Bang, Y. Kim, Collaborative governance difficulty and policy implication, Disaster Prev. Manag. 25 (2) (2016) 212–226.
[16] K. Jung, M. Song, H.W. Park, Filling the gap between bureaucratic and adaptive approaches to crisis management: lessons from the Sewol Ferry sinking in South Korea, Qual. Quantity 52 (1) (2018) 277–294.
[17] J.A. Yun, H.J. Huh, H.S. Han, S. Huh, J.H. Chae, Bereaved families are still embittered after the Sewol ferry accident in Korea: a follow-up study 18 and 30months after the disaster, Compr. Psychiatr. 82 (2018) 61–67.
[18] A. Kim, South Korea: sewol ferry tragedy and park GEUN-HYE`S impeachment, Harv. Int. Rev. 38 (3) (2017) 13.
[19] J. Dyer, A. Vedlitz, S. Worchel, Social distance among racial and ethnic groups in Texas: some demographic correlates, Soc. Sci. Q. 70 (3) (1989) 607.
[20] E. Aronson, T.D. Wilson, R.M. Akert, S.R. Sommers, Social Psychology, Pearson Education, 2015.
[21] M. Shechory, Y. Idisis, Rape myths and social distance toward sex offenders and victims among therapists and students, Sex. Roles 54 (9–10) (2006) 651–658.
[22] V.N. Parrillo, C. Donoghue, Updating the Bogardus social distance studies: a new national survey, Soc. Sci. J. 42 (2) (2005) 257–271.
[23] B.T. Coventry, P. Case, Fifty shades of social distance, Wom. Stud. Interdiscipl. J. 49 (1) (2020) 83–100.
[24] M.Y. Lee, A.R. Campbell, C.L. Mulford, Victim-blaming tendency toward people with AIDS among college students, J. Soc. Psychol. 139 (3) (1999) 300–308.
[25] S. Williams, Left–right ideological differences in blaming victims, Polit. Psychol. 5 (4) (1984) 573–581.
[26] M.J. Lerner, The belief in a just world, in: The Belief in a Just World, Springer, 1980, pp. 9–30.
[27] A.J. Lambert, K. Raichle, The role of political ideology in mediating judgments of blame in rape victims and their assailants: a test of the just world, personal responsibility, and legitimization hypotheses, Pers. Soc. Psychol. Bull. 26 (7) (2000) 853–863.
[28] S.S. Lee, Embracing minorities: how does right-wing authoritarianism influence social distance? J. Migration Soc. 8 (2) (2015).
[29] C.R. Greer, News Media, Victims and Crime, Sage London, 2007.
[30] C. Jones, E. Aronson, Attribution of fault to a rape victim as a function of respectability of the victim, J. Pers. Soc. Psychol. 26 (3) (1973) 415–419.
[31] J. Fairbairn, R. Bivens, M. Dawson, Sexual Violence and Social Media: Building a Framework for Prevention, 2013.
[32] D.G. McTavish, E.B. Pirro, Contextual content analysis, Qual. Quantity 24 (3) (1990) 245–265.
[33] K. Carley, Coding choices for textual analysis: a comparison of content analysis and map analysis, Socio. Methodol. 23 (1993) 75–126.
[34] W.A. Gamson, Talking Politics, Cambridge university press, 1992.
[35] P. Bonacich, Power and centrality: a family of measures, Am. J. Sociol. 92 (5) (1987) 1170–1182.
[36] L. Kim, N. Kim, Connecting opinion, belief and value: semantic network analysis of a UK public survey on embryonic stem cell research, J. Sci. Commun. 14 (1) (2015) A01.
[37] N. Teneva, W. Cheng, Salience rank: efficient keyphrase extraction with topic modeling, in: Proceedings of the 55th Annual Meeting of the Association for Computational Linguistics, vol. 2, 2017. Short Papers.
[38] J.-H. Hong, E.-K. Na, Victim blaming of sewal-ferry disaster on news in conservative total TV programming : categorization of victims and word network analysis, Korean J. Journalism Commun. Studies 59 (6) (2015) 69–106.
[39] IFRC, Minimum Standards for Protection, Gender and Inclusion in Emergencies, International Federation of Red Cross and Red Crescent Societies, Geneva, 2018.
[40] S.-G. Baek, O.-K. Lee, A comparative study of media coverage on natural disasters among Korea, Japan and U.S. : focused on coverages on Japanese earthquake and tsunami among KBS TV, NHK TV and CNN TV, Korean J. Journalism Commun. Studies 57 (1) (2013) 272–304.