

Politics and the Press: A Content Analysis of Newspaper Coverage of Hurricane Katrina

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Research Question

Hurricane Katrina, which hit the US Gulf Coast on August 29, 2005, caused immense suffering and loss of life. In the weeks afterward, two lines of criticism emerged in media treatment of the disaster:

- Government failure: Critics alleged that local and federal officials failed to prepare citizens for the hurricane and showed incompetence in addressing its aftermath.

“If the government’s job, among other things, is to provide for the safety of its citizens, then New Orleans has been a catastrophic failure.” Victor Landa, “As Long as People Suffer, Spin Won’t Stick,” San Antonio Express-News, September 11, 2005

- Social inequity: The hurricane’s victims were disproportionately poor and African-American, which illuminated long-standing inequalities and suggested to some that the government’s response was discriminatory. *“Just as the United States was embarrassed globally by its ugly tradition – racism – being exposed during the civil rights movement, it is now shamed again by [Katrina].”* Lynne Duke and Teresa Wiltz, “A Nation’s Castaways; Katrina Blew In, and Tossed Up Reminders of a Tattered Racial Legacy,” Washington Post, September 4, 2005

Was the degree to which newspaper around the country raised these critical themes in the weeks following Katrina related to the political preferences of their readers or editorial staff?

Data collection

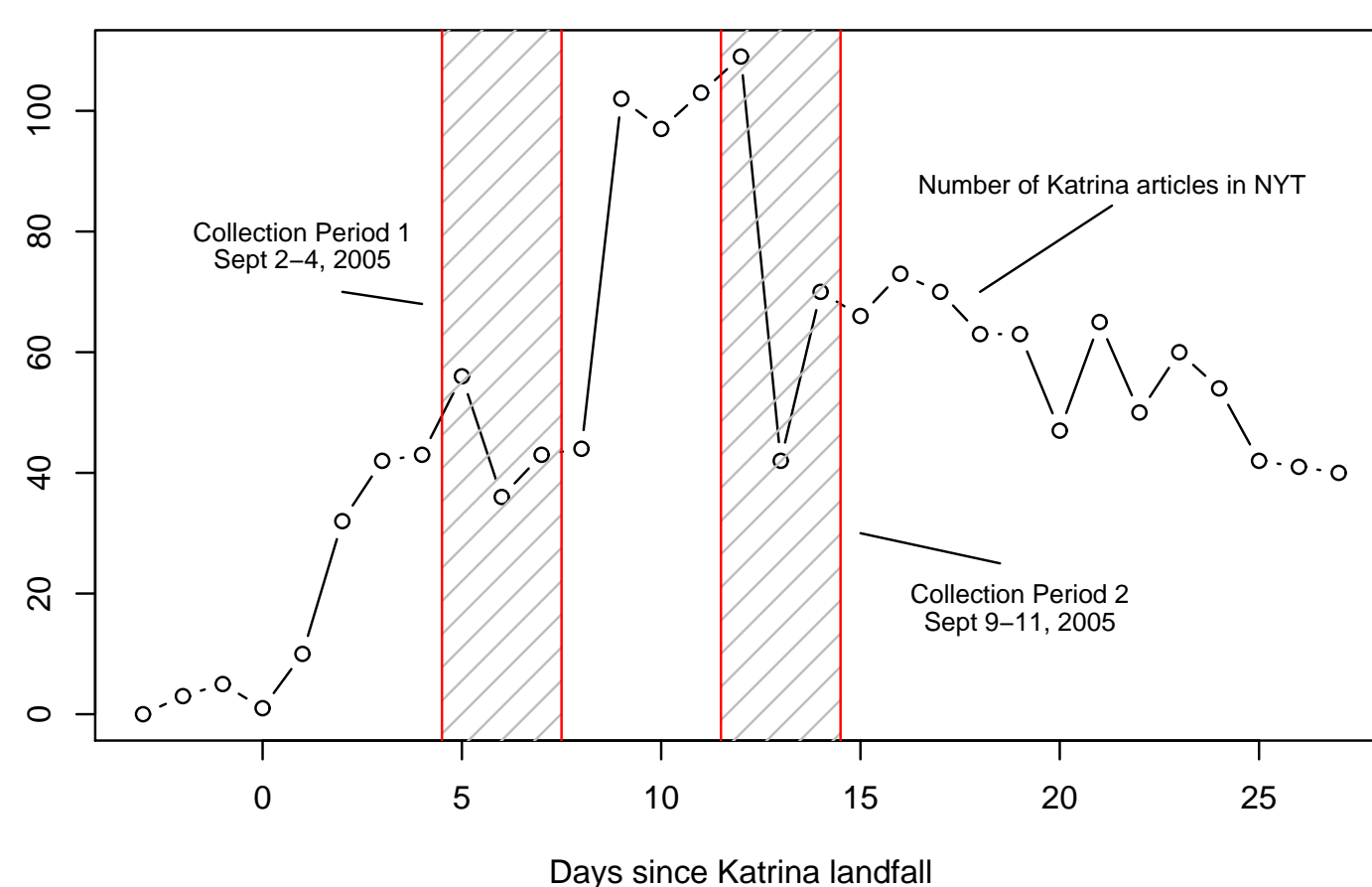
Response variables

We assessed the content of newspaper coverage by using keyword searches in LexisNexis Academic. For each newspaper, we counted the number of articles mentioning

- “katrina”
- “katrina” and either “failure” or “incompetence/incompetent”
- “katrina” and “blacks/African American”, “poor/poverty”, or “race/racism”
- “September”, a term that appeared in every article

We searched the largest 31 US papers (by circulation) available in LexisNexis. We focused attention on the first two weekends following the landfall of Hurricane Katrina: September 2-4, 2005, and September 9-11, 2005. Figure 1 shows our collection periods in relation to the number of New York Times articles mentioning Katrina per day over the first several weeks after the hurricane.

Figure 1: Data collection periods



Collecting the content data thus required 248 searches: 4 searches for each of 31 papers for each of 2 collection periods.

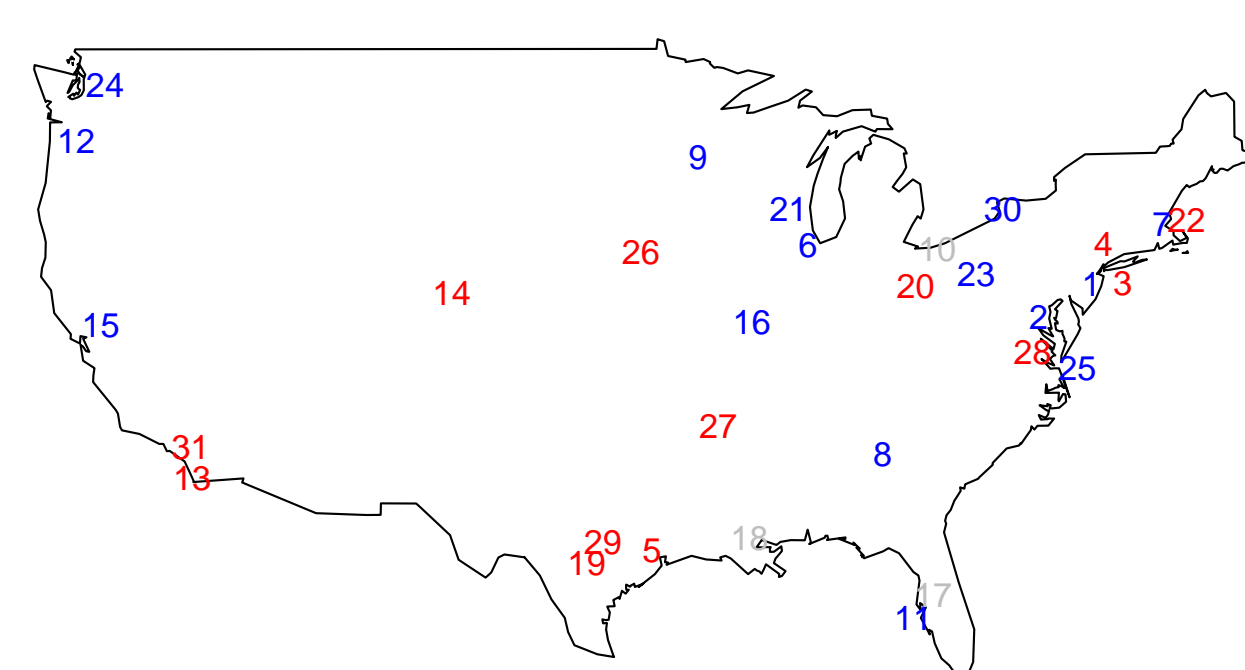
Covariates

We also collected a number of explanatory variables thought to be related to coverage of Katrina:

- average daily circulation in 2005
- newspaper endorsement in the 2004 presidential race
- vote totals in the newspaper’s metropolitan area in the 2004 presidential race
- percentage black and hispanic in the newspaper’s metropolitan area
- whether the newspaper is in tabloid format
- distance from New Orleans in miles

The following figure shows the location of the newspapers in our sample. Newspapers that endorsed Kerry in 2004 are blue, those that endorsed Bush are in red, and papers that made no endorsement are in grey. The number indicates the rank of each paper by circulation in our dataset.

Figure 2: Distribution of newspapers in sample



Threats to inference

Keyword counts from Lexis-Nexis are imprecise measures of the content of newspaper coverage:

- Coverage bias: Our dataset is restricted to newspapers in the Lexis-Nexis dataset. While the newspapers for which we have data appear to be representative of the 60 largest newspapers in terms of circulation and geographic distribution, they are not representative in terms of ownership. The majority of the missing papers were owned by three media organizations: Knight-Ridder, Gannett, and the Tribune Company.
- False positives: Many articles returned by our searches were not, on inspection, addressing the themes we were investigating. These false positives included obituaries where the deceased was named “Katrina” and articles about the New York City mayoral race that mentioned Katrina only in passing and did not discuss racial discrimination at all.
- Letters: Some papers list each letter to the editor as a separate article, while others group them into a single article. Since Katrina was the main subject of discussion in letters during these weeks, the number of apparent articles addressing these themes can vary quite widely depending on this formatting issue.
- Repeated articles: Some newspapers submit both early and late editions to LexisNexis, meaning that many articles appear twice in searches.

By focusing on binomial proportions rather than raw counts, we largely address the final two issues. We have little reason to think that the remaining measurement error is correlated with our explanatory variables.

Analysis

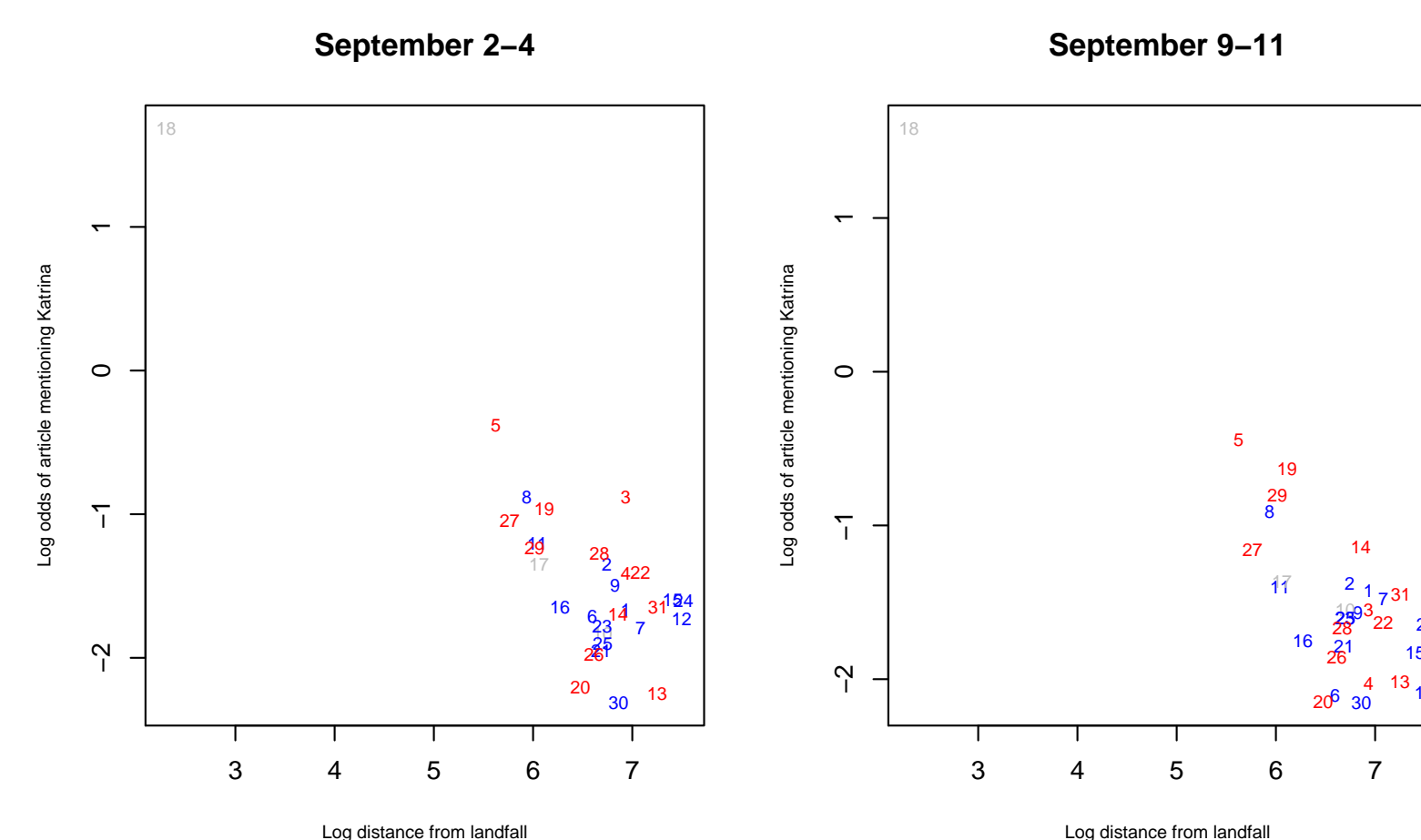
The outcomes of interest are the counts of articles meeting some criteria as a proportion of a larger set of articles. It is natural to think of each article as a Bernoulli trial (where “success” is mentioning Katrina/government failure/etc); this implies that our counts can be modeled as binomial proportions. Since it is probably not reasonable to assume that the trials are independent within a given newspaper, we expect that there will be overdispersion relative to data that was truly binomial. Therefore, we fit an overdispersed quasi-likelihood model making the following assumptions:

$$\begin{aligned}\mu(Y_i|X_i) &= m_i\pi_i(X_i) \\ \text{logit}(\pi_i(X_i)) &= X_i\beta \\ \text{Var}(Y_i|X_i) &= \sigma^2 m_i\pi_i(X_i)(1 - \pi_i(X_i))\end{aligned}$$

Coverage of Katrina

We begin by examining the baseline level of Katrina coverage. While Katrina was clearly the most salient news story during this period, there was considerable variation in resources allocated to Katrina coverage. Figure 3 shows the empirical logits for coverage plotted against the log distance from Katrina’s landfall in Louisiana. Newspapers that endorsed Kerry in 2004 are shown in blue, those that endorsed Bush are red, and other newspapers are grey.

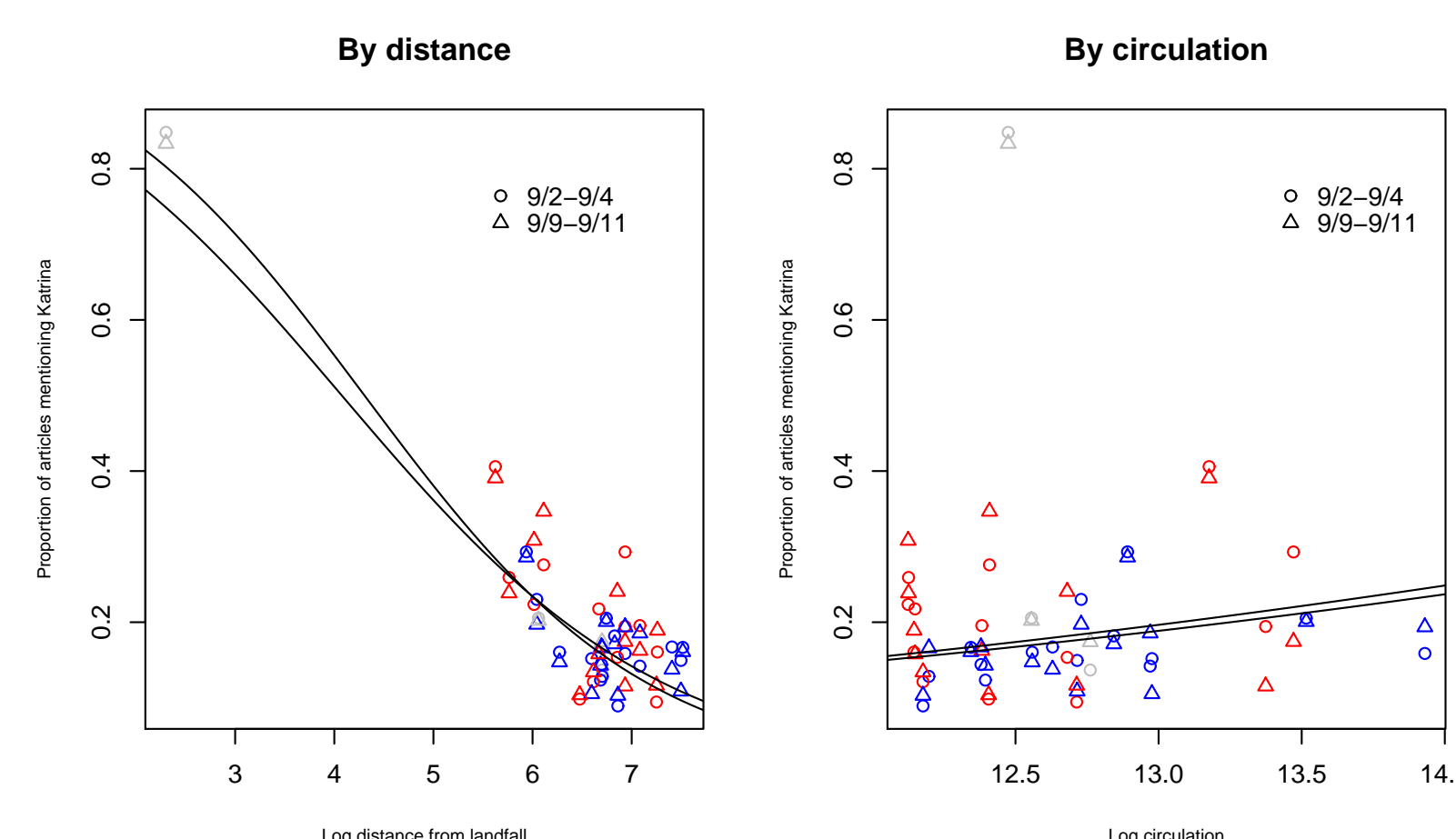
Figure 3: Katrina coverage by proximity



The *Times-Picayune* was extreme both in proximity to landfall and in the proportion its coverage dedicated to Katrina, well over 80%, but the relationship is present even without the New Orleans paper.

To model the proportion of articles mentioning Katrina, we fit overdispersed logistic regressions on log(distance), log(circulation), endorsement, and the Kerry share of the vote. The following figure shows the predicted proportions as a function of log(distance) [left] and log(circulation)[right], assuming a Kerry-endorsing paper with the other variables set at the in-sample means. Both variables were statistically significant at the 0.05 level. There is essentially no change in the predicted proportion from the first to the second weekend.

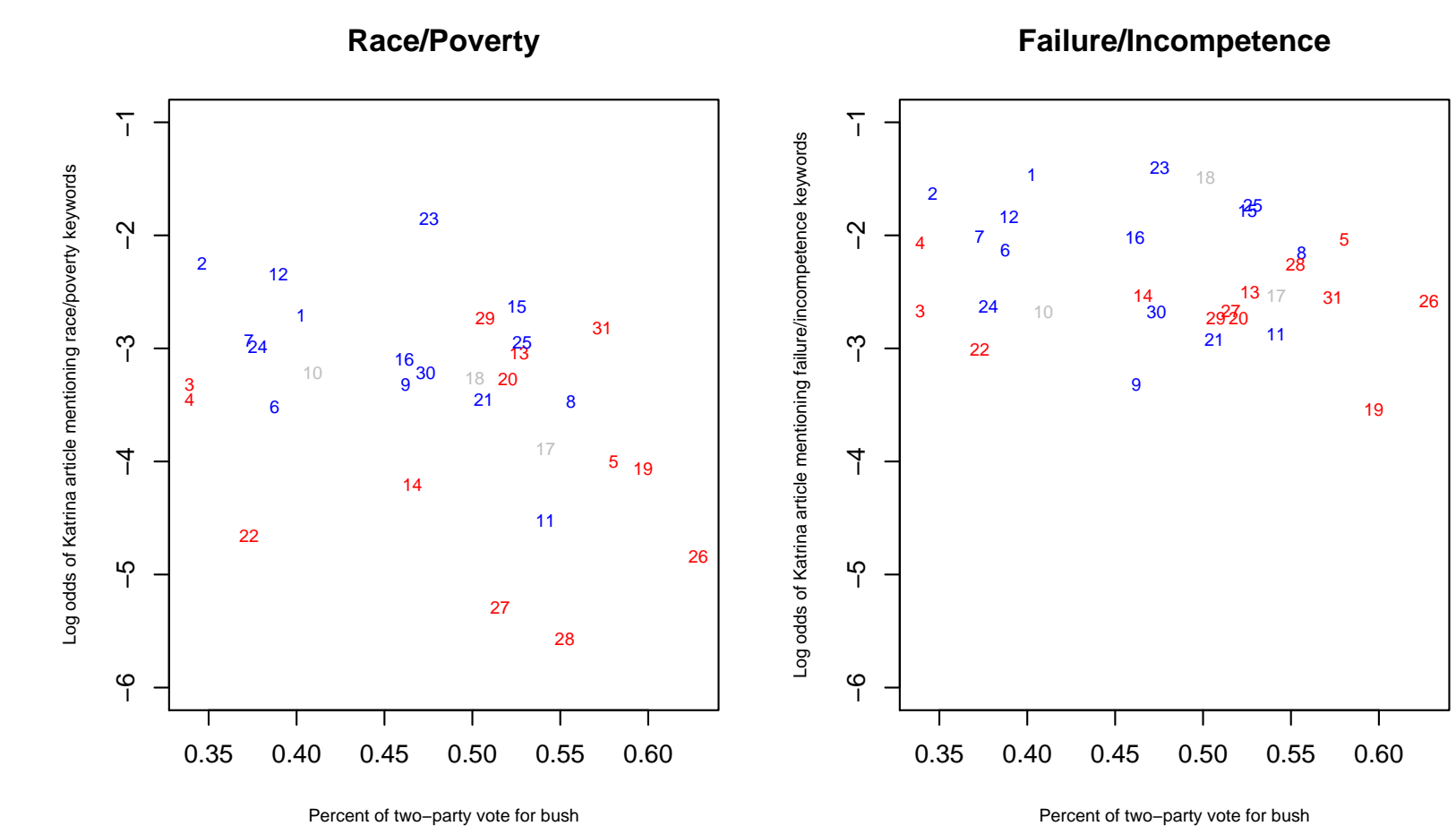
Figure 4: Predicted Katrina coverage



Content of Coverage

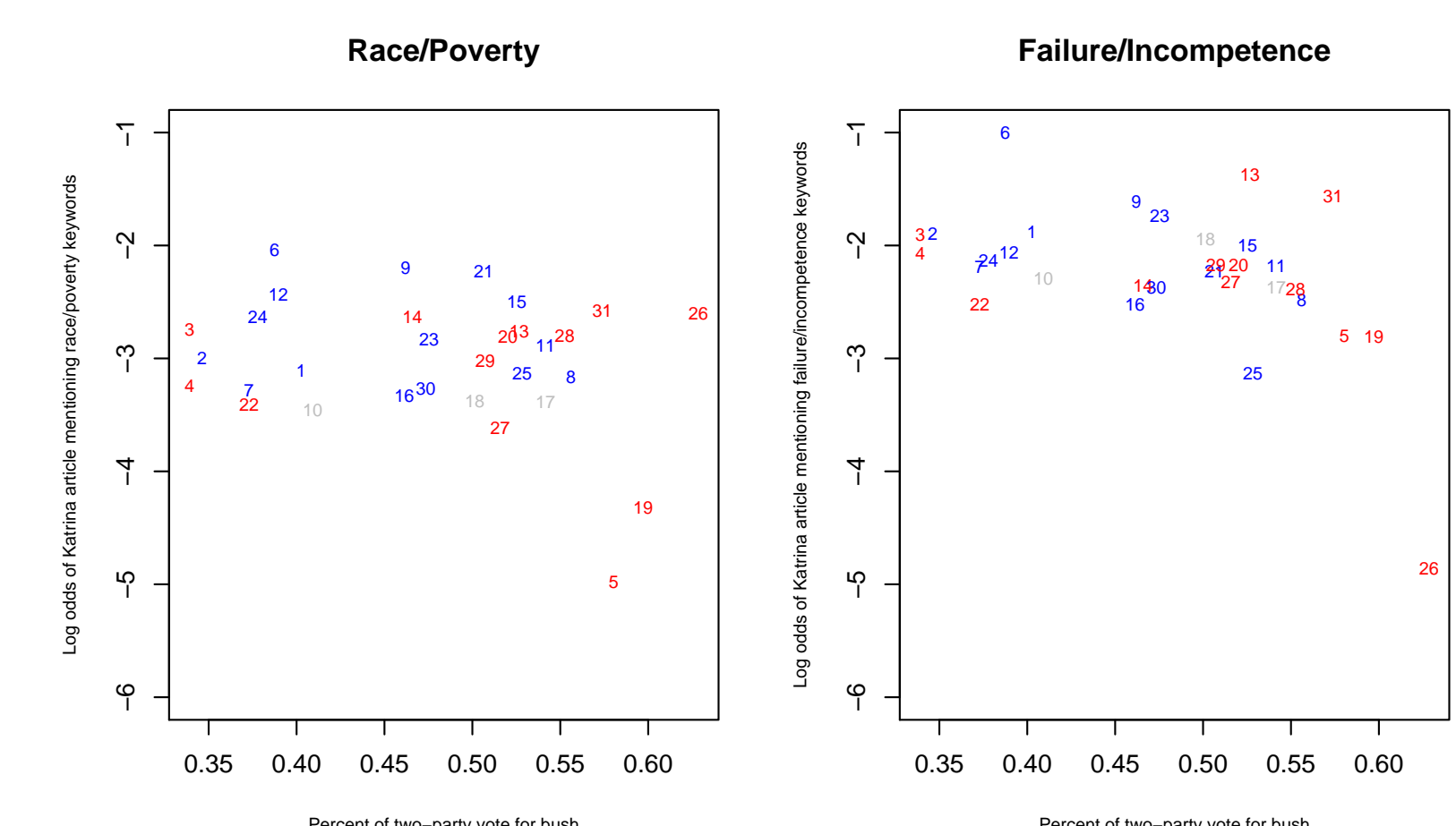
We now turn to the content of articles reporting on the aftermath of Katrina. Since we expect political factors to play more of a role in the way newspapers cover Katrina, we present empirical logit plots of the proportion of articles mentioning social inequity [left] and government failure [right] as a function of the share of votes won by Kerry in the newspaper’s metropolitan area. Again, the color of each point represents the paper’s endorsement in the 2004 election.

Figure 5: Critical themes, September 2-4



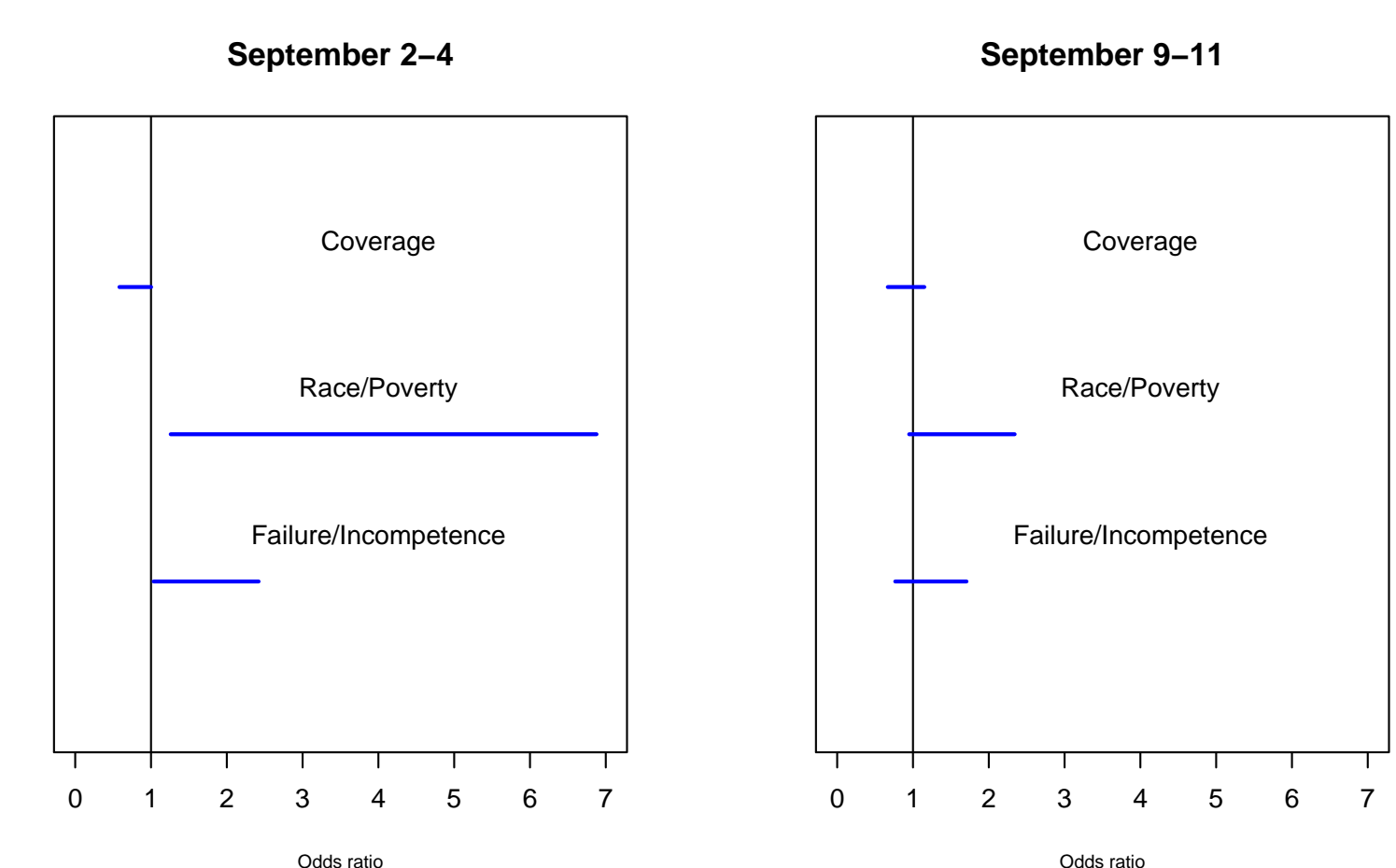
Looking at the first weekend of coverage, we observe a clear distinction between papers that endorsed Kerry (blue) and those that endorsed Bush (red), with a higher proportion of Katrina-related articles focusing on the failures of the Administration. When we look at the second weekend of coverage (below), this distinction has diminished, largely due to more critical reportage from Bush-endorsing papers.

Figure 6: Critical themes, September 9-11



As before, we model the content of coverage as a function of log(distance), log(circulation), endorsement, and the Kerry share of the vote. When we fit the overdispersed binomial model, the only variable that was consistently significant was the indicator for whether the paper endorsed Kerry. Papers that supported Kerry were more likely discuss themes of government performance after Katrina and to bring up the class and race aspects of the hurricane. The following figure presents 95% confidence intervals for the odds ratio for Kerry-endorsing papers relative to Bush-endorsing papers. This difference diminished in the second period, suggesting that the tone of coverage became more consistent in newspapers across the political spectrum.

Figure 7: Odds ratios for Kerry endorsement



In general, the other variables were not statistically significant. The estimated overdispersion parameters ranged from 1.6 to 1.8, suggesting that some correction is prudent. Aside from the evidence of overdispersion, there were no problems evident in plots of the residuals against fitted values and other covariates.

Conclusions

In this analysis of newspaper coverage of the aftermath of Hurricane Katrina, we find that the politics of the newspaper does matter, but only in the tone of the coverage, not in the amount. The resources dedicated to Katrina coverage were primarily a function of the size of the newspaper and its proximity to the affected area. The tone of the coverage, on the other hand, was affected by the political preferences of the editorial staff as reflected in their presidential endorsements in 2004. Articles in newspapers that supported Kerry for president were more likely to raise critical themes in the days immediately following landfall. This distinction appears to have diminished over time, likely as a result of the scope of the disaster and the inadequacy of the response became more apparent.