

# The Framing of Fossil Fuels and Climate Change: Coverage of Environmental Issues in Three of the Nation's Top Newspapers

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## Abstract

*This is a study of the of the country's top newspapers, USA Today, The New York Times, and The Washington Post, that examined their coverage and framing of environmental issues from 2008 to 2011. Specifically, issues relating to fossil fuels and climate change were analyzed. A sample of stories was gathered using NewsBank's Access World News database and coded for length, prominence, obtrusiveness, tone and framing. A content analysis of the stories helped to compile findings that painted a clear picture of each paper's coverage of these issues. Results showed that the Times and Post published many more stories on climate change issues than did USA Today. Though USA Today had fewer stories, it carried a wider range of frames in its coverage.*

## I. Introduction

In this country the environment has historically been looked at as a commodity that should be used for the betterment of society. While there have been people who saw the environment and nature as part of the community rather than just a commodity, those people were not in the majority. The "environmental movement" didn't really begin until the 20th century, and only in recent years has the environment, and more specifically climate change, become a mainstream issue both politically and socially. This is in large part due to a general consensus among the scientific community supported by increasing amounts of evidence that humans are indeed affecting the earth's climate. According to the EPA's website,

"For over the past 200 years, the burning of fossil fuels, such as coal and oil, and deforestation have caused the concentrations of heat-trapping "greenhouse gases" to increase significantly in our atmosphere ... as the concentrations of these gases continue to increase in the atmosphere, the Earth's temperature is climbing above past levels" (EPA 1).

As mentioned on the EPA's website the burning of fossil fuels is one of the leading contributors to climate change, and energy sources like coal and oil are now looked at in a completely different light than they used to be. Fossil fuels are obviously an important issue, not only because of their environmental impact but because of their economic consequences as well.

In response to these concerns, people's interest in the environment has grown dramatically in recent years, and in turn media coverage has increased significantly. Evidence of this can be seen by looking at the number of news stories per year concerning climate change. A NewsBank search for articles in the U.S. con-

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taining the words “Fossil Fuels” and “Climate Change” brought up 85 results for the year 2004 (NewsBank). For a little more perspective, there were 49 results from 1999 and a mere two results from 1987 (NewsBank). These figures not only show that the public is more interested in the environment than ever before, but also that fossil fuels and climate change are important issues, since they are prominent enough to be covered in the media so often.

Because the media covers these issues so often now, it is important to understand exactly how they are portrayed. This paper will examine stories from *USA Today*, *The New York Times* and the *Washington Post* in an attempt to compare coverage among popular newspapers. Media frames are defined as “the central, organizing themes that connect different semantic elements of a news story into a coherent whole to suggest what is at issue” (Cox 163). By focusing on framing and frame analysis, conclusions can be drawn concerning how these different agenda-setting media outlets want their audiences to think about climate change and fossil fuels.

## II. Literature Review

According to a recent column in *The New York Times*, journalists' coverage of environmental issues has changed significantly over the past few years. The “environmental reporting” movement became big in 2006, when energy prices were high and climbing, and Al Gore's *An Inconvenient Truth* hit theaters (Galbraith 1). Coverage of issues concerning fossil fuels, climate change and the environment exploded, with stories about companies going green, adding solar panels, etc. This trend has changed:

“This type of story is now nearing extinction. Journalists are a little less wide-eyed, and a little more picky. The cutting-edge coverage today does not typically revolve around the green-ing of fill-in-the-blank company. Instead, topics like “Who's not going green?” and “What are the difficulties of going green?” are being seen more frequently ... coverage tends to focus more on the challenges and quirks of these new technologies. How will the electric grid solve the problem of integrating large numbers of wind turbines, which don't spin when the wind doesn't blow? Will wind machines interfere with military radar? What happens if the blades get icy? And perhaps most importantly, how will the clean-energy industry, especially solar, bring its costs down far enough to become competitive with fossil fuels?” (Galbraith 1)

The fact that fossil fuels and their role in climate change have become mainstream issues in today's society, and in turn have attracted so much media attention is the basis for this paper. It is also clear that a change in coverage has occurred, and that change needs to be examined. Mass media have an effect on their audience, and this paper focuses on how news outlets can have a great influence on readers or viewers through stories about fossil fuels and climate change. Certain elements in the stories, particularly the frames and framing devices present, help paint a clearer picture of the impact that media can have on an audience.

Sociologist Erving Goffman first came up with the idea of “frame analysis,” and described frames as “a specific set of expectations that are used to make sense of a social situation at a given point in time” (Baran 299). Essentially, frames in this sense are like maps that help people make sense of reality and are what people draw on to make decisions about what they should do during some social interaction (Cox 163).

Media frames, which are the focus of this paper, are closely related to these and were developed from Goffman's theory. Media frames are defined as “the central, organizing themes that connect different semantic elements of a news story into a coherent whole to suggest what is at issue” (Cox 163).

In other words, the elements of a news story, including narrative structure, headlines, quotes, leads and others, all work together to organize or construct a reality and suggest what the issue is. Other elements involved in media framing include emphasis, exclusion, elaboration and selection. Matthew C. Nisbet put it this way:

“Frames simplify complex issues by lending greater importance or weight to certain considerations and arguments over others. In the process, they help communicate why an issue might be a problem, who or what might be responsible, and what should be done.” (Nisbet 4)

Through analyzing a news story, and looking closely at what is emphasized in the story, what is excluded and what is elaborated on, it becomes very apparent that the way the story is presented has a big impact on the effect of the article. In Author Robert Cox's words, “a similar set of facts may be perceived quite differently

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when editors chose dramatically different media frames for stories” (Cox 163). Cox goes on to talk about media framing in his book *Environmental Communication and the Public Sphere* by pointing out that different stakeholders in a certain issue often try to gain the upper hand by influencing the framing of a story rather than offering new facts (Cox 164). If that stakeholder were successful, a news frame could paint their opposition in a more negative light.

In terms of coverage of environmental issues, there are several typical frames that appear frequently. Examples of these frames include “be worried,” “environmental stewardship,” “public health,” “solutions,” “conflict,” “social progress” frames and others (Nisbet 7-22).

### **Research Questions**

This paper takes these frames, along with the ideas of obtrusive and unobtrusive coverage into consideration while examining news stories relating to fossil fuels and climate change in an attempt to understand how framing affects the coverage of the issue. More specifically this paper focuses on *USA Today*, the *New York Times*, and the *Washington Post* and asks, how are these issues covered in the newspaper industry, and, how do these individual papers frame coverage related to fossil fuels and climate change? Does one paper cover more environmental issues than another? What does the newspaper industry in general look like in terms of environmental coverage? Are there any trends or patterns that can be seen over the past few years?

## **III. Research Methods**

Focusing on media framing, this study intended to find out different forms of frames that newspaper stories adopted on the environmental issues of fossil fuels and climate change. To analyze news stories for this purpose, this study employed content analysis. The content analysis method was chosen because it is the best method for gathering and impartially analyzing the data from the stories. Content analysis is “a research technique for objective, systematic and quantitative description of the manifest content of communication” (Rosenberry 42). The author categorized news content systematically using a set method of coding, which would allow researcher’s personal opinion not to taint the results. The author also draws on not just quantitative analysis methods, but qualitative ones as well in order to fully analyze the content for media frames and tone (Rosenberry 62-63).

Through analyzing a news story, and looking closely at what is emphasized in the story, what is excluded and what is elaborated on, the study is able to detect a big impact the way the story is presented has on the nature of the article. To select stories for analysis, the author utilized NewsBank’s Access World News database (Newsbank), which allows users to search for a variety of things, including terms, words and phrases in stories. Users can specify a date range, and specific terms, as well as specific sources.

Stories published by three major newspapers between 2008 and 2011 were examined to see whether the following terms appeared somewhere in a newspaper story: “climate change,” “fossil fuels” or “global warming” somewhere in the text or in the lead paragraph of the story; or both “fossil fuels” and “climate change” somewhere in their text (see Table 1).

After that, each newspaper (*New York Times*, *USA Today* and the *Washington Post*) was examined on a more qualitative level. A search was run on each newspaper’s website for “fossil fuels and climate change,” and the most recent 10 stories that came up in the search were selected. These stories covered topics, such as renewable energy, auto emissions standards and governmental policy to name a few.

Only news or feature stories were selected, not opinion pieces because opinion authors intentionally set out to sway an opinion, so they could not be analyzed for framing and tone. On most of the websites, stories fitting these criteria were from as recent as April 2011, to well back into 2010.

Selected stories were divided into three groups: a short story with around 200-400 words, a medium story with around 500-900 words and a long story with 1000 words or more. The selected stories were also analyzed to see whether they were prominent and obtrusive or not. Whether or not a story was prominent was based on recognizable names, organizations and other prominent, outstanding things (think Obama, etc.). Obtrusiveness was based on whether or not the subject of the story had a *direct* impact on people’s lives; a policy change wouldn’t count as obtrusive, but a natural disaster would. A policy change would not count as obtrusive because although it does impact lives in some ways, that impact isn’t typically direct and immediate.

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After framing categories of each story were recorded, they were analyzed for the direction of tone: positive, negative and neutral. Tone of a story was based upon the number of sources in support of and against an issue, phrasing and wordage in the first six paragraphs, and headlines.

## IV. Findings

### General findings in content analysis

Table 1 reveals some critical information regarding the number of stories containing each of the aforementioned search terms that appeared in three U.S. Newspapers through the NewsBank's database. These numbers shed some light on how the issues have been covered by print media in general over the past few years.

**Table 1. Number of stories by three U.S. newspapers**

Year	2008	2009	2010	2011
<b>Search terms:</b>				
CC*/All Text	54,467	62,584	50,592	10,091
CC/Lead	5,788	8,860	5,401	843
FF*/All Text	20,046	16,406	16,082	3,741
FF/Lead	1,733	1,247	1,186	238
FF and CC/All Text	4,446	5,208	4,066	756
GW*/All Text	65,582	50,797	32,683	6,137
GW/Lead	10,964	8,981	5,122	878

Note: \* CC stands for climate change; FF, fossil fuels; and GW, global warming.

In general, the phrase "climate change" has begun to appear more than the phrases "fossil fuels" or "global warming" somewhere in the text of stories over the years. In 2008, "climate change" appeared 54,467 times, and "fossil fuels" appeared 20,046 times while "global warming" appeared 65,582 times. In 2009, these numbers were 62,584, 16,406, and 50,797 respectively. In 2010, searches yielded 50,592 stories containing "climate change" somewhere in the text, 16,082 stories with "fossil fuels" somewhere in the text and 32,683 somewhere in the text.

Climate change was covered more in 2009 than any other year, but fossil fuels were a bigger topic in 2008 than any other year. Global warming saw the most coverage in 2008, as well, and the number of stories with the phrase somewhere in the text fell drastically from 2008 to 2010, going from 65,582 stories to 32,683 stories. This was a much bigger change than either of the other two phrases experienced. The number of stories containing both the phrase "climate change" and "fossil fuels" stayed fairly consistent, peaking at 5,208 in 2009. It is also important to note that patterns stayed consistent on a national scale, with results correlating to numbers found on the individual paper level in terms of phrases appearing in the lead paragraph or just somewhere in the story. For instance, every year there were more stories with "climate change" somewhere in the text than there were stories with "climate change" in the lead paragraph, etc.

The searches performed on NewsBank proved extremely useful in providing data concerning general newspaper coverage of "fossil fuels" and "climate change" during the past three and a half years. The 28 searches per paper yielded some important information. For all years, every search yielded similar results: *USA Today* produced the fewest number of stories, followed by the *Washington Post*, and then the *New York Times*.

The same trend could be found through stories of each newspaper, as shown in Table 2. For instance, in 2008 NewsBank turned up 244 *USA Today* stories with "climate change" somewhere in the text, 766 *Washington Post* stories and 868 *New York Times* stories. The same searches for the year 2009 yielded

423 *USA Today* stories, 1,056 *New York Times* stories and 939 *Washington Post* stories. The year of 2010 yielded similar results, with 451 *USA Today* stories, 760 *New York Times* stories and 669 *Washington Post* stories, and so far for 2011 results fit the mold.

Searching for stories that contained the phrase “fossil fuels” somewhere in the text proved to have a similar outcome. Overall, these terms were found significantly less than the phrase “climate change” in each newspaper. This was the case for each year searched. For example, in 2009, searches revealed 90 *USA Today* stories with “fossil fuels” somewhere in the text, 180 *New York Times* stories and 137 *Washington Post* stories. The same was true in 2010, with 99 from *USA Today*, 163 from the *New York Times*, and 123 from the *Washington Post*. The same pattern emerged from these searches, with the highest number of stories coming from the *New York Times*, and the fewest from *USA Today*. The same patterns continued to emerge; in every search *USA Today* produced the fewest stories containing search terms, followed by the *Washington Post*, followed by the *New York Times*.

**Table 2: Number of stories in each category by year**

Year	2008			2009			2010			2011		
	USA*	WP*	NYT*	USA	WP	NYT	USA	WP	NYT	USA	WP	NYT
<b>Category</b>												
CC**/All Text	244	766	868	423	939	1056	451	669	760	84	155	188
CC/Lead	23	110	166	32	173	322	8	112	168	1	6	20
FF**/All Text	71	162	208	90	137	180	99	123	163	19	33	56
FF/Lead	5	17	34	3	10	31	2	12	32	0	4	10
FF and CC/ All Text	19	56	61	49	69	90	34	31	57	5	9	17
GW**/All Text	347	764	927	293	499	857	245	316	468	36	66	77
GW/Lead	64	125	234	45	77	259	19	46	126	3	9	20
Total	773	2000	2498	935	1904	2795	858	1309	1774	148	282	388

Note: \* USA stands for USA Today; NYT, New York Times; and WP, Washington Post.

\*\* CC stands for climate change; FF, fossil fuels and GW, global warming.

As previously mentioned, in general the phrase “climate change” appeared more often in stories than the words “fossil fuels” did. A search of the *New York Times* in 2009 yielded 1056 stories containing “climate change” somewhere in the text, and 180 stories containing “fossil fuels” somewhere in the text. The same pattern was true for all years. Not only were there differences in the number of stories containing the words “fossil fuels” versus the words “climate change,” there were drastic differences between searches in terms of where the phrases were located. A much lower percentage of stories had any of the search terms located in the lead paragraph. For instance, in 2008, *USA Today* had 71 stories that contained the phrase “fossil fuels” somewhere in the text, and 5 that had the phrase in the lead paragraph. In 2009, there were 90 stories containing the phrase somewhere in the text, and 3 that had it in the lead. The same can be said for the phrase “climate change.” In 2009, the *New York Times* had 1,056 stories containing the words “climate change” somewhere in the text, and it appeared in the lead paragraph in 322 stories. This pattern was consistent for each paper, in every year searched.

Predictably, stories that related the most to fossil fuels and climate change (i.e. those containing both phrases somewhere in the text of the story) were fewer in number than stories related solely to one issue. These stories also followed the same patterns pointed out earlier: the fewest came from *USA Today*, and the most came from the *New York Times*, with the *Washington Post* falling in between. In 2008, searches showed 19 stories containing both phrases published in *USA Today*, 61 published in the *New York Times*, and 56 published in the *Washington Post*. In 2010, the numbers were 34, 57 and 31, respectively.



The phrase “global warming” appeared more in stories than did “fossil fuels,” and also appeared more than “fossil fuels” and “climate change,” but not as often as just “climate change.” In 2008, *USA Today* produced 347 stories containing the phrase “global warming,” the *New York Times* produced 927 and the *Washington Post* produced 764. In 2010, those numbers were 245, 468 and 316, respectively.

### **Story Analysis**

Story length: *USA Today* had five medium-length stories and five long stories; *The New York Times*, four medium and six long stories; and the *Washington Post* stories, one short, three medium and six long stories.

Obtrusiveness: *USA Today* had four obtrusive and six unobtrusive stories; *The New York Times* had five unobtrusive and obtrusive stories each; *The Washington Post* had three obtrusive and seven unobtrusive stories.

Prominence: *USA Today* had three prominent and seven non-prominent stories. On the other hand, *The New York Times* and *The Washington Post* had five prominent and non-prominent stories each.

Tone: two of *USA Today* stories were positive in tone, four were neutral and four were negative. *The New York Times* had two, five and three in the positive, neutral and negative categories. *The Washington Post* had two, five and three stories.

Frames: Each story was not grouped into only one frame. Some stories had as many as three frames. Of the 10 *USA Today* stories, the “be worried” frame appeared five times, “conflict” appeared 7 times, “solutions” appeared 4 times, “environmental stewardship” appeared 4 times and “social progress” appeared 3 times. For *The New York Times*, the “conflict” frame was the most dominant, showing up in all 10 stories. The “be worried” and “solutions” frames were the closest followers, showing up three times each. For *The Washington Post*, the “conflict” frame was the most dominant, showing up in 9 of the 10 stories. The closest followers were the “solutions” frame and the “be worried” frame, showing up in five and four of the stories, respectively.

## **V. Conclusions**

The single most important finding is that the same pattern emerged in literally every search that was conducted; stories concerning climate change and fossil fuels were published most often in *The New York Times*, followed by *The Washington Post*, followed by *USA Today*. These results were consistent after 2008 up until a fourth of the way through 2011, and speak volumes about these three newspapers (this will be covered more in depth later on). In terms of the newspaper industry in general, it is clear that coverage of environmental issues has declined since 2009, and looks like it will continue to do so if stories are published at their current rate for 2011. It seems as if 2009 might have been the pinnacle of the environmental movement, considering the fact that nearly 10,000 more stories containing the words “climate change” were published than in 2008 or 2010. It is interesting to see how the number jumped from 54,467 stories in 2008 to 62,584 in 2009 and then fell back down to 50,592 in 2010. If stories concerning climate change continue to be published at their current rate for 2011, numbers indicate that the number will be very similar if not smaller than it was in 2010 (refer to Table E). The same holds true for stories containing both “climate change” and “fossil fuels” somewhere in the text; 2009 seemed to be the big year.

One interesting piece of data that didn't fit the pattern that emerged in terms of number of stories was the number of stories about global warming. Stories containing the term “global warming” somewhere in the text have decreased significantly since 2008, when 65,582 stories were published. That number fell nearly by 15,000 stories in 2009, and fell by almost another 20,000 in 2010. This year, the number is set to decrease by nearly another 10,000. This is probably because of how much of a hot button issue the phrase itself has become. Since around 2008, “climate change” has become the more accepted term for what is happening to the planet's climate, because it is the more scientifically correct term and because it more accurately describes what is happening (Conway 1). According to NASA's website,

“Global warming became the dominant popular term in June 1988, when NASA scientist James E. Hansen had testified to Congress about climate, specifically referring to global warming ... Hansen's testimony was very widely reported in popular and business media,

and after that popular use of the term global warming exploded ... But temperature change itself isn't the most severe effect of changing climate. Changes to precipitation patterns and sea level are likely to have much greater human impact than the higher temperatures alone. For this reason, scientific research on climate change encompasses far more than surface temperature change." (Conway 1)

The steady decline in the number of global warming stories since 2008 reflects the change in scientific opinion and public opinion about the phrasing. This theory was brought up earlier in the paper, and was proven right by the results.

Another issue that the numbers bring up is the fact that so few of the stories contained any of the search terms in the lead paragraph, relative to the number of stories that had it *somewhere* in the text. This suggests that the stories themselves were not necessarily *about* climate change, fossil fuels, or both, but merely mentioned them. For example, there were 62,584 stories that contained the words "climate change" somewhere in the text of the story in US Newspapers in 2009, and only 8860 stories that had that phrase in the lead paragraph. That means only around one seventh of the stories about climate change in 2009 mentioned climate change in the first paragraph, which says a lot about the coverage of the issue. Climate change is a broad topic that encompasses a lot of different things, and apparently newspaper coverage focuses mainly on topics that *relate* to climate change. The same was true for stories about fossil fuels. That begs the question, how in depth is coverage of issues relating to fossil fuels and climate change, and how do different newspapers cover those topics?

### ***Individual Newspaper Comparisons***

The results of this study do a lot to answer that question. First, however, it's important to keep several things in mind. *USA Today* is the most read newspaper in the country, with a circulation of 2,293,310 (NewsBank). The *New York Times* has a circulation of 1,126,190, and the *Washington Post* has a circulation of 732,872 (NewsBank). These are important figures when analyzing the data. For every year examined, The *New York Times* consistently produced the most stories about climate change, fossil fuels and global warming. The *Washington Post* followed closely behind. For instance, in 2009, they published 939 stories about climate change while the *New York Times* published 1056. The *New York Times* published 180 about fossil fuels that year, and the *Washington Post* published 137; this pattern held through every year searched. *USA Today* consistently published far fewer stories than either of the other two publications. This held true from 2008 to 2011, and also held for every search term. Take the year 2008, for example. The *New York Times* published 868 stories that contained the words "climate change" somewhere in the text, and *USA Today* published only 244. In 2009, the *Times* had 322 stories that contained "climate change" in the lead paragraph, and *USA Today* had only 32. For comparison, the *Washington Post* published 173.

These numbers are quite telling. The paper with the largest circulation published the fewest number of stories relating to fossil fuels, climate change and global warming. The argument could be made that the majority of newspaper readers in the country read *USA Today*, since it has the greatest circulation, which in turn means that the majority of newspaper readers in this country do not see as many stories concerning climate change, fossil fuels or global warming as they would if they read the *New York Times* or *Washington Post*. The *New York Times* has roughly half of the circulation that *USA Today* does, but during the past three years it has published more than double the amount of stories concerning these issues. The same can be said of the *Washington Post*, which has the smallest circulation of the three. This leads to speculation as to why *USA Today* doesn't choose to publish as many articles about fossil fuels and climate change; perhaps it tries to appeal to a larger audience by not publishing articles concerning what many consider to be a fairly left-wing ideal? Or, perhaps *USA Today's* reader base is more conservative than the reader base of the other two papers, and *USA Today* is trying to cater to that by publishing stories that they feel would better serve the interests of their audience.

### ***Story Analysis***

Data on the stories from the three paper's websites is telling, as well. The numbers suggest that in general, the *New York Times* coverage of fossil fuels and climate change was more balanced, more in depth and unbiased than *USA Today's* coverage, as was the *Washington Post's*. *USA Today* stories tended to be about obtrusive events, not have the element of prominence, and lean towards being either neutral or negative in tone. The framing of *USA Today* stories was also interesting, considering how many of the dif-

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ferent frames continually showed up. While the “conflict” frame showed up in seven of the stories, the “be worried” frame showed up in five, and the “solutions” and “environmental stewardship” frames showed up in four stories each. So, even though *USA Today's* coverage might not have been as in depth or unbiased, they did have the widest variety of frames evident in stories. Whether or not that is a good thing is debatable. For instance, while the “conflict” frame was the most common in stories, the second most was the “be worried” frame. This means that most of the newspaper readers in the country are being subjected to that frame when they read a story in *USA Today* about fossil fuels and climate change.

The *New York Times* and *Washington Post*, as previously mentioned, seemed to have more balanced coverage, judging from the higher amount of neutral toned stories (five each), the fact that there were an even number of prominent versus non-prominent and obtrusive versus unobtrusive stories, and the fact that the majority of stories were longer in length. In each paper's case, the “conflict” frame was the most prominent. This suggests that the element of conflict was evident in the story, meaning that at least two opposing sides were presented. This suggests that coverage was relatively fair and balanced, since most stories had this element. The flip side to this is that readers of the *New York Times* are not as exposed to as many different media frames as *USA Today* readers are when it comes to stories about climate change and fossil fuels. The *Washington Post* displayed a higher number of other frames than did the *New York Times*, but still less than *USA Today* (refer to Figure 1). The *Washington Post* also had the greatest number of stories that displayed the “solutions” frame, which could suggest that the overall feeling the newspaper has concerning fossil fuels and climate change is optimistic, or at least more optimistic than the other two papers analyzed in this survey.

### ***Limitations/future research***

Like with any study, this one was not without its limitations. There were two major ones; the first being the number of years searched on NewsBank, the second being the number of stories analyzed for in-depth analysis. A time period of only a little more than three years was searched, and those searches could have gone further back. Doing so would expose more patterns and trends, and speak volumes about the newspaper industry and the coverage of environmental issues, as well as give a better understanding of the three newspapers researched. Time constraints were the biggest factor in not researching further back for this study.

The second, and probably bigger, limitation this study faced was the fact that only 10 stories from each newspaper were analyzed. While this was enough to get an idea of the type of coverage each paper provides, a better understanding could be gained from analyzing more stories for the same elements. Time was again the biggest limiting factor in this study, and there simply wasn't enough time or resources to analyze more stories to the extent they would need to be analyzed.

In terms of future research, a study like this would be very easy to build upon. A broader knowledge could be gained by simply including more stories for analysis and extending the date range on searches.

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