

Three Approaches To Gauging Media Effects*

Susan Banducci (University of Exeter)
Jason Barabas (Stony Brook University)
Jennifer Jerit (Stony Brook University)
Will Pollock (Florida State University)
Martijn Schoonvelde (University of Exeter)
Daniel Stevens (University of Exeter)

September 10, 2013

Abstract

As the dominant source of political information for citizens there seems to be little question that the media matter as providers of information in politics in general and in elections in particular. But another aspect to this relationship is whether media influence political attitudes and behaviour: researchers have been hard pressed to demonstrate media effects (Mondak 1995). This paper combines the British Election Study 2005-10 panel data with Loughborough University data on the focus of media coverage and its tone during the 2005 and 2010 campaigns to compare three methods for assessing media effects on political preferences: between subjects comparisons, in which the effects of individual-level variance in aspects of media exposure are assessed; within subjects comparisons, which compare the effects of variance in media coverage for the same individual; and panel comparisons that allow us to explore responses to the same questions at different points in time and gauge the link to media exposure. The comparison of methods could yield three possible outcomes: 1) all methods produce similar results; 2) methods produce results that have a similar direction but differ in terms of statistical significance; 3) methods produce results that differ in terms of statistical significance and direction.

Keywords: media exposure, media effects, BES

*This paper is part of an ESRC funded project on “Advancing Understanding in News Information, Political Knowledge and Media Systems Research.”

For decades, researchers viewed the media as having a minimal effect on opinion and behaviour (e.g., Berelson, Lazarsfeld and McPhee 1954; Klapper 1960; Patterson and McClure 1976). Although more recent work has revised those conclusions the empirical record is mixed. For example, in the area of the media and learning (i.e., political knowledge), some studies report positive effects for the mass media while others report null or even negative effects (e.g., Becker and Whitney 1980; Robinson and Davis 1990; Mondak 1995; Eveland 2004; Craig, Kane and Gainous 2005). Not surprisingly, Larry Bartels described the state of research on media effects as “one of the most notable embarrassments of modern social science” (1993, 267).

In this paper, we take a step back to assess the extent to which different methods of gauging media effects affect the relationships that are found. We use the British Election Study 2005-2010 multi-wave panel to examine three ways of gauging the impact of media exposure on political knowledge: between subjects, i.e., by looking at the effects of variation in media exposure across respondents; within subjects, i.e., by looking at the effects of variation in media coverage for the same individual as opposed to variation in media exposure across individuals; and by using panel data to analyze the effects of media on knowledge over time. We know of no previous study, in the media effects literature or beyond, that engages in such a wide ranging comparison with comprehensive data on individuals as well as their information environments. The analysis in this paper shows that for both within-subjects comparisons and between-subjects comparisons, media content matters for vote choice but that its effect is more pronounced for the Conservative party than it is for Labour.

Previous Research

Information has been referred to as the “currency of citizenship” (Delli Carpini and Keeter 1996). Indeed, many varied theories of democracy have in common that they require citizens

to be informed about the candidates or policy proposals presented to them (e.g., Butler and Ranney 1978; Dryzek 2000). Despite competition from social media (Johnson and Perlmutter 2010; Lawrence and Rose 2010) the traditional mass media (television and newspapers) play a privileged role in enlightening citizens through their provision of news and current affairs information, despite the growth in the use of social media. As the dominant source of political information for citizens there seems to be little question that the media matter as providers of information in politics in general and in elections in particular. But another aspect to this relationship is whether media influence political attitudes and behaviour, and here researchers have been hard pressed to demonstrate media effects (Mondak 1995).

In this paper, we focus on media effects in the two most recent British elections. Previous research on the influence of media in Britain has echoed findings elsewhere in mixed views of media effects. Media coverage in Britain may change economic perceptions (Gavin and Sanders 1997, 2003; Sanders, Marsh and Ward 1993) and, when the allegiance of some newspapers changed between 1992 and 1997, appears to have had a large impact on vote choice (Newton and Brynin 2001; Ladd and Lenz 2009). More typically, in the absence of clear evidence of media persuasion, some studies have maintained that newspaper reading can reinforce existing political preferences (Newton and Brynin 2001). On the other hand, media effects in British elections seem quite limited (Andersen, Tilley and Heath 2005; Norris et al. 1999). The picture has often been of a disconnect between what the media highlight in elections and what the public considers important (Miller 1991; Butler and Kavanagh 2005; Norris 2006, see e.g.,). The result is that research on elections often ignores a media impact entirely (Norris 2006).

Despite such attitudes and the sparse evidence, there is a growing recognition of the possibility of media effects in British elections. British consumption of news media is high: about nine in ten people (89%) reported using television as their main source of information on political issues during the 2005 general election campaign and more than half (54%) said

they read their local newspaper for the same purpose (Electoral Commission 2005, 31). Most national newspapers in Britain are partisan and take a clear and explicit party line in their editorials and their reporting of daily news (Newton and Brynin 2001), albeit the strong pro-Conservative bias of many newspapers in the 1980s has dissipated without being replaced by equivalent sentiment towards New Labour (Bartle 2005) or latterly towards David Cameron and his coalition government.

Studies of British media effects tend to focus on associations between audience usage of media, particularly different press sources, and attitudes and behaviour, rather than coverage and content—the kinds of stories that appear in an individuals newspaper. More recently, however, Stevens et al. (2011), Stevens and Karp (2012) and Stevens and Banducci (2013) have linked the content and tone of media coverage with the priming of issues such as Iraq and of aspects of leaders characters in the 2005 election, and with choices in the 2011 parliamentary voting system referendum. These studies are, however, all reliant on between-subjects comparisons. Studies of media effects on political knowledge suggest that news stories containing policy dense information tend to have the largest impact on stores of political knowledge (Jerit, Barabas and Bolsen 2006); hard news (in contrast to soft news) will be more influential (Curran et al. 2009); and that salience, prominence (Barabas and Jerit 2009) and evaluative tone (Jerit, Barabas and Bolsen 2006) also affect influence. Furthermore, policy relevant actors as representatives of political parties are likely, when relied on in news stories, to link information in news stories to party positions.

Gauging Media Effects

In this paper we examine three ways of gauging media effects in the 2005 and 2010 elections:

1. *Between-subjects comparisons*: the typical survey-based media exposure measure asks respondents to characterize their news acquisition behaviour (e.g., “How many days

a week do you watch news on TV?”), which has obvious limitations, such as the inability to discern what kind of information respondents were exposed to (e.g., news vs. sport). As a result, researchers have begun to ask media specific measures of exposure (e.g., regarding exposure to particular outlets or even news programs). In these studies, the researcher links survey responses about media use to the content appearing in those media sources (Barabas and Jerit 2009; Stevens et al. 2011; Stevens and Karp 2012) The new variant of the media use question has many advantages, the most important of which is the ability to link individual respondents with the media content they were likely exposed to (Druckman 2005, see for discussion). Nevertheless, this approach entails a “between-subjects” comparison—in this case, the comparison is between respondents with varying levels of media usage for particular outlets—but media usage is not randomly assigned, which means that high and low media users (even of the same outlet) likely are different on any number of dimensions. If relevant variables are omitted in the empirical analyses, the purported relationship between media exposure and the outcome might be spurious in general, and biased or inconsistent in particular (Morgan and Winship 2007; Pearl 2009)

2. *Within-subjects comparisons*: within-subjects comparisons seek to address that weakness by comparing the same survey respondent to him or herself (in a technique known more formally as within-survey/within-subjects comparisons). For example, Barabas and Jerit (2009) draw upon nationally representative cross-sectional surveys that ask respondents multiple questions about a single political event (e.g., a battery of questions about proposals outlined in the Presidents State of the Union address). Importantly, in that study there was variation in the amount of media coverage devoted to different aspects of the same news event. Regardless of the individual-level differences that explain variation in the dependent variable (education, income, etc.), for any given individual, differences in the outcome measure can be attributed to varying levels of

media attention. The within-subjects comparison approach retains the strengths of a natural experiment (examining people learning in the actual world), while improving the ability to make causal inferences about media influence. When paired with media content, within-subjects comparisons are a very powerful method of estimating media effects.

3. *Panel comparisons*: instead of making a within-subjects comparison across similar questions at the same moment in time (i.e., in the same survey), panel methods examine responses to the same question at different moments in time (Ladd and Lenz 2009; Levendusky 2011). Panel data have other advantages (e.g., decomposing variation into a between-subjects and a within-subjects component), but they require more advanced statistical techniques, such as corrections to the standard errors of estimates in order to account for the panel/longitudinal nature of the data.

Hypotheses

As noted above, the main aim we have in this paper is to thresh out the independent effect (if any) media content may have on vote choice in the 2005 and 2010 elections, as well as the change in vote choice between these two elections, employing different methods of gauging media effects. We define a “media effect” as change in an outcome variable—in this case vote preference—that would not have occurred in the absence of exposure to media. In particular, we study if relative visibility in national newspaper coverage of either Labour or the Conservatives predictably moves around voters inclinations to vote for these parties. Furthermore, we explore if in addition to visibility the tone of the news has any impact on vote choice. To this end, our hypotheses are as follows:

- *Visibility Hypothesis*: In a comparison of individuals, as Labour (the Conservatives)

becomes more visible in the news they consume, the likelihood of voting for Labour (the Conservatives) increases.

- *Tone Hypothesis*: In a comparison of individuals, as Labour (the Conservatives) is portrayed more positively in the news they consume, the likelihood of voting for Labour (the Conservatives) increases.

The following section of this paper discusses the data and the measurement of all variables in the models.

Data & Measurement

Data for this research comes from two sources. Individual-level variables are taken from the 2005–2010 BES Panel dataset. The media content variables were gathered by a team of coders in the communications department at Loughborough University. A team from Loughborough analyzed election coverage from nine daily national newspapers that we examine. They coded all articles about the election in newspapers from the front page, the first two pages of the domestic news section, the first two pages of any specialist section assigned to the coverage of the campaign, and the pages containing and facing a newspapers leader editorials for the duration of the campaign. Using the Loughborough content analysis, we operationalize party visibility from the number of stories in which at least one party actor appeared and tone of coverage of the parties from coding of the “disposition” of the actor—whether their disposition was promotional rather than defensive, offensive, or neutral.

Thus, the main independent variables in this study are *Newspaper Visibility* and *Newspaper Tone*. *Visibility* refers to the relative visibility of Labour (i.e., the number of newspaper articles mentioning at least one Labour actor minus the number of newspaper articles mentioning at least one Conservative actor). *Tone* refers to the relative tone of Labour (i.e.,

a simple difference in the number of stories in which Labour and Conservative actors are promoting themselves as coded by the Loughborough team). In addition, we control for a number of demographic variables that tend to relate to vote choice. *Education* is measured by two dummy variables, which denote low education and medium education groups (as a result of which high education individuals form the excluded category). *Gender* is measured by a dummy variable with 0 denoting women and 1 denoting men. *Labour Party Identification* and *Conservative Party Identification* are dummy variables for individuals who identify with Labour and the Conservatives respectively in 2005 or 2010. To control for income effects on vote choice we included a measure of *Income* on a 4-point income scale with 1 denoting the lowest income group and 4 the highest income group as well as a dummy variable for *Homeownership*.² *Race* is a dummy variable for which 1 denotes white respondents. *Political interest* is measured on a 4-point scale with 1 denoting the group of respondents who are least interested in politics and 4 those who are most interested at each election.

Analysis & Results

Descriptive Statistics

Table 1 displays the endorsements for all newspapers for which we have content data in both 2005 and 2010. Between 2005 and 2010 three newspapers switched endorsements from Labour to the Conservative party.

These are the *Times*, the *Financial Times* and the *Sun*. Table 2 breaks down vote choice among respondents across newspaper readership in both 2005 and 2010. These numbers show some predictable patterns. For example, readers of *The Guardian* and the *The Mirror* are more likely to vote for Labour whereas readers of the *Daily Mail* and the *Daily Telegraph* are much more likely to vote for the Conservatives.

²To enhance ease of interpretation we recoded *Income* to vary between 0 and 1

Table 1: Newspaper Endorsements in 2005 & 2010

	Conservative 2010	Labour 2010	LibDem 2010
Conservative 2005	Express Daily Mail Telegraph		
Labour 2005	Times Financial Times Sun	Mirror	Guardian
LibDem 2005			Guardian

Note: The Guardian backed both Labour and the Liberal Democrats in 2005. The Independent endorsed neither party.

Table 2 also displays the *Visibility* and *Tone* scores for all newspapers. The variables show that for pretty much all newspaper the relative visibility of Labour decreased in 2010 compared to 2005. The same applies for Tone: apart from the Mirror, all newspapers reported less positively about Labour in 2010 than they did in 2005. Tables 3 and 4 contain summary statistics and correlations for all the controls in the statistical models.

Within-Elections, Between-Subjects Comparisons

To investigate potential media effects on voting behavior using between-subjects comparisons, we first regressed vote choice on media content variables, controlling for individual-level demographic variables, most importantly party identification and pre-election vote intention. To reiterate, our *Visibility Hypothesis* posits that in a comparison of individuals, as Labour (the Conservatives) becomes more visible in the news they consume, the likelihood of voting for Labour (the Conservatives) increases. Our tone *Tone Hypothesis* is comparable and posits that in a comparison of individuals, as Labour (the Conservatives) is portrayed more positively in the news they consume, the likelihood of voting for Labour (the Conservatives) increases. We control for pre-campaign vote intentions and for party identification, meaning that the effects of visibility and tone are isolated to the campaign.

Table 5 contains the results of these logit regressions for Labour and the Conservatives

Newspaper	Readership	Visibility	Tone	Labour Vote	Labour Vote %	Cons Vote	Cons Vote %
<i>2005</i>							
daily mail / scottish daily mail	1019	46	9	169	0.17	344	0.34
daily telegraph	441	34	14	36	0.08	203	0.46
express	378	8	7	80	0.21	115	0.30
financial times	38	37	29	7	0.18	8	0.21
guardian	446	40	22	158	0.35	15	0.03
independent	205	40	14	39	0.19	16	0.08
mirror/scottish mirror/daily record	901	31	14	343	0.38	47	0.05
the sun	1107	28	25	257	0.23	216	0.20
times	444	14	16	91	0.20	102	0.23
<i>Total</i>				1781	0.30	1442	0.24
<i>2010</i>							
daily mail / scottish daily mail	500	-8	-15	57	0.11	234	0.47
daily telegraph	271	10	-29	17	0.06	145	0.54
express	109	10	-31	18	0.17	38	0.35
financial times	19	5	-15	2	0.11	5	0.26
guardian	227	16	-9	84	0.37	8	0.04
independent	68	6	-6	15	0.22	12	0.18
mirror/scottish mirror/daily record	236	-3	14	102	0.43	16	0.07
the sun	363	5	-26	57	0.16	132	0.36
times	212	12	-12	33	0.16	61	0.29
<i>Total</i>				671	0.26	908	0.35

Note: Visibility refers to the relative visibility of Labour (i.e., the number of newspaper articles mentioning at least one Labour actor minus the number of newspaper articles mentioning at least one Conservative actor) in the 2005 and 2010 elections. Tone refers to the relative tone of Labour (i.e., a simple difference in the number of stories in which Labour and Conservative actors are promoting themselves).

Table 2: Newspaper Visibility

Table 3: Summary statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
Low Education	0.16	0.37	0	1	7773
Medium Education	0.47	0.5	0	1	7773
High Education	0.37	0.48	0	1	7773
Gender	0.49	0.5	0	1	7793
Income	0.45	0.3	0	1	7793
Labour Identification	0.34	0.47	0	1	3889
Conservative Identification	0.22	0.42	0	1	3889
Satisfaction with Democracy	2.61	0.82	1	4	7311
Home Owner	0.74	0.44	0	1	7604
Race	0.96	0.2	0	1	7793
Interest in Elections 2005	3.17	0.88	1	4	7752
Interest in Elections 2010	3.3	0.87	1	4	3383

in 2005 and 2010.³ Without a doubt, the results are much different for Labour than they

³As mentioned before, the specific nature of the media consumption variables in the BES panel data allows us to link respondents' newspapers of choice with their actual content.

Table 4: Summary statistics

	LE	ME	HE	Ge	Inc	PIDL	PIDC	SD	HO	Race	EI.05
LE											
ME	-0.41***										
HE	-0.34***	-0.72***									
G	0.02	-0.04**	0.02*								
Inc	-0.14***	-0.09***	0.20***	0.06***							
PIDL	0.07***	-0.02	-0.04*	0.07***	-0.03*						
PIDC	-0.01	0.04**	-0.04*	0.03	0.09***	-0.38***					
SD	-0.01	0.00	0.01	0.01	-0.01	-0.30***	0.05**				
HO	-0.04**	0.01	0.01	0.06***	0.24***	-0.04*	0.13***	-0.02			
Race	0.06***	0.07***	-0.12***	0.00	-0.01	0.02	0.03*	-0.05***	0.06***		
EI.05	0.02*	-0.11***	0.10***	0.17***	0.08***	0.12***	0.16***	-0.07***	0.12***	0.07***	
EI.10	0.00	-0.10***	0.10***	0.17***	0.09***	0.08**	0.14***	-0.05**	0.11***	0.04*	0.62***

Note: *LE* = Low Education Dummy; *ME* = Medium Education Dummy; *HE* = High Education Dummy; *Ge* = Gender; *Inc* = Income; *PIDL* = Party ID Labour; *PIDC* = Party ID Conservatives. *SD* = Satisfaction with Democracy; *HO* - Homeowner; *EI.05* = Interest in Elections 2005; *EI.10* = Interest in Elections 2010

are for the Conservatives. Controlling for pre-campaign vote intention as well as party identification, increased *visibility* and *tone* did not have the hypothesized positive effect on vote choice for Labour. That is, respondents who have been exposed to more Labour news and more positive Labour news are not more likely to vote for Labour. In contrast, *visibility* and *tone* do have the hypothesized negative effects on vote choice for the Conservatives, both in 2005 and 2010. Respondents exposed to relatively more news pertaining to the Conservative Party and to more positive Conservative news are more likely to vote for the Conservatives.

To be able to pin down the additional leverage media content gives us on modeling vote choice, we compared the *percentage correctly predicted* observations of vote choice models with and without media content. The results of this analysis are displayed in Figure 1. The results imply good news and bad news. The good news is that we are pretty good at predicting vote choice as evidenced by the large number of observations that we are able to predict correctly, though perhaps not surprising given that we account for pre-campaign vote intentions and party identification.⁴ The bad news, however, is that adding media content

⁴The correctly predicted negatives are in the top-left cell of each table whereas the correctly predicted positives are in the lower-right cell of each table. The false negatives are in the lower-left cell and the false positives are in the upper-right cell of each table. Much of our ability to correctly predict vote choice lies

Table 5: Newspaper Content and Vote Choice in the 2005 and 2010 Elections

	<i>Dependent variable:</i>			
	Labour '05 (1)	Labour '10 (2)	Conservatives '05 (3)	Conservatives '10 (4)
Visibility '05	-0.16 (0.11)		-0.17 (0.12)	
Tone '05	0.25 (0.19)		-0.68*** (0.20)	
Visibility '10		0.20 (0.26)		-0.41* (0.23)
Tone '10		0.08 (0.14)		-0.55*** (0.16)
Labour Party Identification	1.50*** (0.33)	1.50*** (0.44)		
Conservative Party Identification			1.10*** (0.36)	1.30*** (0.38)
Vote Intention Labour '05	3.80*** (0.33)			
Vote Intention Labour '10		4.60*** (0.47)		
Vote Intention Conservatives '05			4.60*** (0.39)	
Vote Intention Conservatives '10				4.30*** (0.38)
Low Education	0.01 (0.32)	0.02 (0.53)	0.42 (0.36)	0.40 (0.51)
Medium Education	-0.05 (0.26)	0.46 (0.49)	-0.25 (0.29)	0.07 (0.43)
Gender	-0.08 (0.23)	0.17 (0.41)	0.26 (0.25)	-0.20 (0.35)
Income	0.33 (0.41)	-0.08 (0.68)	0.19 (0.44)	-0.59 (0.65)
Race	0.43 (0.75)	-0.42 (1.30)	-0.05 (0.87)	2.00** (0.99)
Constant	-3.70*** (0.95)	-3.90*** (1.40)	-2.00* (1.10)	-5.20*** (1.10)
Observations	1,167	535	1,167	535
Log Likelihood	-298.00	-103.00	-254.00	-126.00
Akaike Inf. Crit.	616.00	226.00	528.00	271.00

Note:

*p<0.1; **p<0.05; ***p<0.01

		No Media Content		With Media Content		
		Predicted Vote		Predicted Vote		
		No	Yes	No	Yes	
Labour 2005	Vote	No	697	62	697	62
		Yes	31	377	32	376
				-1	→	
Labour 2010	Vote	No	370	24	370	24
		Yes	9	132	9	132
				0	→	
Conservatives 2005	Vote	No	686	54	686	54
		Yes	23	404	23	404
				0	→	
Conservatives 2010	Vote	No	256	22	256	22
		Yes	19	238	18	239
				+1	→	

Figure 1: Percentage Correctly Predicted With and Without Media Content

to our models does meaningfully increase our ability to correctly predict vote choice. In fact, the net increase in correctly predicted observations is zero: much of the heavy lifting is being done by the individual-level predictors.

In a second step of our between-subjects analysis, we explored whether our media content variables were related to the probability that a respondent switched from not intending to vote for Labour (Conservatives) before the campaign to actually voting for Labour (Conservatives) come election time. The results of this rare events logit are presented in Table 6.⁵

The results are generally in line with our *Visibility* and *Tone* hypotheses: with the exception

with inclusion of vote intention in the models.

⁵This analysis was conducted using the ReLogit function in Zelig (Owen et al. 2012) To be sure: the models do not contain vote intention as an independent variable as vote intention is now used to construct the persuasion dummy. Apart from that the control variables are identical to the models in Table 5

Table 6: Newspaper Content and Persuasion in the 2005 and 2010 Campaigns

<i>Dependent variable: Persuasion</i>				
	Labour '05	Labour '10	Conservatives '05	Conservatives '10
	(5)	(6)	(7)	(8)
Visibility '05	-0.03 (0.12)		-0.26** (0.12)	
Tone '05	0.40** (0.19)		-0.61** (0.27)	
Visibility '10		0.48* (0.29)		-0.60** (0.25)
Tone '10		0.56*** (0.17)		-0.68*** (0.18)
<i>Controls Omitted</i>				
Constant	-3.00*** (0.63)	-2.10*** (0.65)	-1.40** (0.62)	-3.80*** (0.67)
Observations	1,499	772	1,414	560
Log Likelihood	-281.00	-92.00	-207.00	-113.00
Akaike Inf. Crit.	577.00	198.00	427.00	241.00
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01			

of Labour in 2005, *visibility* and *tone* are predictably related to campaign persuasion. Voters who have been exposed to more and more positive Labour media content, are more likely to be persuaded to vote for Labour. And voters who have been exposed to more and more positive Conservative media content, are more likely to be persuaded to vote Conservative, both in 2005 and 2010.⁶ The *tone* estimates in particular seem to be the most stable across parties and elections.

Figures 2 through 5 display simulated probabilities of persuasion across newspapers (ranked by tone) keeping constant all other variables. What these figures show is that across newspaper probabilities of persuasion are non-negligible and that the average probability of persuasion to vote Labour tends to increase with increasingly positive Labour media content. In contrast, the average probability of persuasion to vote Conservative tends to decrease with increasingly positive Labour media content, much in line with our *Tone hypothesis*. The

⁶Unfortunately, because of the way the ReLogit function stores model results we were not able to replicate Figure 1 for campaign persuasion.

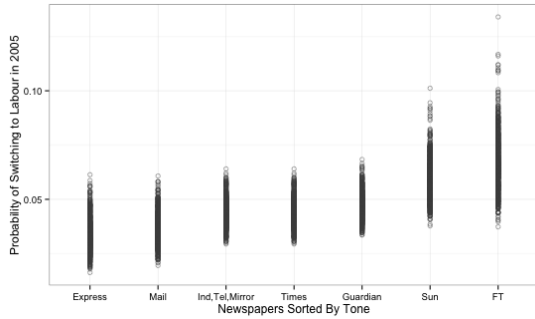


Figure 2: Probability of Switching to Labour Across Newspapers in 2005

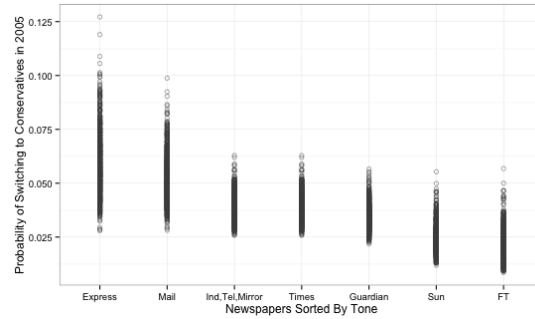


Figure 3: Probability of Switching to Conservatives Across Newspapers in 2005

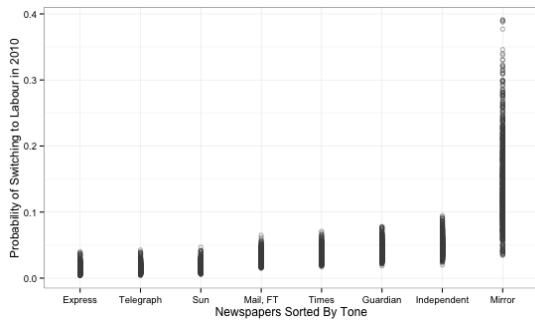


Figure 4: Probability of Switching to Labour Across Newspapers in 2010

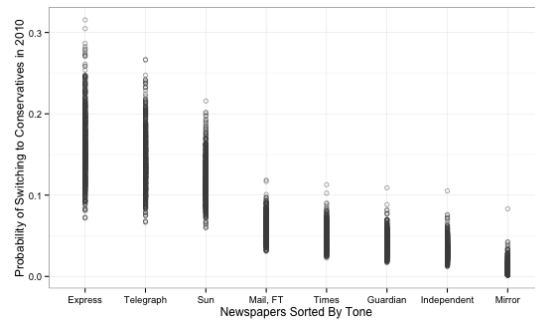


Figure 5: Probability of Switching to Conservatives Across Newspapers in 2010

most striking pattern presents itself for Labour in 2010: controlling for party identification and other individual-level characteristics, persuasion to vote for Labour is most likely to occur among Mirror readers, which is the only newspaper that kept its positive slant towards Labour in 2010 compared to 2005 (see Table 2).

Between-Elections, Within-Subjects Comparisons

In addition to making between-subjects comparisons, the multiple observations for each respondent that are measured in the BES Panel data allow us to make panel comparisons or within-subjects comparisons as well. Again, we focused on persuasion but this time between elections.

Table 7: *Respondents who switched to Labour in 2010*

	Frequency	Percentage	Cumulative Percentage
0	1328	90.77%	90.77%
1	135	9.23%	100%

Table 8: *Respondents who switched to the Conservatives in 2010*

	Frequency	Percentage	Cumulative Percentage
0	1250	84.29%	82.29%
1	233	15.71%	100%

To this end we created two dummy variables for Labour switchers and Conservative switchers respectively.⁷ We then regressed these dummy variables on media content variables in 2010 as well as individual-level demographic controls, including party identification.

Table 9: Media Content and Vote Switching Between 2005 and 2010 Elections

	<i>Dependent variable:</i>	
	Switch to Labour	Switch to Conservatives
	(9)	(10)
Visibility '10	0.48* (0.29)	-0.60** (0.25)
Tone '10	0.56*** (0.17)	-0.68*** (0.18)
<i>Controls Omitted</i>		
Constant	-2.10*** (0.65)	-3.80*** (0.67)
Observations	772	560
Log Likelihood	-92.00	-113.00
Akaike Inf. Crit.	198.00	241.00
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01	

⁷The Labour switchers dummy takes on a 1 if a respondent did not vote for Labour in 2005 and did vote for Labour in 2010, and it takes on a 0 if respondents did not vote for Labour in either 2005 and 2010. The Conservative switchers dummy takes on a 1 if a respondent did not vote for the Conservatives in 2005 and did vote for the Conservatives in 2010, and it takes on a 0 if respondents did not vote for the Conservatives in either 2005 and 2010. As can be observed from these Tables, the number of switchers (both to Labour and to the Conservatives) is much smaller than the number of non-switchers. To account for this we used rare events logit.

The results of these (rare events) logit are displayed in Table 9.⁸ All four estimates are significant and in the right direction: as they are exposed to higher Labour visibility and a more positive tone towards Labour, voters become more likely to switch to Labour and less likely to switch to the Conservatives. This finding lends some support for both the *Visibility* and *Tone* hypotheses.⁹

	No Media Content			With Media Content		
	Predicted Switch			Predicted Switch		
	No	Yes		No	Yes	
Switch to Labour	No	391	0	→ +4	388	3
	Yes	37	0		30	7
Switch to Conservatives	No	332	5	→ -1	333	4
	Yes	60	14		62	12

Figure 6: Percentage Correctly Predicted With and Without Media Content

To be able to pin down the additional leverage media content gives us on modeling persuasion across the two elections, we compared the *percentage correctly predicted* observations of vote choice models with and without media content. The results of this analysis are displayed in Figure 6. It shows that adding media content to our models of persuasion helps us better model (in particular we are a better at predicting—with some error—the positives) those respondents who switched to Labour but not so much those who switched to the

⁸The number of observations in the regressions is much different from the numbers in Table 7 and 8 for two reasons. The main reason for this that these regressions do not include the respondents that switched and stopped reading a newspaper as well as those who read newspaper that we do not have data for.

⁹We should emphasize however that even though this is a panel or within-subjects comparison we cannot be certain that we are dealing with a causal effect here because we cannot exclude the possibility that voters who switched to Labour (the Conservatives) are somehow different from those who didn't switch to Labour (the Conservatives). That being said we also think there is no reason to believe that these groups are inherently different since, after all, they were all non-voters of either Labour or the Conservatives.

Conservatives.¹⁰

Concluding Remarks

Without a doubt the analysis in this paper are a work in progress. Our eventual goal is to really get at a comparison of different research designs (within-subjects, between-subjects, matching and panel comparisons) in getting at the causality of media effects. Although we believe we have made steps in the right direction, much work still needs to be done. In this section we briefly list our findings:

Findings

We have shown effects of the relative visibility of the relative tone of coverage of the two major parties in newspapers in both 2005 and 2010. However, we have also illustrated that the nature of these effects varies somewhat depending on our focus. A between-subjects approach within each election shows statistically significant effects of visibility and tone on preferences for the Conservatives but their substantive significance is negligible: they do not add to the predictive power of a model that includes pre-campaign vote intentions and party identification. On the other hand, a between-subjects approach that focuses on the effects of visibility and tone on the probability of an individual switching preferences during a campaign shows a more statistically and substantively robust impact. When we turn to a within-subjects approach, we also see effects of media exposure on the likelihood of panel respondents switching their vote preferences across rather than within elections, i.e., between 2005 and 2010 rather than between the beginning and end of each campaign, but in this

¹⁰We should note that this Figure is constructed from the model results of a regular logit model. As noted before, the rare events ReLogit function does not store the predicted probabilities in a way that is conducive to further analysis. This figure thus displays a conservative estimates of our ability to model persuasion between the 2005 and 2010 elections.

case the predictive power of the media measures is stronger for switchers to Labour than for switchers to the Conservatives.

At the beginning of this paper we presented a framework in which a comparison of between- and within-subjects could produce three possible outcomes: 1) similar results, 2) results that are similar in direction but differ in terms of statistical significance, and 3) results that differ in terms of statistical significance and direction. In this first cut at data, we are firmly in the realm of the second outcome rather than the third. This suggests that differences in findings about media effects, at least where they employ the same data, should not be great simply as an artifact of variation in between- and within-subjects approaches.

References

- Andersen, R., J. Tilley and A.F. Heath. 2005. "Political Knowledge and Enlightened Preferences: Party Choice Through the Electoral Cycle." *British Journal of Political Science* 35(2):285–302.
- Barabas, J. and J. Jerit. 2009. "Estimating the Causal Effects of Media Coverage on Policy-Specific Knowledge." *American Journal of Political Science* 53(1):73–89.
- Bartle, J. 2005. "The press, Television, and the Internet." *Parliamentary Affairs* 58(4):699–711.
- Becker, L.B. and D.C. Whitney. 1980. "Effects of Media Dependencies Audience Assessment of Government." *Communication Research* 7(1):95–120.
- Berelson, B.R., P. F. Lazarsfeld and W. N. McPhee. 1954. *Voting: A Study of Opinion Formation in a Presidential Election*. Chicago: University of Chicago Press.
- Butler, D. and A. Ranney. 1978. *Referendums: A Comparative Study of Practice and Theory*. Vol. 216 AEI Press.
- Butler, D. and D. Kavanagh. 2005. *The British General Election of 2005*. Palgrave Macmillan.
- Craig, S.C., J.G. Kane and J. Gainous. 2005. "Issue-Related Learning in a Gubernatorial Campaign: A Panel Study." *Political Communication* 22(4):483–503.
- Curran, J., S. Iyengar, A.B. Lund and I. Salovaara-Moring. 2009. "Media System, Public Knowledge and Democracy: A Comparative Study." *European Journal of Communication* 24(1):5–26.
- Delli Carpini, M.X. and S. Keeter. 1996. *What Americans Know About Politics and Why It Matters*. Yale University Press.
- Druckman, J.N. 2005. "Media Matter: How Newspapers and Television News Cover Campaigns and Influence Voters." *Political Communication* 22(4):463–481.
- Dryzek, J.S. 2000. "Discursive Democracy vs. Liberal Constitutionalism." *Democratic Innovation: Deliberation, Representation and Association* pp. 78–89.
- Eveland, jr, W.P. 2004. "The Effect of Political Discussion in Producing Informed Citizens: The Roles of Information, Motivation, and Elaboration." *Political Communication* 21(2):177–193.
- Gavin, N.T. and D. Sanders. 1997. "The Economy and Voting." *Parliamentary Affairs* 50(4):631.

- Gavin, N.T. and D. Sanders. 2003. "The Press and its Influence on British Political Attitudes Under New Labour." *Political Studies* 51(3):573–591.
- Jerit, J., J. Barabas and T. Bolsen. 2006. "Citizens, Knowledge, and the Information Environment." *American Journal of Political Science* 50(2):266–282.
- Johnson, Thomas J and David D Perlmutter. 2010. "The Facebook Election: New Media and the 2008 Election Campaign" Special Symposium." *Mass Communication and Society* 13(5):554–559.
- Klapper, J.T. 1960. *The Effects of Mass Communication*. New York: Free Press.
- Ladd, J.M. and G.S. Lenz. 2009. "Exploiting a Rare Communication Shift to Document the Persuasive Power of the News Media." *American Journal of Political Science* 53(2):394–410.
- Lawrence, R.G. and M. Rose. 2010. *Hillary Clinton's Race for the White House: Gender Politics and the Media on the Campaign Trail*. Lynne Rienner Publishers.
- Levendusky, M.S. 2011. "Rethinking the Role of Political Information." *Public Opinion Quarterly* 75(1):42–64.
- Miller, W.L. 1991. *Media and Voters: The Audience, Content, and Influence of Press and Television at the 1987 General Election*. Oxford University Press.
- Mondak, J.J. 1995. "Newspapers and Political Awareness." *American Journal of Political Science* pp. 513–527.
- Morgan, S.L. and C. Winship. 2007. *Counterfactuals and Causal Inference: Methods and Principles for Social Research*. Cambridge University Press.
- Newton, K. and M. Brynjin. 2001. "The National Press and Party Voting in the UK." *Political Studies* 49(2):265–285.
- Norris, P. 2006. "Did the Media Matter? Agenda-setting, Persuasion and Mobilization Effects in the British General Election Campaign." *British Politics* 1(2):195–221.
- Norris, P, J. Curtice, D. Sanders, M. Scammell and H.A. Semetko. 1999. *On Message: Communicating the Campaign*. Sage.
- Owen, Matt, Kosuke Imai, Gary King and Olivia Lau. 2012. *Zelig: Everyone's Statistical Software*. R package version 4.1-1.
URL: <http://CRAN.R-project.org/package=Zelig>
- Patterson, T.E. and R.D. McClure. 1976. *The Unseeing Eye*. GP Putnam New York.
- Pearl, Judea. 2009. "Causal Inference in Statistics: An Overview." *Statistics Surveys* 3:96–146.

- Robinson, J.P. and D.K. Davis. 1990. "Television News and the Informed Public: An Information-Processing Approach." *Journal of Communication* 40(3):106–119.
- Sanders, D., D. Marsh and H. Ward. 1993. "The Electoral Impact of Press Coverage of the British Economy, 1979-87." *British Journal of Political Science* 23(2):175–210.
- Stevens, D., S. Banducci, J. Karp and J. Vowles. 2011. "Priming Time for Blair? Media Priming, Iraq, and Leadership Evaluations in Britain." *Electoral Studies* 30(3):546–560.
- Stevens, Daniel and Jeffrey A Karp. 2012. "Leadership Traits and Media Influence in Britain." *Political Studies* 60(4):787–808.
- Stevens, Daniel and S. Banducci. 2013. "One Voter and Two Choices: The Impact of Electoral Context on the 2011 UK Referendum." *Electoral Studies* 32(2):274–284.