

Comparing Family Members' Expressions Of Grief To That Of Reporters: A Text Mining Analysis Of Sewol Ferry Disaster's Victims Commemorative Texts

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Abstract

This paper compared family members' expression of grief to that of reporters. For this study, we analyzed commemorative letters written by family members and commemorative articles written by reporters on 119 young students who died in the Sewol ferry disaster on April 16, 2014, in South Korea. The findings showed that the bereaved families' commemorative letters focused on emotional experiences, such as a mother's earnest maternal love, her hopes that her child would appear in her dreams, the everyday memories she experienced with her children. In contrast, reporters' commemorative articles expressed the deep loss of the bereaved parents, prayers for their children's safe return, the deceased children's talents and hopes for the future, and social norms or virtues such as friendship and community service. The theoretical implications on the mourners of how the death of a young child in a tragic disaster is expressed in different sociocultural contexts are discussed.

Keywords: Sewol Ferry Sinking, Family Members, Commemorative Letters, Commemorative Articles, Text Mining.

Introduction

A commemorative writing can be seen as an instrument to express the life of the deceased through words. The descriptions used in commemorative writings contribute to an understanding of important values that existed in the deceased individual's life, and also how their life ended. Commemorative writings include remembrance letters written by family members and condolence articles written by reporters, who are social recorders. In this regard, commemorative writings serve as a network that provides emotional expressions and values filtered by both the media and bereaved families (Hume, 2000). The language of a certain death is reproduced by the bereaved family's expressions of mourning and then by the media recording it in a social meaning.

Reporters and family members express similar features of the deceased, but there are also differences (Lee, Shim & Yoo, 2014; Moses & Marelli, 2003). Through the verbal expressions made about death by these two groups, we can grasp the personal feelings and social values surrounding death. The expression of condolences by the bereaved family about the experienced death and the media's recording methods differ depending on their sociocultural background (Lee et al., 2014). Comparing the similarities and differences between the individual, the mourner's expression of grief, and the media emphasizing death in the collectivist culture can suggest cultural diversity in the expression of death.

Reporters generally highlight the life of the deceased in commemorative articles by reflecting social values or virtues (Hume, 2003; Kitch, 2000). In contrast, family members have a tendency to convey their grief emotionally through commemorative letters and reveal a glimpse into the life of the deceased through their expressions (Hume, 2000).

Although numerous studies have analyzed the characteristics of commemorative writings (Árnason et al., 2003; Brennan, 2008; Hanusch, 2010; Hume, 2003; Revier, 2020; Taussig, 2017), few are based on empirical observations of what language the writer chooses and the possible implications for expressing sadness in such ways (Lee et al., 2014; Moses & Marelli, 2003).

The sinking of the Sewol ferry on April 16, 2014, was the worst social disaster in South Korean history. It resulted in a total of 304 deaths, including 250 students from Danwon High School in Ansan City, Gyeonggi-do, who were on a school trip to Jeju Island.

Shortly after the sinking of the Sewol ferry, the Hankyoreh, a daily newspaper published in Korea, released commemorative letters written by the family members of 119 deceased students and commemorative articles written by reporters based on interviews with the bereaved families. In particular, the Hankyoreh collated their commemorative articles over one year and published the book "We Will Not Forget" on April 13, 2015, three days before the first Sewol ferry disaster memorial anniversary. Hankyoreh's commemorative feature for the "250 grains of

mustard seeds that disappeared from the world” is considered the boldest, most compassionate undertaking in Korean media history (4/16 Family Council et al., 2015). This study compares the linguistic expressions of commemorative letters and articles on 119 students who perished in the Sewol ferry disaster written by family members and press reporters.

Theoretical background

Methods of Commemorating the Young Deceased

Commemorative writings have traditionally been centered around famous, influential, and wealthy people (Fowler & Bielsa, 2007). Consequently, they have been recognized as a social space in which people who attained distinction in their lifetime can be remembered. Commemorative texts, such as obituaries, have been most written about the deaths of public figures (Edy, 1999; Fowler, 2004; Kinner et al., 1994; Norman, 2008) or the deaths of unknown adults (Brennan, 2008; Hume, 2003; Josephi et al., 2006; Lee et al., 2014), while only a few have discussed the deaths of unknown young people who have died a tragic and unexpected death (Kim, Lee & Jeon, 2022). These studies examined the social expression of grief in commemorative articles or obituaries on the deaths of adults, which were written by reporters, not family members.

Several studies have investigated documentation methods used by bereaved families to memorialize the deceased. For example, commemorative texts (e.g., “After”) written by children to their parents, parents to their children, and spouses to their partners emphasized the emotional states of the bereaved families (Thorsson, 1999). In this regard, Árnason et al. (2003) stated that these writings were converted into the privatization of text when written in letter format by family members of the deceased. The memory of death is expressed by the media, a social recorder, but the sadness and sense of loss are also expressed openly by the families. Nonetheless, few studies have explored the comparative expression of grief in commemorative writings on the sudden “accidental death” of young students, such as what occurred in the sinking of the Sewol ferry.

The ways in which deaths are recorded, represented, and interpreted depends on who the deceased were and on their cause of death, such as whether the deceased were adults, children, seniors, infants, and whether their death was normative or nonnormative (Fast, 2003; Kitch & Hume, 2012; Lee et al., 2014; Moses & Marelli, 2003). Children’s deaths are particularly notable as they are regarded as nonnormative (Khang, Lee, & Kim, 2020; Kim, et al., 2022; Kitch & Hume, 2012). The death of a child is considered taboo and causes negative emotional responses among the public, such as anger and sadness (Lee et al., 2018). Society exhibits a collective sense of guilt for failing to protect these young victims (Kitch & Hume, 2012). The deceased child is painted as a victim, while the

people who contributed to the child's death are portrayed as villains, regardless of the reason for the death (Connor & Wesolowski, 2004).

Expression Differences among Mourners during Remembrance

Previous studies have suggested that commemorative writings recorded by family members are subjective, emotional, and personal, and that they tend to describe the family members' relationships with the deceased (Moses & Marelli, 2003). During this process, such commemorative texts are embellished with adverbs or adjectives that reflect more emotions and feelings. Thus, commemorative writings written by family members are more subjective, less specific, and are characterized by a focus on emotional solidarity, affection, and personal relationships (Árnason et al., 2003; Lee et al., 2014). Emotional expressions might be informed by family members or indicative of their values; thus, commemorative texts written by bereaved families are focused on the deceased and composed based on the bereaved family's feelings

Contrarily, commemorative articles written by reporters are more objective, realistic, and normative (Lee et al., 2014). Commemorative articles present the merits of the deceased while reducing empathy as much as possible and maintaining an isolated perspective. Such articles specifically include the deceased's name, date of death, place of death, age, and cause of death, and they recall or evaluate the deceased based on social values or virtues (Hume, 2000; Moses & Marelli, 2003). Accordingly, commemorative articles generally describe facts such as who has died, why they were significant, when and where they died, and funeral procedures. In addition, such articles record the history of the deceased's life, such as their achievements, reputation (in some cases, notoriety), characteristics, hobbies, and dreams. Special emphasis may be placed on an achievement or talent, such as the deceased being a CEO or playing the cello well (Hume, 2003).

Expressions of Grief and the Function of Language

The expression and meaning of death are transmitted through the instrument of language (Kidd, 2011). People choose and emphasize different types of language when expressing grief during mourning (Moses & Marelli, 2003). Personal or collective discourse on death is no exception—representation of the life of the deceased must be accomplished through language crafted by individuals or the media (Brennan, 2008). The language used in commemorative writings serves as an important tool for understanding society's beliefs on life and death (Moses & Marelli, 2003). Writing commemorative texts can be seen as an act of unraveling feelings about the deceased through linguistic expression. Such commemorative language eventually serves as a means of mourning, remembering, and creating meaning (Brennan, 2008). However, linguistic discourse on death is not always value-neutral (Fowler, 2013), as language relating to the expression of death cannot

bypass individual or social value intervention and bias during the representation process; the life and death of the deceased are thus reconstructed into a form that emphasizes specific value attributes and meanings (Hume, 2003). Thus, expression can be seen as an act of selecting, highlighting, and revealing language that aligns with the special meaning and value of the aspects of the deceased's life that one wishes to reveal.

Expressions of Grief in the Sociocultural Background

The sinking of the Sewol ferry is regarded as the most controversial Korean national disaster to date, as the victims were young students and the cause of the disaster and the rescue process are unclear (Kim, 2017; Lee et al., 2020; Lee et al., 2018). Adding to the shock and tragedy of the disaster was the fact that families watched scenes from the accident on live TV. Surviving family members were left to sift through their memories to uncover traces of their lost children. Simultaneously, the *Hankyoreh* newspaper documented the lives of the deceased, thereby symbolically rescuing them from the Lethe and placing them into the arms of the nation. The *Hankyoreh* newspaper published these commemorative letters and articles on the front page (sometimes on the second page) as part of the "We Will Not Forget" special project for 11 months, from June 16, 2014 to May 18, 2015. The 115 family members who wrote commemorative letters included the victims' fathers, mothers, older siblings, and other relatives.

The Sewol ferry disaster allows for comparison of the ways of expressing grief according to the cultural background of a particular society. This disaster involves the tragic deaths of many young students, and is a special case of grieving and anger not only for the bereaved parents but also for Korean society as a whole. Sociocultural differences create very different ways of experiencing and managing the thoughts and emotions with which humans respond to significant deaths (Klass & Walter, 2001; Suhail et al., 2011). The expressions used by East Asians in reference to death tend to be more emotionally laden than those in the Western societies, equating death with life and viewing death in terms of spiritual rather than personal values (Valentine, 2009). East Asian cultures emphasize the importance of continuing bonds with the dead, believing in the presence of a soul even after the body has died (Lee et al., 2014). And the deceased is seen not as someone who has departed, but as a part of a relationship of continuing bonds and reconnection, as well as constant emotional attachment (Ho et al., 2013).

Based on the above discussions, the following two research questions were proposed. The first research question aims to compare the keywords that appear in commemorative letters written by family members with those in articles written by reporters. In text, keywords are a way of inductively expressing meanings about an object. Thoughts or feelings can be expressed or emphasized through keywords in text.

- **RQ1:** In commemoration of the death of the youth who died in the 2014 Sewol ferry sinking in South Korea, what keywords are emphasized in letters from the bereaved family in comparison to articles written by reporters?

The second research question aims to show the semantic structure of the abstract event in detail through the analysis of the relationship between keywords. It is believed that the perception or meaning of a specific event can be visualized through an independent keyword network.

- **RQ2:** In commemoration of the death of a youth who died in the 2014 Sewol ferry sinking in South Korea, what meanings do the letters of the bereaved family and the reporters' articles specifically represent through the connection between the keywords?

Methods

Data Sampling

The data used for the analysis included commemorative letters written by the family members of the 119 Danwon High School students among the 250 victims who died in the Sewol ferry disaster and commemorative articles selectively written by Hankyoreh newspaper reporters following interviews with the family members. Commemorative letters were written by 81 mothers (70.4%), 10 fathers (8.7%), nine mothers and fathers together (7.8%), eight siblings (7.0%), four family members (3.5%), and three relatives (2.6%). The length of each commemorative letter varied, ranging from 84 words to 848 words. Commemorative articles were records of direct interviews with family members by two exclusive Hankyoreh reporters. These reporters' articles were consistently composed of 131–329 words. Overall, a total of 115 commemorative letters (25,598 words) and 106 articles (15,048 words) were analyzed.

Data Analysis

Semantic networks and topic modeling analysis methods, which can extract keywords from texts, are one of the useful methods for comparing and analyzing the emotions and thoughts contained in commemorative texts (Alfano et al., 2018). These two methods are known for their strength in inductively approaching expression structure and the meaning embodied in commemorative texts.

In keeping with an inductive approach, semantic network analysis is used to interpret phenomena found in networks that are constructed by marking the relationships between words with links (Popping, 2000). This analysis technique is based on the perception that language and knowledge are expressed through networks formed by word relationships. Thus, semantic network analysis is useful for examining the meanings of messages, which are exposed through the semantic association between a specific word and other words that emerge

simultaneously (Park et al., 2013; Park & Leydesdorff, 2004). A network analysis was conducted to examine the relationship between the keywords that appeared in commemorative letters and articles. A spring-embedded algorithm was used for visualization. Specifically, keywords with the most apparent tendencies to appear simultaneously with other keywords were placed in the center of the network structure, and keywords with a higher number of relationships were placed closer to each other (Kamada & Kawai, 1989). In addition, keywords with higher degrees were represented with larger symbols (i.e., based on the size of the blue square), and keywords with higher frequencies of simultaneous occurrence were marked by thicker lines between them.

The researchers discussed and selected nouns, verbs, and adjectives with meanings based on the results of the morphological analysis. The morphological analysis is an analysis of the smallest units of words, such as nouns, adjectives, and verbs, that have meaning. The final keywords were analyzed using Donohue's (1973) formula, which distinguishes between high- and low-frequency keywords, thereby allowing for the selection of high-frequency keywords. Donohue's (1973) formula is as follows:

$$n = \frac{-1 + \sqrt{1 + 4D}}{2},$$

note. where n is the number of final selected keywords and D is the total number of keywords.

The TI program (Leydesdorff, 1995) was used to create co-occurrence matrix data between the keywords selected in the above process, and Ucinet and Netdraw (Borgatti et al., 2002) were used for network analysis and visualization. In addition, for examination of the role of each keyword, degree centrality was calculated (see Table 1). Degree centrality shows the degree of a node and denotes the number of connections a node has in a network. A keyword with a higher degree of centrality has more connections with other keywords; thus, it plays a key role (Freeman, 2005).

Topic modeling is a natural language processing (NLP) algorithm that is used to find key topics such as events and issues in a large, unstructured corpus. Word extraction through topic modeling is a useful method for identifying meaningful information in large amounts of text (documents), as it is clear and does not rely on prior knowledge (Nahm, 2016). Topic modeling aims to capture and deduce topics by clustering semantically similar words. Thus, it allows for the interpretation of large amounts of text and is beneficial in discovering meaningful structures (Blei, 2012).

The topic modeling analysis procedure is as follows. First, a corpus consisting of N documents is constructed. Second, the main words (keywords) are extracted from raw data through the processing procedure. Third, a lexicon that can be called a set of X unique terms is

constructed for the extracted words. Grouping is performed based on the similarity of direct and indirect meanings of the extracted words. Fourth, a document-term matrix (DTM), which is a matrix of word-occurrence frequencies with the document as the row and the term as the column, is created. Fifth, K topics are allocated through relationships between the words that appear in each document, and an estimation is made for the set of words that constitute each topic. There are few research cases that have analyzed keywords, virtues, and values in memorial writings using data mining (Alfano, et al., 2018).

Ethical considerations

This study analyzed commemorative letters written by family members and commemorative articles written by reporters. These data do not directly analyze human thoughts and feelings, so they are subject to IRB exemption.

Findings

Findings of Research Question 1

Extracting keywords using the above formula showed that 41 out of 1,714 keywords were most frequently used in commemorative letters, occurring at least 31 times each. For commemorative articles, 39 out of 1,520 keywords were found to be most frequent, occurring at least 23 times each. As shown in Table 1, the main keywords in the commemorative letters written by one or both parents were mom (942 times), love (389 times), daughter (331 times), dad (292 times), son (292 times), dream (227 times), sorry (191 times), friend (179 times), remembrance (169 times).

The top ten high-frequency keywords had a different order of degree centrality than frequency. Specifically, keywords in the order of mom, love, daughter, dad, son, sorry, friend, dream, happiness, and remembrance were connected to many other keywords. This suggests that these keywords played an important role in the overall network structure, as they were constructed with other keywords.

An occurrence frequency analysis for the above keywords showed that words such as mom, love, daughter, dad, and son were noticeably frequent, highlighting the relationships between parents and their children. An interesting finding is that the keyword mom appeared significantly more than dad. About 70% of all commemorative letters were written by mothers, whereas 9% were written by fathers. Even considering the cases in which mothers and fathers participated together (7.8%), mothers were more active in writing remembrances. Sample excerpts from commemorative letters included:

“Son, I really miss you. You must be busy. You haven’t come to me in a dream. Please come to your mom’s dream tonight. Let me hug you just once.”

“Haehwa (Korean name)! You haven't come to my dreams yet. Are you having fun with your friends? Be sure to come into your mother's arms tonight. I miss you, Haehwa.”

“In that cold, dark, terrifying sea, would you call me your mom? Did you not hate with your mom? I am so sorry that this helpless mother couldn't do anything while looking at it. Can you forgive your mom?”

The word friend was also used often, indicating remembrance of the young students' social lives. Moreover, the frequent occurrence of the emotional words heart, mind, worry, sadness, tear, and longing symbolizes the negative emotional state of the bereaved families. In particular, the indicators of occurrence frequency and degree centrality interestingly suggest that mothers were more deeply involved in mourning their children than fathers.

In contrast, the main keywords in commemorative articles written by reporters were mom (560 times), dad (166 times), friend (144 times), Sewol ferry (141 times), daughter (128 times), Danwon High School (125 times), dream (117 times), younger brother (88 times), educational trip (80 times), and Ansan (65 times)(see Table 1). High-frequency keywords had had a different order of degree centrality than frequency. Specifically, keywords in the order of mom, Sewol ferry, dad, friend, daughter, educational trip, Danwon High School, sinking, and dream were connected to many other keywords.

The keyword analysis showed that the keywords mom and dad appeared most frequently, which aptly represents the mournful feelings of parents who were forced to let go of their children. Such characteristics are not much different from the commemorative letters written by family members. However, as shown in Table 1, the frequent occurrence of keywords that were not top keywords in commemorative letters, such as Sewol ferry, Danwon High School, educational trip, Ansan, and sinking, indicates that reporters wrote commemorative articles with a focus on the situation and subjects related to the victims' deaths.

Table 1. Occurrence Frequencies and Degree Centrality of Keywords in Commemorative Letters and Articles

Commemorative Letters						Commemorative Articles					
Keyword	Occurrence Frequency			Degree Centrality ¹⁾		Keyword	Occurrence Frequency			Degree Centrality	
	Number	% ²⁾	Rank	Number	Rank		Number	% ³⁾	Rank	Number	Rank
mom	942	8.55	1	0.161	1	mom	560	7.02	1	0.161	1
love	389	3.53	2	0.075	2	dad	166	2.08	2	0.064	3
daughter	331	3.01	3	0.064	3	friend	144	1.8	3	0.054	4
dad	292	2.65	4	0.054	4	Sewol ferry	141	1.77	4	0.075	2
son	292	2.65	4	0.054	4	daughter	128	1.6	5	0.054	4
dream	227	2.06	6	0.037	8	Danwon High School	125	1.57	6	0.037	8
sorry	191	1.73	7	0.04	6	dream	117	1.47	7	0.031	10
friend	179	1.63	8	0.04	6	younger brother	88	1.1	8	0.017	18
remembrance	169	1.53	9	0.031	10	educational trip	82	1.03	9	0.04	6
happiness	138	1.25	10	0.033	9	Ansan	65	.81	10	0.026	11
appearance	114	1.04	11	0.026	11	son	63	.79	11	0.022	13
time	108	.98	12	0.026	11	sinking	62	.78	12	0.033	9
older sister	106	.96	13	0.019	17	prayer	60	.75	13	0.019	17
heart	104	.94	14	0.022	13	family	60	.75	13	0.022	13
family	90	.82	15	0.022	13	incident	54	.68	15	0.026	11
younger brother	88	.80	16	0.017	18	school	47	.59	16	0.015	19
world	87	.79	17	0.022	13	older sister	43	.54	17	0.021	16
a day	85	.77	18	0.021	16	home	42	.53	18	0.04	6
mind	75	.68	19	0.015	19	morning	38	.48	19	0.022	13
educational trip	73	.66	20	0.015	19	birthday	38	.48	19	0.015	19
teacher	64	.58	21	0.01	28	sound	37	.46	21	0.012	24
worry	63	.57	22	0.015	19	Kyunggi	36	.45	22	0.013	22
sadness	55	.5	23	0.013	22	middle school	35	.44	23	0.011	26
travel	54	.49	24	0.012	24	study	35	.44	23	0.011	26
tear	53	.48	25	0.011	26	cell phone	34	.43	25	0.01	28
longing	50	.45	26	0.013	22	student	34	.43	25	0.012	24

Commemorative Letters						Commemorative Articles					
Keyword	Occurrence Frequency			Degree Centrality ¹⁾		Keyword	Occurrence Frequency			Degree Centrality	
	Number	% ²⁾	Rank	Number	Rank		Number	% ³⁾	Rank	Number	Rank
memory	49	.44	27	0.012	24	room	34	.43	25	0.01	28
school	48	.44	28	0.01	28	love	33	.41	28	0.01	28
heaven	46	.42	29	0.01	28	Seoho Memorial Park	31	.39	29	0.01	28
older brother	46	.42	29	0.01	28	Pyeongtaek	30	.38	30	0.01	28
voice	42	.38	31	0.011	26	teacher	30	.38	30	0.002	39
waiting	42	.38	31	0.01	28	before noon	28	.35	32	0.015	19
morning	40	.36	33	0.01	28	remembrance	28	.35	32	0.008	35
person	38	.35	34	0.008	35	text	28	.35	32	0.013	22
reminiscence	37	.34	35	0.01	28	sky	27	.34	35	0.01	28
night	36	.33	36	0.008	35	find	26	.33	36	0.01	28
story	35	.32	37	0.007	37	personality	25	.31	37	0.007	37
baby	33	.3	38	0.002	41	appearance	24	.3	38	0.008	35
reality	32	.29	39	0.006	39	parents	23	.29	39	0.006	38
elder sister	32	.29	39	0.007	37						
pain	31	.28	41	0.006	39						

- Note.*
1. The degree centrality values represent the proportion of each keyword's degree of connections out of the total number of degree connections.
 2. The commemorative letters present the proportion (ratio) of each keyword out of a total 11,013 occurrences (1,714 keywords).
 3. The commemorative articles present the proportion (ratio) of each keyword out of a total 7,980 occurrences (1,520 keywords).

Figures 1 and 2 show the visualization results of the network structure. These visualizations display keywords from commemorative letters such as mom, love, sorry, dream, dad, son, and daughter in the center of the network. The central positioning of these keywords suggests that the commemorative letters mainly consisted of parents' feelings of guilt (for not being able to do anything for their children) and longing to see their children, even in their dreams. In contrast, the network structure of keywords from commemorative articles shows words such as mom, dad, Danwon High School, Sewol ferry, daughter, home, friend, and educational trip in the center of the network. The significance of these keywords denotes that commemorative articles placed emphasis on mom

The second research question analyzed how bereaved family members and reporters semantically structure the death of a victim through keywords connection in a tribute text. The analysis results of the commemorative letters written by bereaved families was divided into five topics.

Table 2 shows the results of the second research question. Topic 1 included keywords such as mom (11.93%), daughter (3.6%), love (2.94%), dream (2.17%), and sorry (1.38%). Since these keywords describe the longing of a mother who wants to see her daughter in her dreams, the topic was titled “A mother’s longing for her daughter” (24.99%). The percentage (%) of keywords in a topic denotes the probability of simultaneous occurrences of keywords in one commemorative letter and indicates the degree to which keywords are connected to each other within each topic. Thus, keywords with larger probability values occupy a more significant position within each topic and have a higher association with other keywords. Topic 2 included keywords such as teacher (2.15%), appearance (1.79%), dream (1.73%), face (1.19%), and baby (1.07%). Since these keywords relate to the image of children who enjoyed spending time with their teacher and cultivating their dreams in school life, the topic was titled “Image of children in their school life” (19.05%). Topic 3 included keywords such as older sister (4.95%), love (2.89%), younger brother (1.77%), happiness (1.57%), and family (1.47%). Since these keywords relate to happy images of children with their siblings and families during their lifetime, the topic was named “Happy images of a loving family in the past” (32.18%). Topic 4 included keywords such as dad (8.98%), sorry (2.72%), friend (2.5%), family (2.18%), and love (2.09%). Since these keywords relate to a father’s feelings of guilt for his inability to prevent his beloved child’s death, the topic was titled “A father’s feelings of guilt” (18.46%). Topic 5 included keywords such as son (10.61%), love (2.26%), older brother (1.79%), trip (1.6%), and a day (1.29%). Since these keywords relate to the image of a family living through difficult days after losing their child, the topic was named “The family’s current state and daily pain” (5.33%).

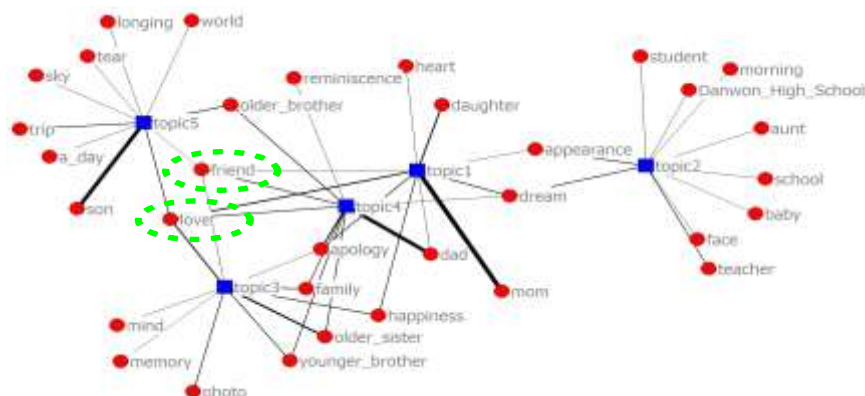
Table 2. Keywords and Composition Ratio of Commemorative Letters by Topic

Topic 1 (24.99%) A mother’s longing for her daughter		Topic 2 (19.05%) Image of children in their school life		Topic 3 (32.18%) Happy images of a loving family in the past		Topic 4 (18.46%) A father’s feelings of guilt		Topic 5 (5.33%) The family’s current state and daily pain	
Word	Percentage (%)	Word	Percentage (%)	Word	Percentage (%)	Word	Percentage (%)	Word	Percentage (%)
mom	11.93	teacher	2.15	older sister	4.95	dad	8.98	son	10.61
daughter	3.60	appearance	1.79	love	2.89	sorry	2.72	love	2.26
love	2.94	dream	1.73	younger brother	1.77	friend	2.50	older brother	1.79
dream	2.17	face	1.19	happiness	1.57	family	2.18	trip	1.60

Topic 1 (24.99%) A mother's longing for her daughter		Topic 2 (19.05%) Image of children in their school life		Topic 3 (32.18%) Happy images of a loving family in the past		Topic 4 (18.46%) A father's feelings of guilt		Topic 5 (5.33%) The family's current state and daily pain	
Word	Percentage (%)	Word	Percentage (%)	Word	Percentage (%)	Word	Percentage (%)	Word	Percentage (%)
sorry	1.38	baby	1.07	family	1.47	love	2.09	a day	1.29
happiness	1.37	school	1.07	photo	1.37	older brother	2.09	world	1.17
dad	1.29	student	0.83	memory	1.32	younger brother	2.09	sky	1.09
heart	1.23	mourning	0.83	friend	1.28	older sister	1.59	longing	1.05
appearance	1.09	aunt	0.78	sorry	1.18	reminiscence	1.13	tear	0.90
friend	1.02	Danwon High School	0.78	mind	0.93	dream	1.04	friend	0.70

The structural relationships between topics were subsequently analyzed to determine whether the topics of commemorative letters were related (see Figure 3). Keywords such as friend and love were found to link topics 1 (A mother's longing for her daughter), 3 (Happy images of a loving family in the past), 4 (A father's feelings of guilt), and 5 (The family's current state and daily pain). Such a link suggests that parents' love for their children and the image of the children who used to interact with their friends are important keywords constituting commemorative letters written by bereaved families.

Figure 3 Analysis of the Relationships between Commemorative Letter Topics



Note. 1. Circles with dotted lines represent the main keywords linking the topics.

2. Keywords with higher importance are marked with thicker lines.

In contrast, the analysis results of the commemorative articles written by reporters could be divided into three topics (see Table 3). Topic 1 included

keywords such as mom (8.32%), dad (3.35%), educational trip (2.56%), son (1.37%), and Danwon High School (1.34%). Since these keywords relate to parents' feelings of regret about the deaths of their children, the topic was titled "Parents' sense of loss from losing their children" (37.18%). Topic 2 included keywords such as dream (1.94%), Ansan (1.91%), friend (1.54%), Sewol ferry (1.26%), and prayer (1.22%). Since these keywords relate to hope that the children would safely return to their families with their friends, the topic was titled "Wishes for the children's safe return" (26.32%). Topic 3 included keywords such as mom (5.54%), cell phone (2.35%), Sewol ferry (1.75%), friend (1.65%), and school year (1.52%). Since these keywords reveal mothers' regrets and wistfulness over the last phone call they had with their children at the time of the Sewol ferry disaster, the topic was titled "Regret over the last phone call" (36.51%).

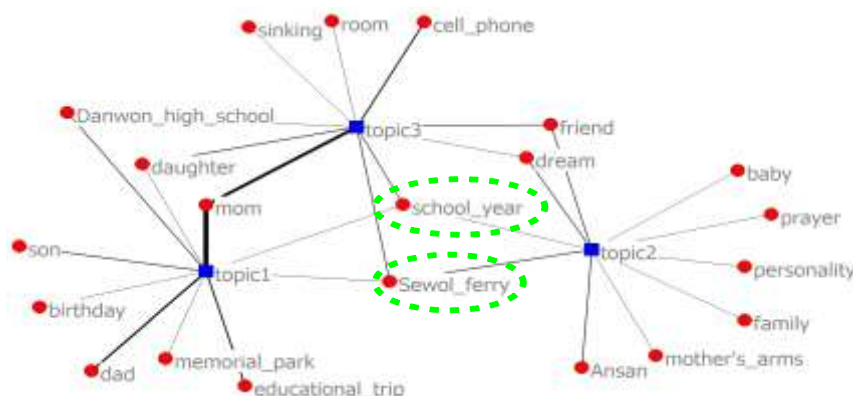
Table 3. Keywords and Composition Ratios of Commemorative Articles by Topic

Topic 1 (37.18%) Parents' sense of loss from losing their child		Topic 2 (26.32%) Wishes for the children's safe return		Topic 3 (36.51%) Regret over the last moment (phone call or text message)	
Word	%	Word	%	Word	%
mom	8.32	dream	1.94	mom	5.54
dad	3.35	Ansan	1.91	cell phone	2.35
educational trip	2.56	friend	1.54	Sewol ferry	1.75
son	1.37	Sewol ferry	1.26	friend	1.65
Danwon High School	1.34	prayer	1.22	school year	1.52
Memorial Park	1.19	family	1.04	daughter	1.27
birthday	1.19	mother's arms	0.93	Danwon High School	1.22
daughter	1.17	school year	0.93	dream	0.97
school year	1.07	baby	0.93	sinking	0.97
Sewol ferry	0.84	personality	0.90	room	0.90

Subsequently, structural relationships between topics were analyzed to determine whether the topics of commemorative articles were related (see Figure 4). Keywords such as school year and Sewol ferry were found to link topics 1 (Parents' sense of loss from losing their child), 2 (Wishes for the children's safe return), and 3 (Regret over the last phone call).

These connections indicate that commemorative articles commonly mentioned content about both the school year and Sewol ferry. These results show that commemorative articles written by reporters consistently mentioned the Sewol ferry disaster itself and emphasized the parents' recollection of the deceased's school days as their subjects.

Figure 4 Analysis of the Relationships between Commemorative Article Topics



Note. 1. Circles with dotted lines represent the main keywords linking the topics.

2. Keywords with higher importance are marked with thicker lines.

Discussion

This paper examined the terminological similarities and differences between commemorative letters and articles written by family members and reporters, respectively, about young students who died in a disaster. Semantic network analysis was conducted to compare the similarities and differences between the selected words, and topic modeling analysis was performed to compare the meanings of the overall expression of grief. Family members most frequently used the words father, son, daughter, love, sorry, and dream (with dream referring to a wish to reunite in a dream), centering on the keyword mother. Family members prominently expressed emotional language that emphasized family relationships. In the family, mothers emerged as important conveyors of grief in the memorial space. The commemorative letters emphasized maternal love, everyday memories, reunited after death, and verbal expression of subjective emotions. This shows bereaved parents' refusal to sever their connections with their deceased young children, as well as their lasting bonds with and strong attachment to their children. In particular, mothers participated as the main expression agent through commemorative letters and selectively emphasized words related to family, affection, remorse, and reunion. Family members wrote commemorative letters based on anecdotal emotions.

In contrast, reporters used the words father, daughter, friend, Sewol ferry, Danwon High School, school trip, home, Ansan (the school's location), and sinking accident most frequently, centering on the keyword mother. While the reporters emphasized family, they tended to express death by linking it with the space, object, and situation related to the accident. Reporters' commemorative articles explicitly revealed objective facts related to the accident rather than emotions and used an expression method that emphasized the growth process and merits of the young deceased, funeral procedures, and the memorial space. The reporters wrote commemorative letters from the perspective of observers who track, illuminate, and interpret the lives of the dead.

Several theoretical implications can be suggested from the above findings. First, the meaning of death is defined differently depending on the mourner. Bereaved families expressed a determination for bonding from the perspective that the death of the deceased was not an eternal end but a temporary farewell, as a reunification would take place in the next life. Reporters' commemorative articles also emphasize the importance of keeping the deceased in mind with a continuing bond. However, they more emphasized the responsibilities and obligations of society to not let the deaths of the deceased become meaningless, stating that "the deaths should never be forgotten." than the personal bond of death.

Second, the difference between individual and collective grief expressions was theoretically confirmed through the expressions of the deaths of young children. According to attachment theory (Bowlby, 1982) and continuing bonds theory (Field, Gal-Oz, & Bonanno, 2003), commemorative letters written by family members emphasized subjective, emotional, sentimental, and anxious attachment based on individual daily experiences but did not reveal social values or virtues. In contrast, constructivist theory (Neimeyer, 2001) confirmed that commemorative articles written by reporters focused more on expressing multi-faceted and explicit objective facts based on social events, institutions, and practices (Assmann, 2006). Commemorative symbolism and socio-cultural customs such as the scene of the accident and funeral space were examples of collective expression reproduced by the media.

Third, ways of expression may differ according to the nature of death. The results confirmed that, unlike natural death, which is accepted as a normal occurrence, accidental death is expressed via unbearable anger in the form of resentment, sorrow, regret, or ambivalence (Kübler-Ross, 2011). In particular, the accidental death of children, which is considered highly unnormative, is expressed through strong guilt and anger against the cause of the accident. Parents complained of their helplessness in being unable to do anything as a parent and concurrently revealed a strong determination not to forget the existence of the deceased (Barrera et al., 2013).

Lastly, the cultural characteristics of Korean society that are reproduced in commemorative writings are marked by familism, especially the strong bond between mother and child, and show high empathy toward bereavement. Commemorative records showed differences in cultural thinking habits and values about death. Commemorative letters written by bereaved families were noticeably characterized by an oriental sense of death, which included the intention to locate the deceased in pre-death situations, maintain the image of the deceased before death, restore certain places or relics related to the deceased, and pursue continuous conversations with the deceased (Hsu et al., 2004). Such an oriental concept of death was evident where the notion of samsara frequently appeared, such as expressions of the hope to see the deceased in their dreams or the use of words such as heaven or paradise. Commemorative letters reflected an oriental sense of death by attempting to constantly communicate and reunify with the deceased through the deceased's soul even after death, unlike a Western view of death, in which death is eternal and a permanent parting. South Koreans differ from Westerners in their views on death, having long lived under the influence of Confucian and Buddhist culture (Lee et al., 2014). South Koreans believe that the deceased should not to be forgotten and view them as a comforting presence that they can bond with as part of lasting relationship. They reject the notion of eternal parting, using everyday remembrance as a way of reflecting on the image of the deceased and maintaining a lasting dialogue with them. This reflects an emotional difference from the Western view, in which death is seen as a permanent parting (Rosenblatt, 2007). In addition, whereas Westerners view grief as something that should be recovered from, Koreans emphasize resilience through reconnection with the dead by reflecting on their values (Lee et al., 2014). Koreans view death not as a permanent ending, but as a passage to the Christian heaven or a process of rebirth through the paradise of Buddhism.

This study has limitations in showing the specificity of the meaning contained in the context of commemorative texts, as it quantitatively analyzed the contents of commemorative letters written by grieving families and commemorative articles that included reporters' reconstruction of what family members stated in interviews. Future studies should attempt a qualitative analysis with the same data to show how families and reporters describe the life and death of the deceased. Through qualitative analysis of texts, researchers can examine how family members and reporters express their feelings, thoughts, and emotions in a particular context. Researchers can also consider interviewing family members who reminisce about the life of a young deceased and reporters who are social death mourners to determine what kind of emotional structure they record and express.

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Conflicts of interest

The authors declare no conflict of interest.

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