Supplemental Technical Appendix for Hayes, Danny, and Matt Guardino. 2011. "The Influence of Foreign Voices on U.S. Public Opinion." *American Journal of Political Science*.

Content Analysis of Network TV News Coverage

We conducted a systematic content analysis of network TV coverage in the months before the start of the Iraq War. We analyzed coverage on the ABC, CBS and NBC evening news programs from Aug. 1, 2002, through March 19, 2003, the day the invasion began. We used the LexisNexis database to select every story that appeared on these programs and contained the keyword "Iraq." We then dropped from the analysis any of these reports whose main focus was not the Iraq War—for example, stories about national economic conditions that mentioned the looming war briefly and in passing. This left us with 1,434 stories from *ABC World News Tonight* (411), the *CBS Evening News* (498), and *NBC Nightly News* (525).

For each report, we coded for several elements, including the directional thrust of each source's statement about a possible invasion of Iraq, which constitutes the key independent variable in our analysis here. For each source, we recorded his or her name and affiliation (if reported), and placed that source into one of 23 source categories (Bush administration, Democratic Party, Iraqi official, foreign leader, etc.). We then collapsed those designations into three broader categories representing domestic, Iraqi, and non-Iraqi foreign sources.

In coding the directional thrust of source statements, we used one of three possible codes: supportive of the Bush administration's policy, neutral, or opposed to the Bush administration's policy. A statement was coded "supportive" if it expressed a position or perspective, or communicated a piece of information, that favored the Bush administration's push for a military confrontation with Iraq. A statement was coded "opposed" if it expressed any skepticism, criticism or opposition to administration policy. A statement was coded "neutral" if it had no identifiable directional thrust.

Two points should be stressed here. First, our main criterion for directional thrust was to attempt to identify the likely implication of the statement regarding the Iraq War debate. Thus, a statement asserting or suggesting that Iraq possessed biological weapons was coded as "supportive," even if it did not explicitly advocate going to war. At the same time, any statement that cast doubt on the Bush administration's Iraq positions was coded as "opposed," even if it did not either directly or indirectly question the idea of war per se. For instance, if a source said that the administration had not yet secured an adequate coalition of allies to attack Iraq, the statement was coded as "opposed." Or, if a source said that the administration was rushing toward war precipitously, and should first seek the return of weapons inspectors to Iraq under U.N. auspices, it was coded as "opposed." Our coding scheme thus captures both "procedural" criticisms—those that criticized the way the Bush administration was going about its efforts—and "substantive" criticisms—those that directly challenged the wisdom of military action (see Entman and Page 1994; Entman 2004). The coding scheme for directional thrust of source statements was deliberately designed to be liberal, in the sense that the protocol was constructed to capture even faint signals of support or dissent regarding Bush administration policy on Iraq.

Before beginning the coding, we conducted preliminary analyses to make sure our scheme could be reliably put into practice. In that process, we resolved any discrepancies or problems with the coding instructions. As the work proceeded, we conducted two rounds of inter-coder reliability tests, double-coding 5% of all stories. For the directional thrust of each source statement, we achieved a Cohen's *kappa* rating of 0.71, within the accepted range for content analysis (Neuendorf 2002). More information about the coding scheme and reliability measures are reported in [citation omitted].

Table A-1. The Distribution of Support for and Opposition to the Iraq War from Various Sources, August 2002-March 2003 U.S. Network TV News Coverage

	Iraqi		Domestic		Foreign	
	Opposition	Support	Opposition	Support	Opposition	Support
August 1-September 11 (41 days)	1.31	0.17	2.51	4.27	1.24	0.44
September 12-October 1 (20 days)	2.35	0.05	3.45	11.25	2.25	1.25
October 2-16 (15 days)	1.53	0.20	3.33	6.27	1.87	0.13
October 17-December 3 (48 days)	1.54	0.04	0.52	3.94	0.83	0.33
December 4-January 7 (35 days)	3.83	0.20	1.00	3.89	0.66	0.03
January 8-February 11 (34 days)	4.41	0.29	3.53	14.18	5.82	2.62
February 12-March 12 (29 days)	4.72	0.03	2.76	11.34	5.13	2.86
Average	**2.79**	**0.14**	**2.17**	**7.34**	**2.41**	**1.12**

Note: Cell entries show the average number of all directional statements per day in each news period coded as opposed to or supportive of military action in all ABC, CBS, and NBC nightly news stories, broken down by source category. See the overview of the coding scheme in the Appendix, and [citation omitted], for a full description of the content analysis.

The following table presents a logit model similar to Table 1 in the manuscript. But here, we operationalize news discourse as the percentage of the three source categories' statements that were opposed to the war, instead of using raw counts. The results confirm the analysis presented in the manuscript: Increases in foreign opposition were associated with decreases in public support for military action.

Table A-2. Model with Media Variables Measured as Percentage of Statements Opposed

% Foreign Statements Opposed	-2.13**
	(0.75)
% Domestic Statements Opposed	-2.69**
	(1.44)
% Iraqi Statements Opposed	-6.68**
	(3.22)
Bush Approval	1.95**
	(0.09)
Education	-0.29**
	(0.05)
Ideology	0.20**
	(0.04)
Female	-0.34**
	(0.08)
Age	-0.02**
	(0.00)
White	0.38**
	(0.09)
Democrat	-0.70**
	(0.10)
Independent	-0.44**
	(0.14)
Days in News Period	0.00
	(0.01)
Constant	9.00**
	(3.93)
N	5,755
Pseudo R^2	0.25
Log Likelihood	-3577.79
χ^2	1136.77

**p<.05; *p<.10, one-tailed

The following table presents logit models similar to Table 1 in the manuscript. Here, we run three models that test whether public opinion is a function of the volume of coverage about Iraq, rather than the direction of different sources' statements. Our measure of volume is the total number of source statements about Iraq within a news period. We find that there is a positive relationship between the amount of coverage and public support for the war, but that the relationship disappears when the actual content of the news is included (see the second regression model). In addition, interactions between the percentages of source quotes opposed to military action and the total volume of coverage do not predict U.S. public opinion (see the third regression model). Moreover, the third model suffers from significant collinearity, which necessitates dropping the Iraqi Opposition measure. Thus, this supports our operationalization of media content in the models we present in Tables 1 and 2 in the manuscript.

Table A-3. Models Including Measure of Total Number of Statements in the News

Total N of Statements	0.0001*	-0.00	0.01
	(0.0000)	(0.00)	(0.01)
% Foreign Statements Opposed	--	-2.15**	-0.43
		(0.77)	(1.32)
% Domestic Statements Opposed	--	-2.71**	[dropped]
		(1.45)	
% Iraqi Statements Opposed	--	-6.70**	[dropped]
		(3.21)	
% Foreign Statements Opposed X Total N of Statements	--	--	-0.00
			(0.00)
% Domestic Statements Opposed X Total N of Statements	--	--	-0.00
			(0.00)
% Iraqi Statements Opposed X Total N of Statements	--	--	-0.01*
			(0.00)
Bush Approval	1.94**	1.95**	1.95**
	(0.09)	(0.09)	(0.09)
Education	-0.29**	-0.29**	-0.29**
	(0.05)	(0.05)	(0.05)
Ideology	0.20**	0.20**	0.20**
	(0.04)	(0.04)	(0.04)
Female	-0.34**	-0.34**	-0.34**
	(0.08)	(0.08)	(0.08)
Age	-0.02**	-0.02**	-0.02**
	(0.00)	(0.00)	(0.00)
White	0.38**	0.38**	0.38**
	(0.09)	(0.09)	(0.09)
Democrat	-0.69**	-0.70**	-0.70**
	(0.10)	(0.10)	(0.10)
Independent	-0.44**	-0.44**	-0.44**
	(0.14)	(0.14)	(0.14)
Days in News Period	0.02**	0.00	0.01**
	(0.00)	(0.01)	(0.01)
Constant	0.01	9.04**	0.66
	(0.25)	(3.94)	(1.04)
N	5,755	5,755	5,755
Pseudo R^2	0.25	0.25	0.25
Log Likelihood	-3577.79	-3577.79	-3577.79
χ^2	1133.79	1137.16	1137.50

**p<.05; *p<.10, one-tailed

The following table presents alternative specifications for the Table 1 model in the manuscript. In the first column, we cluster the standard errors by the news period. But as described in a footnote in the manuscript—and as shown here in the "Clustered SEs" column—this actually deflates the standard errors, something that can occur when the number of clusters (here, seven) is small. This actually makes our key variables more highly significant. But as we note, we choose to use the plain-vanilla models because they serve as a more conservative test of the hypothesis. Second, the random-effects model shows nearly identical results to what we present in Table 1. As in the paper, foreign opposition decreases support for military action in Iraq. These alternative models demonstrate that our findings in Table 1 are robust.

Table A-4. Models with Standard Errors Clustered by Survey and a Random Effects Model

	Clustered SEs	**Random Effects Model**
Foreign Opposition	-0.14**	-0.09*
	(0.00)	(.06)
Domestic Opposition	-0.03**	-0.12
	(0.02)	(0.13)
Iraqi Opposition	0.10**	0.08
	(0.00)	(0.06)
Domestic Support	0.06**	0.06**
	(0.00)	(0.03)
Iraqi Support	0.66**	0.65
	(0.07)	(0.53)
Bush Approval	1.95**	2.04
	(0.14)	(0.08)
Education	-0.29**	-0.30**
	(0.07)	(0.04)
Ideology	0.20**	0.24**
	(0.04)	(0.04)
Female	-0.34**	-0.29**
	(0.11)	(0.069)
Age	-0.02**	-0.01**
	(0.00)	(0.00)
White	0.38**	0.37**
	(0.08)	(0.08)
Democrat	-0.70**	-0.71**
	(0.09)	(0.08)
Independent	-0.44**	-0.44**
	(0.10)	(0.13)
Days in News Period	0.02**	0.01
	(0.00)	(0.01)
Constant	-0.36	-0.14
	(0.34)	(0.48)
Sigma_u	--	0.001
		(0.025)
Rho	--	3.85^{e-09**}
		(1.68^{e-06})
N	5,755	5,755
Pseudo R^2	0.25	--
Log Likelihood	-3577.79	--
χ^2/p	--	1447.84/0.00

**p<.05; *p<.10, one-tailed

The following table presents the results of a model that excludes a measure of Bush approval. As described in the paper, this adds several hundred cases to the model, because the approval measure was not included on two of the surveys. But as shown below, the results are substantively identical to the Table 1 model presented in the manuscript. Thus, the inclusion or exclusion of Bush approval does not change the findings.

Table A-5. Model without Bush Approval

Foreign Opposition	-0.21**
	(0.06)
Domestic Opposition	0.15
	(0.12)
Iraqi Opposition	0.16**
	(0.06)
Domestic Support	0.04*
	(0.03)
Iraqi Support	0.39
	(0.51)
Education	-0.32**
	(0.04)
Ideology	0.26**
	(0.04)
Female	-0.29**
	(0.07)
Age	-0.02**
	(0.00)
White	0.58**
	(0.08)
Democrat	-1.49**
	(0.08)
Independent	-0.97**
	(0.12)
Days in News Period	0.03**
	(0.01)
Constant	0.50
	(0.46)
N	6,178
Pseudo R^2	0.14
Log Likelihood	-3858.40
χ^2	706.30

**p<.05; *p<.10, one-tailed

The following table displays models with a variable for the average "directional thrust" of news coverage in each survey period. This serves as a partial test of an "event-based" explanation for changes in public opinion. The measure, taken from our content analysis of network TV news, incorporates the occurrence of events that should increase (e.g., signing of the congressional resolution authorizing Bush's use of force) or decrease (e.g., a December U.N. report that inspectors had found no weapons of mass destruction in Iraq) support for an invasion. As the average directional thrust of the news increases (indicating more favorability toward an invasion), we expect support for the invasion to increase. This is an imperfect test, because the directional thrust measure also incorporates the level of pro- and anti-war rhetoric in the news, but it should provide some sense of whether the occurrence of prominent events themselves are related to changes in opinion. As is shown in both columns, we find no relationship between events (as measured by directional thrust) and changes in opinion.

Table A-6. Model Testing for the Effect of Events on Public Opinion

	Baseline Model	**Model with PID Interactions**
Directional Thrust	-0.02	-0.42
	(0.21)	(0.33)
Directional Thrust X Democrat	--	0.75
		(0.61)
Directional Thrust X Independent	--	-0.22
		(0.64)
Bush Approval	1.93**	1.94**
	(0.09)	(0.09)
Education	-0.29**	-0.29**
	(0.05)	(0.05)
Ideology	0.20**	0.20**
	(0.04)	(0.04)
Female	-0.34**	-0.35**
	(0.08)	(0.08)
Age	-0.02**	-0.02**
	(0.00)	(0.00)
White	0.38**	0.38**
	(0.09)	(0.09)
Democrat	-0.69**	-3.26**
	(0.10)	(1.41)
Independent	-0.43**	0.30
	(0.14)	(2.18)
Days in News Period	0.02**	0.02**
	(0.00)	(0.00)
Constant	0.13	1.48
	(0.79)	(1.21)
N	5,755	5,755
Pseudo R^2	0.25	0.25
Log Likelihood	-3577.79	-3577.79
χ^2	1133.22	1135.18

**p<.05; *p<.10, one-tailed