Online Appendix

Measure for Measure: An Experimental Test of Online Political Media Exposure

Contents

1 Survey Details

1.1 Check-all condition

Which of these websites have you visited or used in the past 30 days for news, if any?

Select ALL answers that apply.

☐ ABCNews.com	☐ Daily Mail	☐ NBCNews.com	☐ Slate
☐ AOL.com	☐ Drudge Report	☐ NewRepublic.com	☐ ThinkProgress
☐ BBC News	☐ FoxNews.com	☐ NPR.org	☐ USAToday.com
☐ Buzzfeed	☐ Google News	☐ NYTimes.com	☐ WashingtonPost.com
☐ CBSNews.com	☐ Huffington Post	☐ Politico	☐ WSJ.com
☐ CNN.com	☐ MSN	☐ Reddit	☐ Yahoo! News
☐ Daily Kos	☐ NationalJournal.com	☐ RedState	☐ Other (please specify)

1.2 Open-ended condition

Please list any websites or blogs that you have visited in the past 30 days for news. **Take some time to ensure that you think of all the sites you have visited.**

1.3 Forced-choice, yes/no condition

Which of these websites have you visited or used in the past 30 days for news, if any?

	Have you visited this site?	
	Yes	No
ABCNews.com	○	○
AOL.com	○	○
BBC News	○	○
Buzzfeed	○	○
CBSNews.com	○	○
CNN.com	○	○

1.4   Link Classification Task

Remember, please check **ALL** rows containing any links shown in **PURPLE**. Leave all other rows unchecked.

☐ LINK LINK
☐ LINK LINK
☐ LINK LINK
☐ LINK LINK
☐ LINK LINK LINK
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☐ LINK
☐ LINK
☐ LINK LINK

A screen shot of how the *Link Classification Task* looked to survey respondents. Visited links were purple, and unvisited links were blue.

2   List of Sites Included in Link Classification Task

```
 1  http://abcnews.go.com/
 2  http://america.aljazeera.com/
 3  http://digbysblog.blogspot.com/
 4  http://dish.andrewsullivan.com/
 5  http://krugman.blogs.nytimes.com
 6  http://latino.foxnews.com/index.html
 7  http://nbcpolitics.nbcnews.com/
 8  http://news.google.com/ https://news.google.com/news/section?pz=1&cf=all&topic=el&
 9  http://news.msn.com/
10  http://news.yahoo.com
11  http://newswatch.nationalgeographic.com/
12  http://www.about.com/   http://about.com/   http://www.about.com/newsissues/
13  http://www.aljazeera.com    http://aljazeera.com
14  http://www.americanthinker.com  http://americanthinker.com
15  http://www.anncoulter.com   http://anncoulter.com
16  http://www.antiwar.com  http://antiwar.com
17  http://www.aol.com/
18  http://www.ap.org/  http://ap.org/
19  http://www.bbc.com/news/    http://bbc.com/news/
20  http://www.bbc.com/news/world/us_and_canada/    http://www.bbc.co.uk/news/
21  http://www.beforeitsnews.com    http://beforeitsnews.com
22  http://www.billoreilly.com  http://billoreilly.com
23  http://www.blackamericaweb.com  http://blackamericaweb.com
24  http://www.bloomberg.com    http://bloomberg.com
25  http://www.breitbart.com    http://breitbart.com
26  http://www.businessinsider.com  http://businessinsider.com
27  http://www.buzzfeed.com http://buzzfeed.com http://www.buzzfeed.com/politics
28  http://www.buzzya.com   http://buzzya.com
29  http://www.c-span.org   http://c-span.org
30  http://www.cbsnews.com/ http://cbsnews.com/
31  http://www.cbsnews.com/politics/
32  http://www.chacha.com/category/politics
33  http://www.chicagosuntimes.com  http://chicagosuntimes.com
34  http://www.chicagotribune.com   http://chicagotribune.com
35  http://www.cnn.com  http://cnn.com
36  http://www.cnn.com/POLITICS/
37  http://www.commondreams.org http://commondreams.org
38  http://www.counterpunch.org http://counterpunch.org
39  http://www.crookedtimber.org/   http://crookedtimber.org/
40  http://www.crooksandliars.com/  http://crooksandliars.com/
41  http://www.csmonitor.com/   http://csmonitor.com/
42  http://www.dailycaller.com  http://dailycaller.com
43  http://www.dailydot.com http://dailydot.com
44  http://www.dailykos.com http://dailykos.com
45  http://www.dailymail.co.uk/ http://www.dailymail.co.uk/ushome/index.html
46  http://www.democratichub.com    http://democratichub.com
47  http://www.democraticunderground.com    http://democraticunderground.com
48  http://www.denverpost.com   http://denverpost.com
49  http://www.dickmorris.com   http://dickmorris.com
50  http://www.drudgereport.com http://drudgereport.com
51  http://www.economist.com/   http://economist.com/
52  http://www.eschatonblog.com/    http://eschatonblog.com/
53  http://www.examiner.com http://examiner.com
54  http://www.factcheck.org    http://factcheck.org
55  http://www.firsttoknow.com  http://firsttoknow.com
56  http://www.fivethirtyeight.com/ http://fivethirtyeight.com/ http://fivethirtyeight.blogs.nytimes.com/
57  http://www.forbes.com   http://forbes.com
58  http://www.foreignaffairs.com   http://foreignaffairs.com
59  http://www.foreignpolicy.com    http://foreignpolicy.com
60  http://www.foxnews.com  http://foxnews.com
61  http://www.foxnews.com/politics/index.html
62  http://www.foxnewsinsider.com   http://foxnewsinsider.com
63  http://www.freebeacon.com   http://freebeacon.com
64  http://www.freepatriot.org  http://freepatriot.org
65  http://www.freerepublic.com/    http://freerepublic.com/
66  http://www.frontpagemag.com http://frontpagemag.com
67  http://www.gopusa.com   http://gopusa.com
68  http://www.govexec.com  http://govexec.com
69  http://www.govtrack.us  http://govtrack.us
70  http://www.hotair.com   http://hotair.com
71  http://www.huffingtonpost.com   http://huffingtonpost.com
72  http://www.huffingtonpost.com/politics/
73  http://www.humanevents.com  http://humanevents.com
74  http://www.instapundit.com  http://instapundit.com
75  http://www.inthesetimes.com http://inthesetimes.com
76  http://www.latimes.com  http://latimes.com
77  http://www.littlegreenfootballs.com/    http://littlegreenfootballs.com/
78  http://www.mediaite.com http://mediaite.com
79  http://www.michellemalkin.com   http://michellemalkin.com
80  http://www.mikehuckabee.com http://mikehuckabee.com
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 81 http://www.motherjones.com  http://motherjones.com
 82 http://www.mrc.org  http://mrc.org
 83 http://www.mrconservative.com    http://mrconservative.com
 84 http://www.mtvu.com http://mtvu.com
 85 http://www.nationalgeographic.com/  http://nationalgeographic.com/
 86 http://www.nationaljournal.com  http://nationaljournal.com
 87 http://www.nationalmemo.com http://nationalmemo.com
 88 http://www.nationalreview.com    http://nationalreview.com
 89 http://www.nbcnews.com/ http://nbcnews.com/
 90 http://www.newrepublic.com  http://newrepublic.com
 91 http://www.newsbusters.org  http://newsbusters.org
 92 http://www.newser.com    http://newser.com
 93 http://www.newsmax.com/ http://newsmax.com/
 94 http://www.newyorker.com     http://newyorker.com
 95 http://www.npr.org  http://npr.org
 96 http://www.nydailynews.com  http://nydailynews.com
 97 http://www.nypost.com    http://nypost.com
 98 http://www.nytimes.com  http://nytimes.com
 99 http://www.obamacarefacts.com    http://obamacarefacts.com
100 http://www.outsidethebeltway.com    http://outsidethebeltway.com
101 http://www.pbs.org/newshour/    http://pbs.org/newshour/
102 http://www.pbs.org/wgbh/pages/frontline/
103 http://www.politicalwire.com    http://politicalwire.com
104 http://www.politico.com http://politico.com
105 http://www.politicususa.com http://politicususa.com
106 http://www.politifact.com    http://politifact.com
107 http://www.powerlineblog.com/    http://powerlineblog.com/
108 http://www.reagancoalition.com  http://reagancoalition.com
109 http://www.realclearpolitics.com    http://realclearpolitics.com
110 http://www.realclearworld.com    http://realclearworld.com
111 http://www.reason.com/blog/ http://reason.com/blog/
112 http://www.reddit.com/  http://www.reddit.com/r/politics/
113 http://www.redstate.com http://redstate.com
114 http://www.rightwingnews.com     http://rightwingnews.com
115 http://www.rushlimbaugh.com/     http://rushlimbaugh.com/
116 http://www.salon.com     http://salon.com
117 http://www.samuel−warde.com http://samuel−warde.com
118 http://www.slate.com/    http://slate.com/
119 http://www.slate.com/blogs/moneybox.html    http://slate.com/blogs/moneybox.html
120 http://www.smithsonianmag.com    http://smithsonianmag.com
121 http://www.sourcewatch.org  http://sourcewatch.org
122 http://www.stormfront.org    http://stormfront.org
123 http://www.takepart.com http://takepart.com
124 http://www.talkingpointsmemo.com    http://talkingpointsmemo.com
125 http://www.the−american−interest.com    http://the−american−interest.com
126 http://www.theatlantic.com/ http://theatlantic.com/
127 http://www.theatlanticwire.com/ http://theatlanticwire.com/
128 http://www.theblaze.com http://theblaze.com
129 http://www.thedailybeast.com     http://thedailybeast.com
130 http://www.thegrio.com  http://thegrio.com
131 http://www.theguardian.com/ http://www.theguardian.com/politics http://theguardian.com/
132 http://www.thehill.com  http://thehill.com
133 http://www.themonkeycage.org    http://themonkeycage.org    http://www.washingtonpost.com/blogs/monkey−cage/
134 http://www.thenation.com    http://thenation.com
135 http://www.theweek.com  http://theweek.com
136 http://www.thinkprogress.org/    http://thinkprogress.org/
137 http://www.townhall.com http://townhall.com
138 http://www.trueactivist.com http://trueactivist.com
139 http://www.truthout.org http://truthout.org
140 http://www.twitchy.com  http://twitchy.com
141 http://www.upi.com  http://upi.com
142 http://www.usatoday.com http://usatoday.com
143 http://www.usnews.com/  http://usnews.com/
144 http://www.voanews.com/ http://voanews.com/
145 http://www.volokh.com/  http://volokh.com/
146 http://www.washingtonexaminer.com/  http://washingtonexaminer.com/
147 http://www.washingtonmonthly.com    http://washingtonmonthly.com
148 http://www.washingtonpost.com  http://washingtonpost.com
149 http://www.washingtonpost.com/blogs/wonkblog/    http://washingtonpost.com/blogs/wonkblog/
150 http://www.washingtontimes.com/ http://washingtontimes.com/
151 http://www.weeklystandard.com/  http://weeklystandard.com/
152 http://www.westernjournalism.com    http://westernjournalism.com
153 http://www.wonkette.com/    http://wonkette.com/
154 http://www.worldnetdaily.com/    http://worldnetdaily.com/
155 http://www.wsj.com  http://wsj.com
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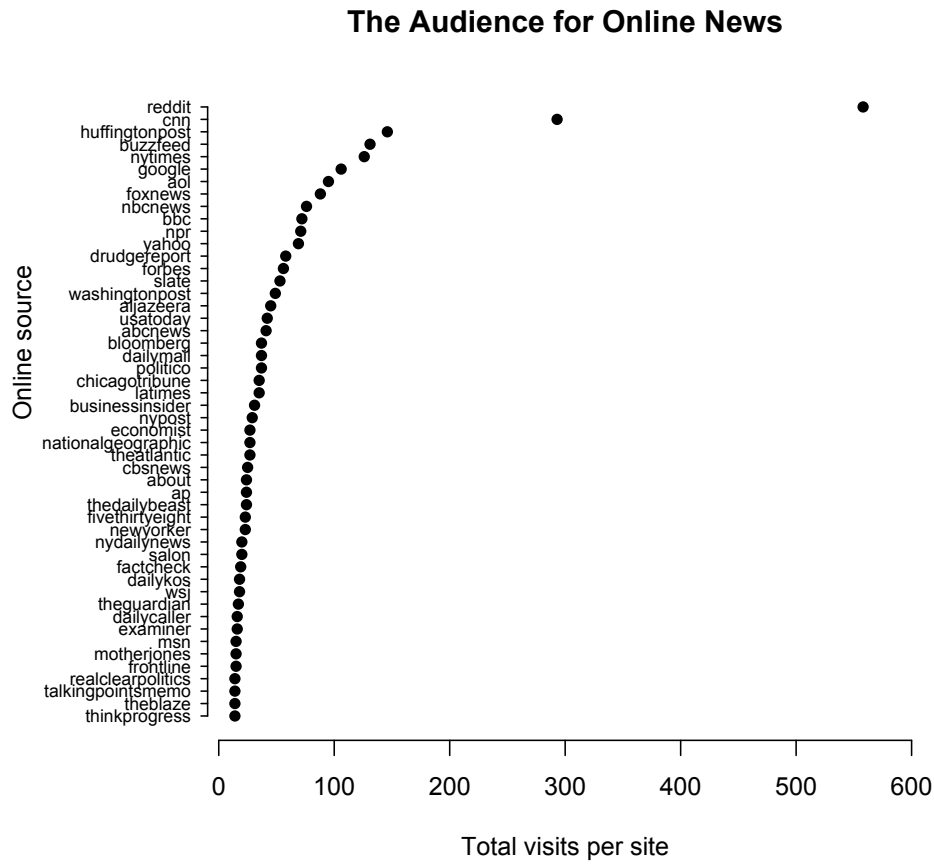# 3 Supplementary Graphs and Tables

The Audience for Online News

Figure A1: Total number of visits per site across all treatment conditions. Top 50 sites in reverse order, pooling data across Studies 1 and 3.

Figure A2: Plot, with Loess lines, of the difference between total reported and total actual visits per site for each survey question type.

Table A1: Balance checks for randomization, pooled data from Studies 1 and 3 (N=1112).

Note: *p<0.05

	Treatment Group Means			Difference in Means		
	1 (Check-all)	2 (Open-ended)	3 (Yes/no)	1-2	1-3	2-3
Age	31.64	29.58	30.95	2.06	0.69	-1.37
	(11.38)	(9.08)	(10.51)	(-0.75)*	(-0.81)	(-0.70)
Race	1.87	1.65	1.74	0.22	0.13	-0.09
	(1.75)	(1.54)	(1.63)	(-0.12)	(-0.12)	(-0.11)
Hispanic	0.07	0.09	0.07	-0.02	0.00	0.02
	(0.25)	(0.28)	(0.26)	(-0.02)	(-0.02)	(-0.02)
Female	0.38	0.42	0.37	-0.04	0.01	0.05
	(0.49)	(0.49)	(0.48)	(-0.04)	(-0.04)	(-0.03)
Income	3.30	3.18	3.21	0.12	0.09	-0.03
	(2.45)	(2.37)	(2.34)	(-0.17)	(-0.18)	(-0.17)
Education	4.05	4.05	4.00	0.00	0.05	0.05
	(1.35)	(1.29)	(1.34)	(-0.10)	(-0.10)	(-0.09)
Ideology	3.32	3.10	3.05	0.23	0.27	0.05
	(1.50)	(1.51)	(5.53)	(-0.11)*	(-0.29)	(-0.29)
Party ID	2.23	2.26	2.38	-0.02	-0.14	-0.12
	(1.32)	(1.33)	(1.32)	(-0.10)	(-0.10)	(-0.09)
Knowledge	2.81	2.79	2.76	0.02	0.05	0.03
	(1.04)	(1.02)	(1.00)	(-0.07)	(-0.08)	(-0.07)
Attention	2.80	2.84	2.59	-0.03	0.21	0.24
	(0.98)	(1.04)	(5.39)	(-0.07)	(-0.28)	(-0.28)
Computer	0.83	0.85	0.80	-0.02	0.03	0.05
	(0.38)	(0.36)	(0.40)	(-0.03)	(-0.03)	(-0.03)
Cleared	0.41	0.32	0.34	0.09	0.08	-0.01
	(0.49)	(0.47)	(0.47)	(-0.03)*	(-0.04)*	(-0.03)
Purple	0.18	0.20	0.23	-0.02	-0.05	-0.03
	(0.38)	(0.40)	(0.42)	(-0.03)	(-0.03)	(-0.03)

Table A2: Quasi-Poisson and negative binomial regressions with robust standard errors.

	Dependent variable:					
	(Quasi-Poisson)			(Negative binomial)		
	Over	Under	Mis	Over	Under	Mis
	(1)	(2)	(3)	(4)	(5)	(6)
Open-Ended	−0.63***	1.41***	−0.03	−0.59***	1.13***	−0.05
	(0.07)	(0.37)	(0.10)	(0.08)	(0.33)	(0.09)
Yes/no	0.44***	0.002	0.38***	0.42***	0.12	0.39***
	(0.06)	(0.15)	(0.06)	(0.08)	(0.21)	(0.06)
Age	−0.002	0.01	−0.0002	−0.005*	0.004	−0.0004
	(0.003)	(0.01)	(0.003)	(0.003)	(0.01)	(0.003)
Pacific	0.29	0.84**	0.44*	0.37	0.26	0.42*
	(0.26)	(0.38)	(0.23)	(0.78)	(0.47)	(0.23)
Other	0.18	−1.58	−0.23	0.17	−1.86	−0.25
	(0.18)	(1.40)	(0.29)	(0.20)	(1.34)	(0.29)
Native	−0.93***	−2.42	−1.48***	−0.86***	−61.94***	−1.49***
	(0.32)	(1.98)	(0.45)	(0.16)	(1.62)	(0.44)
Black	0.19**	−0.01	0.14	0.19**	−0.12	0.12
	(0.09)	(0.33)	(0.09)	(0.09)	(0.25)	(0.09)
Asian	−0.08	0.12	−0.03	−0.07	0.09	−0.03
	(0.10)	(0.27)	(0.09)	(0.12)	(0.18)	(0.09)
Hispanic	−0.20*	2.22	0.33	0.01	1.72	0.36
	(0.12)	(2.03)	(0.35)	(0.14)	(1.54)	(0.36)
Female	−0.07	0.08	−0.03	0.03	0.24	−0.01
	(0.06)	(0.25)	(0.07)	(0.07)	(0.22)	(0.06)
Income	−0.003	0.07	0.01	−0.02	0.04	0.01
	(0.01)	(0.06)	(0.01)	(0.01)	(0.05)	(0.01)
Education	0.03	0.24*	0.07**	0.02	0.15	0.07***
	(0.02)	(0.12)	(0.03)	(0.02)	(0.11)	(0.03)
Ideology	−0.01***	−0.01	−0.01***	−0.01***	−0.005	−0.01**
	(0.003)	(0.02)	(0.004)	(0.004)	(0.02)	(0.01)
Party ID	0.0002	0.10	0.02	0.004	0.04	0.02
	(0.02)	(0.15)	(0.03)	(0.02)	(0.15)	(0.03)
Knowledge	0.13***	0.10	0.12***	0.12***	0.20	0.12***
	(0.03)	(0.14)	(0.04)	(0.03)	(0.14)	(0.04)
Attention	−0.01*	−0.001	−0.01	−0.22***	0.01	−0.05***
	(0.01)	(0.01)	(0.01)	(0.03)	(0.01)	(0.01)
Computer	−0.11*	0.39*	0.004	−0.16**	0.18	−0.002
	(0.06)	(0.23)	(0.07)	(0.08)	(0.30)	(0.07)
Cleared	0.28***	−0.37	0.13**	0.23***	−0.45*	0.13**
	(0.06)	(0.24)	(0.06)	(0.07)	(0.24)	(0.06)
Purple	0.17***	−0.51	0.02	0.16**	−1.91**	−0.03
	(0.06)	(0.59)	(0.13)	(0.07)	(0.87)	(0.12)
Constant	0.80***	−1.43	0.62**	1.55***	−1.95	0.75***
	(0.16)	(1.17)	(0.26)	(0.22)	(1.23)	(0.25)

Note: *p<0.1; **p<0.05; ***p<0.01

4 Comparison of Full Sample and Subsample in Study 2

While there was substantial attrition in Study 2, it appears that the final sample was not significantly skewed from the full sample (which included respondents who did not install the browser widget). As the table below illustrates, the minor differences in observed characteristics were well within sampling variability.

(For reference, category 3 of the income scale corresponds to incomes between \$30,000-39,999, and category 4 of the education scale corresponds to a two-year college degree. Ideology and party identification are the usual 7-point scales.)

	Full Sample	Subsample	Difference
Age	30.34	28.75	1.59
	(10.58)	(9.56)	*0.16*
Income	2.89	3.14	-0.25
	(4.98)	(2.29)	*0.44*
Education	4.0	3.95	0.05
	(1.33)	(1.29)	*0.75*
% Female	38.14	32.94	5.2
	(48.62)	(47.28)	*0.35*
% White	77.86	74.12	3.74
	(41.56)	(44.06)	*0.46*
% Black	6.09	5.88	0.21
	(23.93)	(23.67)	*0.94*
Ideology	2.77	2.59	0.18
	(6.39)	(1.45)	*0.57*
Party ID	2.32	2.27	0.05
	(1.34)	(1.38)	*0.75*
N	568	85	

Table A3: Means and standard deviations (in parentheses) of demographic and political characteristics of respondents in both the full sample and the subsample containing only those who successfully installed and ran the browser widget. The third column lists the differences in means followed by *p*-values (in italics) generated by two-sample t-tests.

5   Site-Level Determinants of Reported Exposure

The findings from Studies 1-3 illustrate that open-ended questions are substantially better than the other types for the purpose of measuring the overall audience for news and its distribution across different outlets. Here, I explore whether characteristics of the sites themselves might also play a role in respondents' overall tendency to over- or underreport exposure.[1] I focus on two: the popularity of sites as gauged by the number of unique visitors, and the partisan tilt of the sites' readership. If respondents are merely reporting exposure to sources because they are popular—perhaps leading websites to be more accessible in memory—this could lead to overreporting, all else equal. Furthermore, the partisan characteristics associated with particular sites may have an effect on individuals' tendencies to report visiting them. Are people less willing to report exposure to Democratic- or Republican-leaning sites, or perhaps sites with any partisan leaning at all?

To answer these questions, I gathered additional data on total unique monthly visitors per site from comScore, averaged from October to December 2013. For the data on partisan leanings, I relied on comScore's Plan Metrix service, which provides 12-month aggregated data from a running panel survey with approximately 12,000 U.S.-based participants.[2] In particular, I used the service's "Composition Index" for self-identified Democrats and Republicans, which captures the degree to which visitors to a given site from either group are over- or underrepresented as compared to the total Internet sample. The Republican Composition Index ranges from 29.3% to 207.3%, and the Democratic index ranges from 43.7% to 174.2%. I simply took the Republican share of the two indexes and divided by 100. To gauge partisan leaning, I computed the standard deviation of each site's Republican and Democratic indexes—a somewhat crude measure intended to capture the variation in how the two groups are over- or underrepresented in the audience for a given site.

I use total reported exposure for each site from Studies 1 and 3 as the dependent variable,

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[1] I thank an anonymous reviewer for suggesting this analysis.
[2] These panelists are themselves a subset of the larger Media Metrix panel. All respondents are age 18 or older.

pooled across treatment conditions. In all models, I included an indicator for whether a particular site was one of the choices in the check-all and yes/no questions, since, as the above graphs demonstrated, those question formats have a tendency to generate overreporting. In all, there was sufficient data for 116 of the available sites.

Table A4: OLS and quasi-Poisson regressions with Huber-White robust standard errors.

| | DV: Total reported visits per site | | | |
| | OLS | | | Quasi-Poisson |
	(1)	(2)	(3)	(4)
Total actual exposure		1.30***	1.10***	0.004***
		(0.18)	(0.12)	(0.0004)
Unique visitors/1m	2.49**	2.60**	1.39	0.01***
	(1.19)	(1.05)	(0.92)	(0.004)
Partisan leaning			0.06	−0.03***
			(0.14)	(0.01)
Share R composition	−17.21	2.27	−1.54	−0.41
	(34.35)	(14.91)	(23.39)	(2.37)
Included in check-all/	148.18***		84.91***	3.97***
forced-choice Q's?	(33.09)		(16.19)	(0.25)
Constant	1.46	−11.34	−16.74	0.99
	(17.05)	(7.61)	(14.47)	(1.24)
N	116	116	116	116
R^2	0.57	0.80	0.87	
Adjusted R^2	0.56	0.79	0.86	

Note: *p<0.1; **p<0.05; ***p<0.01

I report several different OLS models with robust standard errors in addition to a full quasi-Poisson model that takes into account the overdispersion in the dependent variable. As Table A4 shows, inclusion in one of the closed-ended survey questions is strongly associated with reporting exposure to a particular website. There are two possible reasons for this finding. First, the indicator is likely capturing some of the effects of two of the treatment

conditions on overreporting in general. And second, by construction, those question types include selections of well-known sites that respondents are likely to make. This suggests potential multicollinearity in two of the independent variables, total unique visitors and the question indicator, and indeed they are strongly correlated ($r = .527$). This is one possible reason why overall site traffic drops out of significance in the third model. Still, whether as a result of inclusion in survey questions or more directly, the association between a site's total audience and reported exposure is clear in Model 2.

The Republican share of the composition index has no apparent effect on reporting exposure. A partisan tilt in either direction, on the other hand, predicts less reporting overall in the quasi-Poisson model, although this finding does not hold in the OLS models. And finally, even holding the other factors constant, total *actual* exposure as measured by the *Link Classification Task* predicts total reported exposure, demonstrating the validity of the measure.