

# 171. A Comparative Study on the Frame of the Science News about Novel Swine-Origin Influenza A(H1N1)–Focused on Chosun Ilbo and The Kyunghyang Shinmun

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**Abstract.** This study analyzes news reports from Chosun Ilbo and The Kyunghyang about novel swine-origin influenza A(H1N1) focusing on framing. This study is designed with content analysis as the study method. One of the predominant results of this study was that Chosun Ilbo used more expert news sources than The Kyunghyang, and reported more exact science news because of that. Chosun Ilbo and The Kyunghyang also differed in main formal news frames and content news frames according to timeing.

**Keywords:** Content analysis, News frame, News source, Novel swine-origin influenza A(H1N1)

## Introduction

As new kinds of epidemics have appeared since the late 1990s, people have increased concerns about their health. In a situation where the public can get information about a kind of epidemic from newspaper's science news, the study of science reports has become more and more important.

This study analyzes Chosun Ilbo's news and The Kyunghyang's news about novel swine-origin influenza A(H1N1) from April 27, 2009 to December 11, 2009.

This study focuses on the difference between sources for Chosun Ilbo and The Kyunghyang, and the difference of frames between Chosun Ilbo and The Kyunghyang.

## Theoretical background

### *News source of science news*

Because of the precise nature of science news, journalists covering science stories have to rely on scientists as news sources. Therefore, the selection of scientific experts in science reporting is important.

In a case study of reporting of the marijuana controversy, In Shepherd (1981) found that the media quoted as experts not primarily the most relevant and experienced researchers, but rather health administrators and highly prominent scientists, regardless of their specific field of expertise. From the perspective of journalists, it is not research productivity but other qualities that define a good public expert. Practitioners as well as senior scientists with overview knowledge and general experience may be better suited than the actual researchers in the subject matter to relate research to decision problems, to integrate different knowledge sources, and to provide contextualised expertise. Rothman (1990) has analysed possible biases in the selection of experts from a scientific community. He concludes from several case studies of expert controversies that journalists' selection of experts is biased: experts representing minority positions are usually overrepresented in the coverage. Kepplinger et al. (1991) argue that media tend to select expert sources that support their editorial policies. Goodell (1977) concludes that the media focus on relatively few 'visible scientists' and select scientific sources 'not for discoveries, for popularising, or for leading the scientific community, but for activities in the tumultuous world of politics and controversy' (Peters, 2008).

### *Frame theory*

The frame of the press reconstructs the social reality of issues (Gamson & Modigliani, 1989). According to Gitlin (1980), reconstruction of the social reality of the frame is a pattern of continuous reinterpretation going through perceptions of reality, interpretation, selection, emphasis, and exclusion. Entman (1993) also pointed out

reconstructive aspects by emphasizing the selectivity and salience of the frame. Iyengar and Simon (1993) said that in addition to studies of frame in psychological and social academia, many researchers tend to focus on research such as the story-line, symbolism and stereotypes which media appeared on media. Framing-events and issues affect how the news audience understands these events systematically (Price, Tewksbury & Powers, 1995; Price, Tewksbury & Powers, 1996).

Media frames can be summarized as ‘the core ideas that audiences are aware of the aspects and consist of to interpret and evaluate in the direction of the aspects presenting by screening which issues, presenting specific aspects of the issue repeatedly, and strengthening’ (Yang, M. S., 2001).

**Subject and method of the study**

*Subject of the study*

The source of science articles is based on the concept of the accuracy of scientific articles (Choi, Y. H., 1990). As we analyze scientific reporting, the frame is a useful theoretical background (Kweon, S. H., 2006). To compare sources and the frame of the new flu-related science news in Chosun Ilbo and The Kyunghyang Shinmun, research questions were set as follows:

[Research Questions 1] What differences are there between the sources of Chosun Ilbo and the sources of The Kyunghyang Shinmun on the new flu-related science news?

[Research Questions 2] What differences by stage are there between the frame of Chosun Ilbo and the frame of The Kyunghyang Shinmun on the new flu-related science news?

**3.2 Method of the study**

In this research, the unit of analysis was the text of a news article about the new flu. 684 news articles were analyzed from April 27, 2009 to December 11, 2009. Among them, the number of Chosun Ilbo’s news articles was 386 and the number of The Kyunghyang’s news articles was 298.

Referring to WHO epidemic alarm stage and Korean new flu epidemic crisis levels, articles were separated by three major stages (<Table 1>) and analyzed.

Analysis categories have news sources and frames. In news sources, subcategories have the kind of news source and the count of new sources. In frames, Iyengar (1991) divided frames by episodic and thematic frames. Subcategories have formal news frames, new flu generation causes frames, economic results frames, public agenda- centered frames, and disaster recognition frames.

This study used quantitative content analysis.

Frame analysis can be divided into the deductive approach method and the inductive approach method (Semetko & Valkenburg, 2000). In this research, using the deductive method, news frames were analyzed.

**Table 1. Date and the Count by the Stage**

Stages	Date	The Count of	Total
The Count of		Chosun articles	Kyunghyang articles
The first stage	2009.4.27 ~ 7.20		110
109		219	
The middle stage	2009.7.21 ~ 11.2		213
127		340	
The intensive stage	2009.11.3 ~ 12.10		61
60		121	

**Results of the Study**

Sources of the new flu news

The analysis result of news sources of the new flu news are shown in <Table 2>. Chosun Ilbo used more Korean University news sources than The Kyunghyang, and The Kyunghyang used more anonymous and others, foreign media, and foreign government • administrative organizations news sources than Chosun Ilbo. Thus, Chosun Ilbo used fewer anonymous news sources and more Korean University news sources than The Kyunghyang. Therefore Chosun Ilbo used more expert news sources than The Kyunghyang.

Table 2. News source analysis results (plural check)

News sources News Media	News Media			News sources	
The Korean government Administrative Organizations	Chosun Chosun	Kyunghyang Kyunghyang		Chosun	
	289 4 (40.4%) (1.1%)	212 (35.9%) (0.7%)		Foreign Companies	8
Korea Universities		72	23		Foreign Research
	(10.1%) (3.9%)		institutions	(0.3%)	(0%)
Domestic Companies 1 0		32	19		Foreign public
	(4.5%) (0.1%)	(3.2%) (0%)			
Domestic Research institutions	0	2		Foreign Researches	
	(0.4%) (0.3%)		Councils societies	(0%)	(0.3%)
Domestic public Others 10		7	0		Foreign
	(0.8%) (1.4%)	(0%) (0.2%)			
Domestic Researches	6	6		35	33
	International				
Councils societies	(0.7%) (1%)		Organizations	(4.9%)	(5.6%)
Domestic Others 1 1		49	27		Domestic media
	(6.9%) (0.1%)	(4.6%) (0.2%)			
The foreign government Administrative Organizations	51 58 (7.1%) (8.1%)	66 75 (11.2%) (12.7%)		Foreign media	
Foreign Universities Anonymous and		2	1	89	118
	(0.3%) (0.2%)		Others	(12.4%)	(20%)
Total 715 590		715	590		Total
	(100%) (100%)	(100%) (100%)			

Frames of the new flu news

Formal news frames: The analysis result of formal news frames are shown in <Table 3, 4>. Formal news frames had many episodic frames (48%). Both newspapers have many episodic frames, and The Kyunghyang has more thematic frames (43.6%) and episodic frames (51%) than Chosun Ilbo. In the first stage and the middle state, episodic frames were 50.7% and 50.9% respectively, and their percentages were high. In the intensive stage, the percentage of thematic frames (38%) was higher. Chosun Ilbo had more episodic frames than The Kyunghyang and The Kyunghyang had more thematic frames than Chosun Ilbo in the first stage. The Kyunghyang had more thematic frames and episodic frames than Chosun Ilbo in the middle stage and the intensive stage.

Content news frames: The analysis results of content news frames are shown in <Table 5>. Content news frames were public agenda-centered frames (77.9%), disaster recognition frames (68.1%), new flu

generation causes frames (19.7%) and economic results frames (10.5%) in descending order. Chosun Ilbo had more all content news frames than The Kyunghyang. Content news frames had many public agenda-centered frames in all stages, had many economic results frames (11%) in the first stage and had many new flu generation causes frames (22.1%), public agenda-centered frames (85%), and disaster recognition frames (71.8%) in the middle stage.

**Table 3. Formal news frames analysis results by the stage**

		Stages		
		The first stage	The middle stage	
Formal news frames	Thematic Frames 46	The intensive stage		
		85	109	
		(38.8%) (38%)	(32.1%)	
	Episodic frames 43	111	173	
		(50.7%)	(50.9%)	
(35.5%) Nothing			23	
58		32		
		(10.3%)	(17%)	
(26.5%) Total		219	340	
121				
		(100%)	(100%)	
		(100%)		

**Table 4. Formal news frames analysis results by the stage and news media**

		Stages				
		The first stage		The middle stage		
		The intensive stage				
		News media		News media		
		News media				
Formal news frames	Thematic Frames	Chosun	Kyunghyang	Chosun	Kyunghyang	Chosun
		Kyunghyang				
	38	47	56		53	
	17	29	(26.3%)	(41.7%)		
Episodic frames	(34.5%)	(43.1%)				
	(27.9%)	(48.3%)				
		57	54	102		71
		16	27			
		(51.8%)	(49.5%)	(47.9%)	(55.9%)	
		(26.2%)	(45%)			
Nothing		15	8	55		3
28		4				
		(13.6%)	(7.3%)	(25.8%)	(2.4%)	
(45.9%)		(6.7%) Total	110	109		
213		127		61		60
		(100%)	(100%)	(100%)	(100%)	
		(100%)	(100%)			

**Table 5. Content news frames analysis results by the stage (plural check)**

Content news frames

New flu generation causes frames  
Economic results



## Conclusions and Implications of the Study

### Conclusions

This research focused on exploring whether there are differences in sources and frames of science news through content analysis of Korean newspapers. As a result of statistical analyses, Chosun Ilbo used more expert news sources than The Kyunghyang and reported more exact science news due to more expert news sources. Formal news frames had many episodic frames. Both newspapers had many episodic frames, and The Kyunghyang had more thematic frames and episodic frames than Chosun Ilbo. In the first stage and the middle state, the percentage of episodic frames was high. In the intensive stage, the percentage of thematic frames was higher. In the first stage, Chosun Ilbo had more episodic frames than The Kyunghyang and The Kyunghyang had more thematic frames than Chosun Ilbo. In the middle stage and the intensive stage, The Kyunghyang had more thematic and episodic frames than Chosun Ilbo. Content news frames were public agenda-centered frames, disaster recognition frames, new flu generation causes frames, and economic results frames, in descending order. Chosun Ilbo had more all content news frames than The Kyunghyang. Content news frames had many public agenda-centered frames in all stages, many economic results frames in the first stage, and many new flu generation causes frames, public agenda-centered frames and disaster recognition frames in the middle stage.

Korean newspapers should use professional scientists as more sources and decrease anonymous sources in order to cover more accurate science news.

Chosun Ilbo and The Kyunghyang changed in main formal news frames and content news frames according to the time period. Korean newspapers saw the same themes as a different frame according to the time period.

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