

# Understanding innovations in journalistic practice

## A field experiment examining motivations for fact-checking

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### Abstract

Why has fact-checking spread so quickly within U.S. political journalism? In the first field experiment conducted among reporters, we varied journalist exposure to messages that highlight either audience demand for fact-checking or the prestige it enjoys within the profession. Our results indicate that messages promoting the high status and journalistic values of fact-checking increased the prevalence of fact-checking coverage, while messages about audience demand were somewhat less successful. These findings suggest that political fact-checking is driven primarily by professional motives within journalism, a finding that helps us understand the process by which the practice spreads within the press as well as the factors that influence the behavior of journalists.

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The practice of American political journalism is being challenged by the fact-checking movement (Spivak 2011), a new style of reporting dedicated to assessing the truth of political claims. Under the objectivity norm that dominates the mainstream press in the United States (e.g., Schudson 2001; Cunningham 2003; Fritz et al. 2004), reporters have typically refrained from taking sides in factual disputes or contesting public political claims and focused instead on narrower definitions of accuracy (e.g., ensuring that quotations are correct). By contrast, fact-checkers directly evaluate the accuracy of the substantive claims made by politicians. Over the last decade, this approach has become more common at many news outlets around the country, including the most popular and prestigious national news sources (e.g., Graves and Glaisyer 2012; Amazeen 2013). However, though previous studies have examined the effects of fact-checking on the public (e.g., Jamieson and Cappella 1997; Garrett et al. 2013; Amazeen et al. 2015; Fridkin et al. 2015) and political elites (Nyhan and Reifler 2014), little is known about why political journalists are beginning to embrace this approach.

The growing prominence of this style of reporting raises two important sets of questions. First, how deeply has fact-checking penetrated standard political reporting? The genre is popular among journalists (Elizabeth et al. 2015) and has been widely embraced by elite news organizations. Nearly every national news outlet now offers some form of fact-checking, including print sources such as the Associated Press, the New York Times, the Washington Post and USA Today as well as broadcasters like NPR, CNN, ABC, CBS, and NBC. However, local and regional news outlets still make up the bulk of the U.S. press corps. How widespread is fact-checking in the political coverage provided by these outlets?

Second, how and why has fact-checking spread within journalism and what can this tell us about the diffusion of innovations within professions? One explanation for the growth of fact-checking is that political journalists and the outlets that employ them emulate high-status practices in their field, copying innovations that have received professional recognition as upholding the ideals of the profession. In this view, the embrace of fact-checking by elite national news organizations and the professional acclaim received by dedicated fact-checking outlets are likely to be the most important factors changing professional practice. This account is consistent with the way that leading fact-checkers promote the practice to their peers, though little evidence exists about

the effectiveness of these appeals. If this account is correct, then we should continue to see fact-checking become more common as its norms and practices spread from leading journalists to the rank-and-file.

However, professional considerations are not necessarily driving the growth in fact-checking. One obvious alternative explanation would be commercial motives (e.g., Hamilton 2004; Gentzkow and Shapiro 2010). Journalists and news organizations frequently justify fact-checking as a response to perceived reader demand that can attract interest and loyalty from consumers — a rationale that may be especially compelling in a fragmented media landscape in which many outlets face declining revenues. This account is also consistent with evidence that commercial and technological pressures have made journalists more sensitive to audience demand (Bennett 2003; Loosen and Schmidt 2012; Lee et al. 2014). If audience demand is driving the expansion in fact-checking in this way, we should see further growth in usage of the format as more outlets recognize its commercial appeal.

In this article, we not only measure the prevalence of fact-checking in political coverage but evaluate different explanations for its spread within the U.S. media using a novel methodological approach. Our study examines the relative influence of demand- or supply-side factors on fact-checking coverage using a field experiment conducted among journalists. To conduct this experiment, which took place during the fall 2014 campaign, we randomly assigned 1689 political reporters at 82 U.S. newspapers to receive different messages about fact-checking or to a control group. If fact-checking is growing in prominence primarily due to the status of journalists who practice fact-checking and its consistency with the core values of the profession, then messages emphasizing those status and values considerations should increase the prominence of fact-checking in subsequent coverage. However, if fact-checking content is instead being produced mainly in response to audience demand, then messages alerting reporters to readers' interest in the format should cause it to be covered more frequently. Our study finds that fact-checking remains relatively rare at the state level, but that messages emphasizing professional considerations significantly increased newspapers' coverage of fact-checking. By contrast, messages emphasizing reader demand for fact-checking did not have a significant effect.

As the first field experiment conducted among journalists, this study makes an important methodological contribution to research on media behavior in politics. The approach we develop here holds promise for understanding the

emergence of new practices in other fields and for investigating organizational behavior within political communication more generally. Substantively, we present the first systematic quantitative evidence about the process by which fact-checking spreads and the conditions under which journalists are most receptive to it. Our results suggest that status and values considerations within journalism appear to be most responsible for the growth of fact-checking — a finding with important implications for the study of the format as well as political journalism, the factors that influence media coverage, and the diffusion of innovation within professions more generally. Despite increasing economic pressures, professional concerns still appear to play a powerful role in shaping journalistic practice.

## **Causes of innovation in journalistic practice**

Historical evidence shows that new practices can spread widely across journalism, ultimately transforming the field. For instance, the terse, news-first “inverted pyramid” style that has defined newspaper prose for the last century was an innovation of the late 1800s.<sup>1</sup> The news interview, another elemental feature of modern reporting, emerged during the same period. To question political figures and quote them in print had been seen as disrespectful and journalistically unsound, but interviewing “took like wildfire,” as one contemporary account put it, in American newspapers of the 1870s (Schudson 2001). The practice migrated to Britain soon after the turn of the century but did not become accepted across Europe for several more decades (Schudson 2001, 1995; Chalaby 1996; Høyer and Pöttker 2005). Practices like these helped to define journalism as a distinct occupation and became basic ingredients of the objective news paradigm that took hold after World War I.

Broadly speaking, two schools of thought exist on the shift from the party press model of the nineteenth century to the objective journalism of the twentieth. Some accounts of the professionalization of journalism have focused on economic incentives — most notably, the desire to pursue the widest possible audience by abandoning party ties (e.g., Hamilton 2004). These new reporting practices emerged against the backdrop of rapid industrialization and urban-

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<sup>1</sup>By contrast, an Associated Press report on Lincoln’s assassination didn’t disclose that he had been shot until the third paragraph or that he was dead until the end of the piece (Izadi 2015).

ization after the Civil War, an environment in which mass-market urban dailies increasingly competed for news, audiences, and advertisers. Press conglomeration and the increasing commoditization of news promoted an industrial work model and made press barons less dependent on party or state ties (Elliott 1978). A related factor is technological change, in particular the spread of the telegraph, which began to nationalize news audiences and may have promoted the use of a standardized and neutral news language (Carey 1992; Shaw 1967).

However, many scholars point to flaws in these broad political-economic accounts for the rise of objective reporting (mainly that partisanship overlapped with both rising commercialization and the spread of the telegraph, while the objectivity norm was not consolidated until after World War I). Instead they favor “sociocultural explanations” (Waisbord 2013) that highlight the emergence of a new professional self-understanding among journalists, who increasingly saw themselves as separate from the political field. This new journalistic sensibility was rooted in the reformist politics of the Progressive Era and mirrored the turn toward science and reason across American institutional life (Kaplan 2002, 2006). It reflected a bid for “authority and respectability” based on accentuating journalism’s public-service mission and independence from politics (Waisbord 2013). In the 1920s, the objectivity norm was formally articulated in new institutions — journalism schools, professional organizations, and journalistic codes of ethics — that cemented contemporary notions of the press as a neutral observer of and watchdog over political actors (Schudson 2001).

Professional journalism has continued to evolve since the embrace of objectivity. Over the last half-century, reporters have claimed ever-greater authority to make sense of the political world for their audiences in what has been called the “interpretive turn” in U.S. news (Barnhurst 2014). As political elites have become more polarized, print and broadcast journalism has grown increasingly analytical, assertive, and critical of political actors (Barnhurst and Mutz 1997; Barnhurst 2003; Hallin 1992; Patterson 1993). One recent content analysis of the *New York Times*, *Washington Post*, and *Milwaukee Journal Sentinel* captured this shift starkly: Traditional “just the facts” news reports made up 85 percent of those newspapers’ front-page stories in 1955 but had fallen to less than half by 2003, having been displaced by “contextual” reports which “focus on the big picture, providing the context for other news” (Fink and Schudson 2014). Like earlier changes in news practice, this interpretive approach appears to be contagious — a recent study finds that the “U.S.-led trend” toward news-

paper coverage that mixes information and analysis has also spread in western Europe (Esser and Umbricht 2014).

As with the objective news paradigm, competing explanations for this shift toward journalistic interpretation divide between economic factors and journalistic culture. One economic argument is that newspapers were forced to embrace analysis and interpretation to compete with the rise of television news (discussed in Barnhurst and Mutz 1997). American news audiences have also changed, growing more sophisticated as education levels have risen, and more suspicious of official claims as trust declined in government and the press (e.g., Levi and Stoker 2000; Ladd 2011). News content has changed accordingly. For instance, one study noted that to read mid-century newspaper reports decades later is “to roll back a gigantic cultural loss of idealism” (Stepp 1999).

However, these shifts in practice also again reflected journalists’ changing ideas about their own role as political watchdogs. As Barnhurst (1997) notes, abandoning stenographic accounts in favor of sophisticated analysis strengthened journalists’ claims to professional status, “justifying increased power and privilege.” The interpretive turn cannot be understood without attention to the various professional movements such as “interpretative reporting,” “precision journalism,” and “public journalism” that explicitly promoted contextual approaches as part of journalism’s public-service mission (Zelizer 1993; Rosen 1999). Similarly, as we note below, the fact-checking movement has evangelized the genre as upholding the “truth-seeking” role of journalism (Dobbs 2012; Graves and Konieczna 2015) — a mission that may seem more important as political polarization increases and misleading claims proliferate.

## **Understanding the growth of fact-checking**

Fact-checking is one of the most significant innovations in journalistic practice in recent years. Its most immediate precursor are the “ad watch” reports analyzing the accuracy of political advertising that gained popularity in the 1990s (Frantzich 2002; Glowaki et al. 2004). However, fact-checking gained new prominence during the 2004 U.S. presidential race (Robertson 5 01) and has since been further popularized by three full-time fact-checking outlets staffed by professional journalists: FactCheck.org, which launched in 2003, and PolitiFact and the Washington Post’s Fact Checker, which debuted in 2007. These organizations quickly achieved high visibility and acceptance in the media world.

Their work has won major journalism awards, including a Pulitzer Prize for PolitiFact; they have established partnerships with well-known outlets such as NPR, CNN, and USA Today; and they are cited and quoted heavily in print and broadcast media (Graves 2016).

During this period, fact-checking has gained traction rapidly among journalists in the U.S. and, increasingly, overseas (Kessler 2014). Precise measures are difficult to find, but nearly every national news organization in print and broadcast in the U.S. and dozens more at the state and local level now engage in some form of fact-checking (Moore 2012; Spivak 2011; Adair and Thakore 2015). Despite its high visibility, though, a minority of newsrooms currently offer political fact-checking on a regular basis. A 2015 survey of more than 10,000 graduates of U.S. journalism and communication programs found that, among those working in journalism, 11% said their news organizations had a permanent fact-checking feature and another 6% reported fact-checking during elections (Elizabeth et al. 2015).

The growth in fact-checking over the last decade thus raises an important question: Should we understand the increasing adoption of this innovation in political journalism mainly as a response to external factors — for instance, as the pursuit of a new commercial opportunity in a competitive and fast-changing market? Or should we instead attribute the rise of political fact-checking to the influence of professional values and status considerations among political reporters? Below we present the results from a new national field experiment among journalists that evaluates different possible explanations for this phenomenon.

Specifically, we seek to better understand the growth of fact-checking by evaluating the predictions of two competing explanations for its growth within journalism: an account emphasizing the role of professional values and status considerations (which we refer to as “supply-side” factors) and an alternative explanation emphasizing increased demand for fact-checking among news consumers (“demand-side” factors). In this sense, we contribute to the larger literature on the relative role of supply and demand factors in influencing media content, which has often focused on ideological slant and negative coverage rather than the use of new practices (e.g., Gentzkow and Shapiro 2010; Larcinese et al. 2011; Puglisi and Snyder 2011, 2015).

One explanation for the growing adoption of fact-checking is that the practice has been embraced by leading news organizations, including standard-

bearers like the *New York Times*. As noted above, PolitiFact won the Pulitzer Prize for its coverage of the 2008 election, a clear signal of the new genre's embrace by journalistic elites. Despite isolated complaints from some reporters as the format became more visible (e.g. Smith 2011; Brisbane 2012), fact-checking has achieved remarkable professional acceptance in the last five years. For instance, the new public editor of the *New York Times* dedicated one of her first columns to a full-throated defense of fact-checking, rejecting concerns raised by her predecessor (Sullivan 2012). This embrace has been enabled by the widespread recognition that fact-checking fulfills the core values of the profession by providing information to citizens about the accuracy of claims made by political elites. In this sense, it addresses what Gans (2003) has called "journalism's theory of democracy," the assumption by reporters that their coverage supplies the information citizens need to participate meaningfully in democratic self-government.

This sort of professional influence has often been cited to explain the behavior of journalists and news organizations in other contexts. Many studies emphasize the extent to which editors and reporters monitor their peers at other news organizations, especially those at high-status, agenda-setting news outlets (Boczkowski 2009; Gans 2004; Sigal 1973; for a more general review of research on professional status, see Sauder et al. 2012). Content analysis has repeatedly confirmed these patterns of "intermedia" cue-taking (Boczkowski and de Santos 2007; Lowrey and Woo 2010; Reese and Danielian 1989; Shaw 1999). The mechanisms by which journalists influence one another include face-to-face contact at conferences, in press rooms, and on the beat (Crouse 1973; Darnton 1975; Dunwoody 1980; Velthuis 2006) as well as "routine reliance" on one another's published work for the details, sources, and context that inform developing stories (Shoemaker and Reese 1996; Reinemann 2004). This research points consistently to two reasons that editors and reporters monitor and imitate their peers: competition for professional status and recognition, and the need to make editorial decisions (about newsworthiness, accuracy, etc.) under conditions of uncertainty. Journalists and the news organizations they work for define success in relation to their peers and may therefore be influenced by reminders of the prevalence of fact-checking among leading news outlets and the shared professional values that its practitioners seek to uphold. For instance, Lowrey contends that mimicry within an emerging institutional field may take place prior to explicit strategic calculation as organizations seek



legitimacy and stability — a tendency that may help to explain the convergence among fact-checking sites (2012; 2015).

However, an alternative account of the rise of fact-checking might emphasize the role of perceived *demand* for the often colorful and lively format among news audiences. Journalists and news organizations respond to commercial as well as professional imperatives in making editorial decisions. For instance, many studies suggest that reader demand plays an important (though not always decisive) role in shaping the content of political coverage (e.g., Hamilton 2004; Gentzkow and Shapiro 2010; Larcinese et al. 2011; Puglisi and Snyder 2011, 2015). Similarly, numerous editorial innovations have been adopted because of the perceived preferences of audiences and advertisers as much as journalistic concerns. For example, the automobile, real estate, and lifestyle sections that were introduced to newspapers beginning in the 1980s were designed in part as new advertising platforms and have often been criticized on journalistic grounds (e.g. Underwood 1995; Klinenberg 2005). Though many of these innovations have been concentrated among so-called “soft news” topics, it is possible that reader demand could encourage media organizations to innovate in how they provide political news as well.

Surveys and traffic statistics suggest that fact-checking is quite popular with audiences, which is consistent with this account. In one N.P.R. survey, listeners rated fact-checking the most important style of political coverage; three of four asked to hear it daily (Schumacher-Matos 2012). Established fact-checkers often cite such figures to demonstrate growing public interest in the format and to argue that the genre that can broaden the audience for political news. For instance, PolitiFact exceeded one million visitors per day during the 2012 presidential race — a landmark within the field and a statistic that the organization trumpeted to counter criticisms that fact-checking had been ineffective (Adair 2012). The mission statements of leading fact-checking sites all emphasize service to a public eager to hold politicians accountable. Likewise, these organizations frequently publish reader letters expressing the value of the genre and emphasize audience demand in negotiations with traditional media partners who license their work or publicize it to wider audiences (Graves 2016).

## **Hypotheses**

Our experiment tests the following preregistered hypotheses:

Hypothesis 1a: Journalists and media outlets that are assigned to receive the supply-side treatment will be more likely to incorporate fact-checking into their political coverage than those assigned to the control condition.

Hypothesis 1b: Journalists and media outlets that are assigned to receive the demand-side treatment will be more likely to incorporate fact-checking into their political coverage than those assigned to the control condition.

Hypothesis 2: The supply-side treatment will generate more fact-checking content than the demand-side treatment.

Before discussing the design of our study, two theoretical clarifications are necessary. First, supply- and demand-side considerations are not necessarily mutually exclusive. Newsrooms likely consider both professional and commercial priorities before dedicating significant resources to fact-checking (for instance, by licensing a PolitiFact affiliate or launching a permanent feature). Similarly, changes in professional practice may be justified in different terms depending on the audience and the context — for instance, in a journalistic awards ceremony versus a board meeting. For precisely this reason, the field experiment described below isolates and compares two prominent rationales for the increase in fact-checking of the last several years. Second, neither motivation is necessarily superior from a normative perspective. We take no position on the relative importance of professional considerations and audience demand; both can help inspire good journalism but can also lead to low-quality work.<sup>2</sup>

## **Experimental design**

To evaluate these predictions and determine what specific mechanisms most influence the use of fact-checking, we conducted a field experiment during the fall 2014 general election campaign in which we randomly assigned political journalists in the U.S. to be sent correspondence that used either supply-side

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<sup>2</sup>For instance, some journalists might pursue high-status scoops of limited substantive importance such as being the first to identify a vice presidential nominee, while others might pander to audience demand with tabloid-style stories about crime or celebrities.

or demand-side messages to promote the use of fact-checking or to a control condition. The design, hypotheses, and analysis of this study were preregistered before the outcome measures had been collected with Experiments in Governance and Politics (EGAP).<sup>3</sup>

This design represents the first application of the use of randomized field experiments to the study of media behavior. The use of randomized correspondence has been used successfully in other studies of elite behavior (Bergan 2009; Broockman 2013; Butler and Broockman 2011; Butler and Nickerson 2011; Butler et al. 2012; Loewen and MacKenzie 2015; Loewen and Rubenson 2011; McClendon 2014; Nyhan and Reifler 2014), but to our knowledge has not previously been applied to journalists. Previous field experiments have randomized public exposure to media content (e.g., Gerber et al. 2009; Paluck 2009; Gerber et al. 2011), but have not randomized the messages sent to journalists themselves.<sup>4</sup>

The messages we sent to journalists asked them to participate in a survey about fact-checking while describing different reasons that reporters should fact-check. Reporters were randomly assigned to receive one of these messages or to a control group. Each treatment group was sent multiple letters via email and the U.S. Postal Service. Emails were sent on September 22, September 30, and October 17, 2014 and letters were mailed on October 9 and 17, 2014. The number of newspapers and reporters in each condition is explained below in the randomization and assignment to treatment section.

The supply-side messages emphasized the professional prestige and recognition given to fact-checkers, while demand-side correspondence instead highlighted the demand for fact-checking from the public. To amplify their potential effect, both sets of messages also suggested that reporters' work would be monitored in order to find outstanding examples of fact-checking according to the respective criteria of professional status and reader response. (We provide further details on the content of these messages below and include sample treatments in the appendix.)

The goal of this design is to test if these treatments affect journalistic behavior on the margin consistent with the theoretical argument provided above. Our supply-side treatment emphasizes the extent to which journalists should

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<sup>3</sup>The preregistration is available at <http://egap.org>. We note any deviations from the analysis plan below.

<sup>4</sup>We also contribute to the broader literatures on field experiments with firms (see Bandiera et al. 2011) and political institutions (see Grossman and Paler 2015).

cover fact-checking to follow evolving professional practices and standards, especially among high-prestige outlets. By contrast, our demand-side treatment suggests to journalists that there is significant audience demand for more fact-checking. We believe that both of these treatments accord with the types of factors that motivate professional behavior across a wide-range of fields — emulating what high-status peers do (supply-side) and delivering what your customers want (demand-side). Sending numerous letters and emails could make these concerns more salient to journalists and, in the process, measurably affect the prevalence of fact-checking coverage across our sample.

### **Supply-side treatment**

The supply-side treatments used in our field experiment emphasize how fact-checking has been embraced by prestigious journalistic peers for upholding the ideals of the profession. Figure A1 in the Appendix provides the first message we sent to this treatment group; the other messages that were sent, which are nearly identical, are available in the preregistration or upon request. The key components of the messages are:

1. Demonstrating that high-prestige journalists are doing fact-checking;
2. Presenting fact-checking as consistent with the highest ideals of journalism;
3. Informing reporters that the American Press Institute, a respected organization within the profession, will be monitoring coverage to “identify the best examples of media fact-checking within the profession during the 2014 campaign” and stating that “[w]e hope to be able to recommend your work to them;”
4. A link to a survey asking questions about fact-checking.<sup>5</sup>

This treatment is consistent with a vast literature showing that peer effects (broadly speaking) can help to promote the diffusion of behaviors ranging from voting to intergroup tolerance (e.g., Gerber et al. 2008; Gerber and Rogers 2009; Paluck 2011; Bond et al. 2012; Meer 2011; Bollinger and Gillingham

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<sup>5</sup>The survey was included so that we had a plausible reason for contacting journalists. The responses were not a planned outcome of the study — only journalists in the treatment conditions could take part and non-response was, as expected, very high [more than 95%.]

2012; Kast et al. 2012; Paluck and Shepherd 2012). In particular, comparisons to peers or social reference groups have been shown to be a powerful tool for promoting behavior change (e.g., Cialdini et al. 1990; Cialdini and Goldstein 2004; Goldstein et al. 2008; Cialdini 2008; Ayres et al. 2013).<sup>6</sup> In particular, researchers in health are starting to explore the effects of social or peer comparisons in a professional context. Releasing performance data seems to have limited effects (e.g., Marshall et al. 2000; Robinowitz and Dudley 2006). It seems more promising to specifically highlight comparisons with top-performing professional peers (Kiefe et al. 2001; Kolstad 2013) as we do here.

## **Demand-side treatment**

The demand treatment messages used in our field experiment, by contrast, emphasize the extent to which consumers want fact-checking content. The first email sent to this treatment group is provided in Figure A2 in the Appendix; the other messages that were sent are again nearly identical and available upon request or in the preregistration. (Supply- and demand- side mailings occurred on exactly the same schedule.) The key components of these are:

1. Making the case that readers are hungry for more fact-checking;
2. Presenting evidence that fact-checking is attracting significant audiences;
3. Informing reporters that we will be monitoring coverage (and their response to reader demand) by stating that “The American Press Institute will be tracking reader response to your newspaper to identify the fact-checking content that readers find most compelling during the 2014 campaign” and that “[w]e hope to be able to recommend your work to them;”
4. A link to a survey asking questions about fact-checking.

## **Experimental sample**

The universe for our experimental sample begins with newspapers with circulations over 100,000 that had articles written by staff members available in full-text electronic databases for 2014. Our dataset consists of 1689 reporters at

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<sup>6</sup>However, it is important to note that peer comparisons are not always effective and can backfire (Werch et al. 2000; Wechsler et al. 2003; Schultz et al. 2007; Allcott 2011; Beshears et al. 2011; Livingstone et al. 2011; Costa and Kahn 2013; Bolsen et al. 2014).

82 newspapers. More formally, we used the following procedures to generate these outlets and reporters for inclusion in the study:

1. The newspaper must have had a minimum circulation of 100,000 in 2007,<sup>7</sup> still be in operation, and continue to sell a print edition (i.e., free or online-only newspapers are excluded).<sup>8</sup>
2. The newspaper must have full-text availability for content published during the study period in the LexisNexis Academic, Proquest, or Access World News databases (the news databases we use for this study, which cover almost all of the outlets selected using the first criterion).
3. Names and email contact information for political reporting staff must be available for the outlet (necessary for randomization at the journalist level) and qualifying articles must be published by newspaper staff.<sup>9</sup>
4. All outlets that had full-time dedicated fact-checking operations were excluded (current or past PolitiFact affiliates and the *Washington Post*).
5. The *New York Times* was excluded because of a conflict of interest. It was also necessary to exclude the *Wall Street Journal*, an outlier in the number of qualifying reporters which created balance problems for the multilevel randomization design (which is described below).

To create a list of political reporters for each newspaper in the qualifying sample, we conducted the following political keywords search in an electronic database in which the newspaper was archived (either LexisNexis Academic, Proquest, or Access World News) for the period of June 1–30, 2014:

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<sup>7</sup>We used circulation in 2007 because it is prior to the growth in fact-checking observed starting with the 2008 election and allows for the lag between changes in newspaper economics and newsroom staffing. Despite the downturn in newspaper circulation since then, the relative ordering of newspapers by circulation is highly consistent — for instance, all of the top 50 newspapers by circulation in 2014 are in our sample (excluding those dropped based on the criteria listed below) and virtually all of the outlets in our sample remain among the top 100 daily or Sunday newspapers by circulation.

<sup>8</sup>This criterion excludes the *Examiner* [CA], *Washington Examiner*, *Seattle Post-Intelligencer*, *Rocky Mountain News*, and *am New York*; the *Honolulu Star-Advertiser* is treated as the sum of the circulations of the *Honolulu Star-Bulletin* and *Honolulu Advertiser* and is therefore included.

<sup>9</sup>All qualifying articles in the *Press Enterprise* were written by *Orange County Register* staff writers; it was therefore excluded.

election OR presidential OR Senate OR Senator OR Sen. OR Congress OR Congressman OR Congresswoman OR Legislature OR Legislator OR “House of Representatives” OR “State House” OR Capitol OR “state assembly” OR “general assembly” OR “legislative assembly” OR assemblyman OR assemblywoman OR Democrat OR Republican OR Democratic OR DFL OR GOP OR governor OR Gov. OR Mayor OR constitution OR “city council” OR councilman OR council-woman

We included a journalist in our experimental sample if he or she authored or co-authored three or more articles that included the search terms during the period in question (excluding opinion articles). To validate this procedure, we hand-coded a sample of 100 reporters from 25 randomly selected outlets and found that 81% were correctly coded as having written three or more political articles.<sup>10</sup>

## **Randomization and assignment to treatment**

In this study, we utilize a multilevel randomization strategy that ensures that we obtain valid estimates of the individual-level effects of our treatments as well as estimates of any potential intra-organizational spillovers within media outlets. We first block randomized at the outlet (newspaper) level to one of five conditions and then randomized journalists within those outlets as described below:

1. Supply side (high) – All of the eligible journalists in the organization were sent the supply-side treatment messages. Sixteen newspapers and 335 reporters were assigned to this group. All 353 reporters were sent treatments.
2. Supply side (low) – One half of the eligible journalists in the organization were sent the supply-side treatment messages (reporters in the low saturation conditions were randomly assigned to receive the messages or

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<sup>10</sup>To the extent that some reporters were mistakenly included in the sample despite not focusing on political coverage, it should reduce any treatment effect we find (non-political reporters are unlikely to cover fact-checking under most circumstances regardless of what messages they receive).

not). Sixteen newspapers and 338 reporters were assigned to this treatment group. Of the 338 reporters in this group, 169 were sent the supply side treatments.

3. Demand side (high) – All of the eligible journalists in the organization were sent the demand-side treatment messages. Seventeen newspapers and 331 reporters were assigned to this condition. All 331 reporters were sent treatments.
4. Demand side (low) – One half of the eligible journalists in the organization were sent the demand-side treatment (reporters in the low saturation conditions were randomly assigned to receive the messages or not). Seventeen newspapers and 347 reporters were assigned to this condition. Of the 347 reporters in this condition, 173 were sent demand treatments.
5. Control – No reporters in the organization were sent either the supply-side or demand-side treatment messages. Sixteen newspapers and 320 reporters were assigned to this condition.

At the newspaper level, 34 newspapers were assigned to the demand conditions, 32 to the supply conditions, and 16 to the control condition. Among journalists, 504 reporters were assigned to treatment in the demand conditions, 522 in the supply conditions, and 320 to the control condition. (An additional 343 reporters at newspapers in the low-saturation demand or supply conditions were not assigned to treatment.)

By randomly varying the level of saturation of messages about fact-checking within a random subset of outlets in our treatment groups, we can directly estimate whether and to what extent the treatments are affecting untreated journalists within the outlet — a possible complication in any experimental design of this type (Philipson 2000; Nickerson 2008; Babcock and Hartman 2010; Baird et al. 2014; Sinclair et al. 2012; see also Bowers et al. 2013, Aronow and Samii 2012, and Coppock and Sircar 2013). By comparing members of outlets in the control group with untreated reporters in treatment outlets with low saturation, this design allows us to estimate whether the effect of the experiment on treated reporters in those outlets spilled over to untreated reporters within those outlets. While we expect that our treatments are capable of having an immediate effect on reporters, our expectations about intra-organization spillover are more



agnostic, especially during the relatively short study period. However, it is necessary to evaluate our results for the possibility of spillovers before deciding how best to analyze the data. If we find no evidence of spillovers, we can analyze our results at the individual level, but if messages sent to journalists may be affecting colleagues who were not assigned to the treatment conditions, then it is safer to estimate treatment effects at the outlet level using the saturation design described above, which exogenously varies the proportion of journalists at a given outlet who are treated.

To avoid random imbalances in key covariates across experimental conditions, we utilize block randomization in a multilevel context (Duflo et al. 2007; Moore 2012). Specifically, we block randomized at the outlet level within groups defined by the presence or absence of a competitive campaign for governor or U.S. Senate (those with at least one “tossup” or “leaning” race as classified by the Cook Political Report on September 15, 2014), maximizing balance in the number of qualifying reporters at the outlet. We then block randomized within each outlet at the reporter level according to the design described above while maximizing balance in the frequency of political coverage by reporters during the June 1–30, 2014 period (measured using the article count described above).<sup>11</sup> The use of a multilevel block-randomized design ensured that our treatment and control groups are almost perfectly balanced on these key covariates at both the outlet and journalist level, which we demonstrate using the balance statistics that are presented in Table A2 in the Appendix.

## **Outcome measure**

Our outcome measure is a keyword-based measure of fact-checking coverage. After the election, research assistants who were blind to treatment condition searched media coverage by reporters and outlets in our sample for keywords related to fact-checking — a well-defined and replicable approach with low false positive rates — to determine where and how frequently these terms were used by the authors and outlets using the LexisNexis Academic, Proquest, or Access World News databases. Specifically, the RAs conducted the following fact-checking keywords search for the period of September 22–November 4, 2014, which was our prespecified study period:

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<sup>11</sup>All randomizations were performed using the blockTools package for R with the default optimal greedy algorithm (Moore 2014).

“factcheck” OR “fact-check” OR “fact check” OR “factchecks”  
OR “fact-checks” OR “fact checks” OR “factchecker” OR “fact-  
checker” OR “fact checker” OR “factcheckers” OR “fact-checkers”  
OR “fact checkers” OR “factchecking” OR “fact-checking” OR  
“fact checking” OR “factchecked” OR “fact checked” OR “fact-  
checked” OR Politifact OR factcheck.org

The RAs then counted the number of qualifying news articles mentioning fact-checking or prominent factcheckers that were authored or co-authored by each reporter in the data during the study period. (We excluded letters to the editor, opinion articles, and editorials; further details and coding instructions are available upon request.) These totals were then also summed by newspaper.<sup>12</sup> By focusing on coverage content as our outcome measure, we rule out the possibility of cheap talk or social desirability effects that might otherwise be a concern in survey-based responses.

## **Analysis approach**

We test our hypothesis by analyzing the intent to treat (ITT) effect at both the individual and outlet level. These models are estimated using weighted least squares with robust standard errors where the weights are the inverse probability of treatment within blocks.<sup>13</sup> The standard errors of all reporter-level analyses are clustered on outlet to account for interdependence within newspapers. To improve the precision of our estimates, we include a control measure for the total output of political articles published in June 2014 by the journalist or outlet in question<sup>14</sup> (as measured by the political keyword search described

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<sup>12</sup>As described in the preregistration, we intended to analyze a human-coded measure of when journalists evaluated the accuracy of public statements in coverage of campaign events such as debates. However, despite extensive efforts to create such a measure, we could not achieve sufficiently high levels of intercoder reliability to be assured of the validity of this measure and therefore do not consider it here. We discuss the need for new measurement strategies in the conclusion.

<sup>13</sup>This approach is necessary to correctly estimate the ITT using a block randomization design — see Gerber and Green (2012, 117).

<sup>14</sup>We do not use the proportion of political articles including fact-checking terms as an outcome measure because fact-checking articles may not always include the political keywords used in our search. The number of articles published in a prior period that include political keywords is instead used as a predictor variable to approximate the general frequency of political coverage in that outlet.

above).<sup>15</sup>

## Results

We find that fact-checking coverage is still quite rare among the broad sample of U.S. newspapers whose political coverage we analyze. Despite growth in coverage of the practice (Graves et al. 2015), our keyword-based measure of its prevalence during the fall 2014 campaign indicates that newspapers without dedicated fact-checking operations seldom mention it in their reporting. Just 31 of the 82 newspapers in our sample (38%) had a political reporter in our sample use one or more of fact-checking keywords in our search during the study period (mean articles per newspaper: 0.91, 95% CI: 0.52–1.30). Similarly, only fifty reporters in our sample (3%) mentioned fact-checking explicitly during the study period (mean articles per reporter: 0.04, 95% CI: 0.03–0.06).

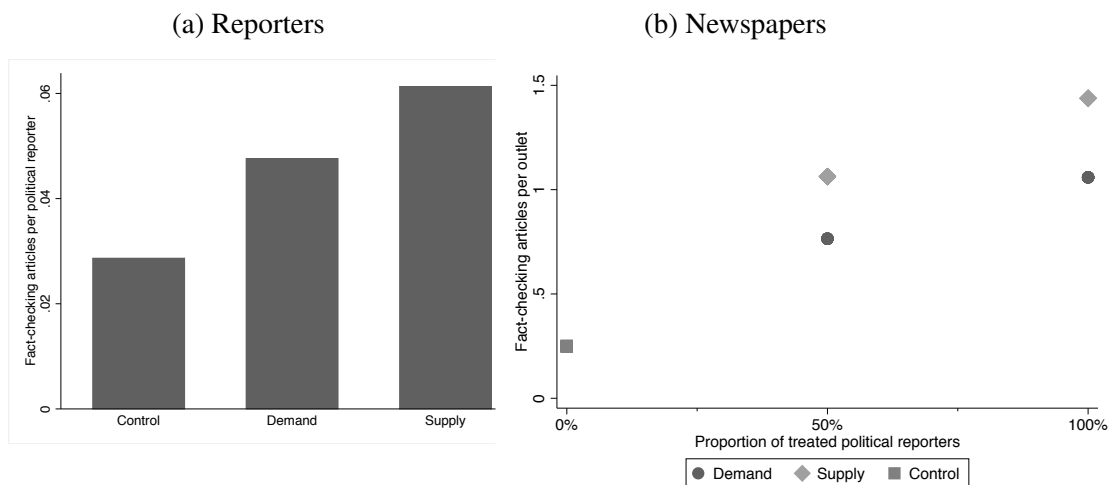
Before turning to formal tests of our hypotheses, it is first necessary to consider whether our treatment effects spilled over to untreated reporters at newspapers in the low saturation demand and supply conditions. When we compare untreated journalists in treated newspapers with those who work at newspapers in which no reporters were treated (see Table A3 in the Appendix), the results are not statistically significant. However, the confidence intervals for possible spillover effects are quite wide and easily encompass the treatment effect estimates we report for our treatments at the newspaper level below.<sup>16</sup> In addition, if we conduct a *post hoc* analysis comparing untreated journalists in the treated newspapers as a group with journalists at newspapers in the control group, the result is nearly significant ( $m = .04$  for treated newspapers,  $m = .01$

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<sup>15</sup>Our analysis deviates from the preregistration in two minor respects. In our analysis plan, we had hoped to use two different approaches to estimate the treatment effect on those who actually received the treatment. Unfortunately, neither of these were possible. The first measure of receipt of treatment that we hoped to use was whether or not a reporter opened an email that was sent to them. However, the survey software package we used (Qualtrics) does not provide individual-level data on who opens emails sent by the service. We decided not to use an alternate provider like MailChimp because sending emails to our sample would have violated their terms of service. The second measure we considered for receipt of treatment was whether or not a reporter took the survey linked in our email. But too few reporters in the treatment conditions took the survey ( $n = 66$ ) to make it plausible that all of the effects of the treatment operated through taking the survey, which is a necessary assumption in estimating treatment effects from a measure of receipt of treatment; see, e.g., Nyhan and Reifler 2014). As a result, all treatment effect estimates reported below are intent to treat effects.

<sup>16</sup>The 95% CI for the demand-side treatment is (-0.02, 0.08) and the 95% CI for the supply-side treatment is (-0.02, 0.09).

Figure 1: Experimental results



Means by experimental condition. Outcome variable is the number of articles returned by a keyword search for articles mentioning fact-checking or dedicated fact-checkers written by political reporters at a large sample of newspapers excluding current or former PolitiFact affiliates or newspapers with dedicated fact-checkers (see Table A1 in Appendix for full list).

for control newspapers;  $t = -1.60$ ,  $p < .06$  one-sided). We therefore report both journalist- and newspaper-level results below.

We first plot mean fact-checking coverage by condition at the journalist and newspaper level in Figure 1. The bar graph of fact-checking content at the reporter level by condition in Figure 1a is broadly consistent with our expectations. There appears to be more fact-checking in the supply condition compared to the demand condition and more fact-checking in the demand condition compared to the control, though the differences are small. The pattern in Figure 1b is more compelling, showing that fact-checking coverage increases with saturation levels in both treatment groups but the supply treatment seems to have a greater effect.

In Table 1, we estimate the effects of our treatments more formally at both the journalist and newspaper levels. The results reported in Table 1a are treatment-specific estimates corresponding to the full models in Table A4 in the Appendix; correspondingly, the results in Table 1b are the treatment-specific estimates from Table A5. Each treatment is estimated in a separate model that is weighted using inverse probability of treatment weights to account for the

Table 1: Treatment effect estimates: Hypotheses

(a) Journalists		(b) Newspapers	
	Coefficient (SE)		Coefficient (SE)
Supply treatment	0.03 (0.02)	Supply (high)	1.17* (0.68)
		Supply (low)	0.76* (0.44)
Demand treatment	0.02 (0.02)	Demand (high)	0.79 (0.50)
		Demand (low)	0.49 (0.38)
N	1689	N	82

\*  $p < 0.05$  (one-sided); standard errors for journalists are clustered by newspaper. Weighted least squares estimates of each treatment effect where the weights are the inverse probability of a given treatment for the block randomization design; all models include a measure of prior political coverage by the reporter or newspaper and are estimated with robust standard errors (see Tables A5 and A6 in Appendix). The outcome variable is the number of articles returned by a keyword search for articles mentioning fact-checking or dedicated fact-checkers written by political reporters at a large sample of newspapers excluding current or former PolitiFact affiliates or newspapers with dedicated fact-checkers (see Table A1 in Appendix for full list).

block randomization design (Gerber and Green 2012, 117).<sup>17</sup>

Looking first at the reporter-level results in Table 1a, we observe that our treatments fall short of conventional levels of statistical significance. However, the treatment effects are in the direction we expected under Hypotheses 1a and 1b and the coefficient for the supply treatment is larger than the coefficient for the demand treatment as expected under Hypothesis 2. When we aggregate the individual-level results at the newspaper level in Table 1b, the results come into better focus. Both the high- and low-saturation supply-side treatments have positive and statistically significant effects ( $p < 0.05$ , one-sided). By contrast, neither the high-saturation nor the low-saturation demand treatments

<sup>17</sup>These models include an indicator for each treatment as well as our estimate of the volume of political coverage by the reporter or newspaper as a control variable (rescaled so that the coefficients are more interpretable). As Tables A5 and A6 make clear, our results do not vary based on the use of these treatment weights, but we include them to maintain consistency with our preregistration.

reach statistical significance.<sup>18</sup>

H1 is thus supported. However, though the evidence in favor of H1a is stronger than H1b (the point estimates for the supply treatment effect are larger than for the corresponding demand treatment effects and we can reject the null hypothesis with a higher confidence level), we cannot reject the null hypothesis of no difference between the supply and demand treatments at the journalist or newspaper level in Table 1 or the pooled analysis in Table A6. H2 is thus not supported.

## **Do contextual factors affect fact-checking?**

While the main effects presented above yield important information about the average effect of our treatments, their effects may vary depending on characteristics of the outlet or reporter or the political context in which they report. In this section, we examine whether three specific contextual factors moderate the effect of our treatments.<sup>19</sup>

First, we consider whether newspapers vary in how responsive they are to messages promoting the use of fact-checking based on their past coverage of the practice, which we measure using the measure of fact-checking coverage applied to the year before the 2012 election.<sup>20</sup> This question addresses potentially important statistical concerns about heterogeneous treatment effects and also has substantively important implications for understanding which newspapers are most responsive to efforts to promote fact-checking.

Contextual effect 1: Are messages promoting greater use of fact-checking more or less effective among outlets who already feature

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<sup>18</sup>To increase our statistical power, it is possible to combine the supply treatments into a single group and the demand treatments into a single group. When we pool the supply and demand treatment groups in this way in Table A6 of the Appendix, we find that coverage of fact-checking increased significantly for newspapers relative to controls among both those who received the supply ( $p < 0.05$  two-sided) and demand treatment messages ( $p < 0.05$  one-sided). However, because we did not preregister a pooled analysis of the high- and low-saturation conditions at the outlet level, this analysis represents a deviation from our analysis plan and should be considered to be exploratory.

<sup>19</sup>These three contextual effects were included as research questions in our preregistration. We did not have clear *a priori* theoretical expectations so we did not include directional hypotheses; all results presented here are consistent with and conform to our preregistration.

<sup>20</sup>We use a median split in the analyses in the main text for expositional reasons and present models that include a continuous measure of keywords in Tables A7 and A8 of the Appendix.

fact-checking relatively frequently and the reporters who work at them?<sup>21</sup>

A second moderator that we investigate is whether fact-checking by nearby outlets changes the effects of messages about fact-checking, which we measure using an indicator for whether a PolitiFact affiliate or dedicated fact-checking project such as the Truth in Numbers project at the Cleveland Plain Dealer was in operation in the state in 2014. It is possible that reporters are more responsive to messages about fact-checking when it is practiced by their journalistic peers in a state.<sup>22</sup>

Contextual effect 2: Are messages promoting greater use of fact-checking more or less effective among journalists and outlets in states in which an outlet has a dedicated fact-checking operation?

Finally, we are interested in the effects of competitive political campaigns on fact-checking, which we measure using an indicator for the presence of a gubernatorial or U.S. Senate race with a Cook Political Report rating of “tossup” or “leaning” on September 15, 2014. One possibility is that the debate and reader interest generated by competitive campaigns motivate media outlets to devote more resources to coverage, including fact-checking. In this sense, fact-checking might act as a complement to existing political coverage, which often refrains from adjudicating factual claims by candidates. However, an alternate possibility is that fact-checking acts as a substitute for traditional forms of campaign coverage. When a campaign is less competitive or an important politician faces little opposition, fact-checking may help provide an alternate form of accountability for their public statements. Conversely, competitive campaigns might strain the resources of media outlets, which are forced to devote more coverage to traditional “horse-race” coverage of campaign events, leaving little capacity for fact-checking.

Contextual effect 3: Are messages promoting greater use of fact-checking more or less effective in states with competitive statewide campaigns?

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<sup>21</sup>As we discuss below, outlets with dedicated fact-checking operations are excluded from our sample. As such, the research question investigates differences among media organizations that have not made a formal commitment to the approach.

<sup>22</sup>However, the retrospective study reported in Graves et al. (2015), which was conducted after our study design was preregistered, found no evidence that the launch of state affiliates changed the prevalence of fact-checking coverage in 2012.

We use the same analysis approach to examine these contextual effects as we did with the main effects. More specifically, we assess whether these different contexts moderate the effects of our treatment by interacting treatment assignment indicators with the covariate in question (prior fact-checking coverage, PolitiFact state, competitive race).

Looking first at the journalist-level results in Table 2, we see that there are no significant interactions across all three models corresponding to our contextual effects of interest. Likewise, the newspaper-level results in Table 3 reveal only one significant interaction.<sup>23</sup> The low-saturation supply treatment had no significant effect on newspapers that were below the outlet-level median in fact-checking coverage during the 2012 election, but the marginal effect of the low-saturation supply treatment was statistically significant for newspapers that were above the median in fact-checking in the previous electoral cycle ( $\beta = 1.49, p < .05$ ). However, this conclusion should be treated as highly tentative given the potential for multiple comparisons problems in this table, the lack of a corresponding effect among newspapers in the high-saturation supply group, and the fact that the interaction with the continuous fact-checking measure in Table A8 is not statistically significant.

In summary, our treatments appear to operate similarly across the different journalistic characteristics and contexts we identified in our preregistration. We find no evidence of heterogeneous treatment effects in these cases.

## Discussion

This study offers compelling evidence that appeals to journalistic status and values can successfully promote fact-checking coverage, which might help explain the turn toward fact-checking in recent years. An appeal based on audience demand had more modest effects, though it also increased fact-checking coverage enough that we could not directly distinguish it from the other treatment message.<sup>24</sup> It should also be noted that our design does not allow us to distinguish between the effects of the values and information contained in the

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<sup>23</sup>We deviate slightly from the preregistered analysis plan in Tables 2 and 3 for simplicity. The preregistration says that we will analyze these models using weighted least squares but it is tedious to estimate separate models for each treatment in each model and the results are identical (available upon request). We therefore presented unweighted results in the main text.

<sup>24</sup>It is also possible that messages focused on demand would be more effective than those relating to supply issues with particular groups of journalists or in certain internal contexts — for instance, convincing a publisher or editor to embrace the format.



Table 2: Treatment effect estimates: Contextual effects (journalists)

	CE1	CE2	CE3
Supply treatment	0.05 (0.05)	0.04 (0.03)	0.01 (0.02)
Demand treatment	0.02 (0.02)	0.01 (0.02)	0.02 (0.03)
Political coverage(/100)	-0.04 (0.03)	-0.02 (0.03)	-0.04 (0.04)
High fact-checking coverage (2012)	0.02 (0.002)		
Supply $\times$ high fact-checking	-0.03 (0.05)		
Demand $\times$ high fact-checking	0.00 (0.04)		
PolitiFact state		-0.03* (0.01)	
Supply $\times$ PolitiFact state		-0.02 (0.03)	
Demand $\times$ PolitiFact state		0.06 (0.04)	
Competitive race			0.00 (0.02)
Supply $\times$ competitive			0.08 (0.06)
Demand $\times$ competitive			0.01 (0.04)
Constant	0.03 (0.01)	0.04 (0.01)	0.04 (0.02)
N	1689	1689	1689

\*  $p < 0.05$  (one-sided). OLS models with robust standard errors (clustered at the newspaper level in the journalist results). The outcome variable is the number of articles returned by a keyword search for articles mentioning fact-checking or dedicated fact-checkers written by political reporters at a large sample of newspapers excluding current or former PolitiFact affiliates or newspapers with dedicated fact-checkers (see Table A1 in Appendix for full list).

Table 3: Treatment effect estimates: Contextual effects (newspapers)

	RQ1	RQ2	RQ3
Supply treatment (high)	1.60 (1.37)	1.61* (0.94)	0.69* (0.34)
Supply treatment (low)	-0.07 (0.30)	1.11* (0.58)	0.79 (0.52)
Demand treatment (high)	0.29 (0.39)	0.70 (0.74)	0.90 (0.73)
Demand treatment (low)	0.80 (0.74)	0.49 (0.44)	0.88* (0.51)
Political coverage (/1000)	0.00 (0.02)	0.01 (0.02)	0.00 (0.02)
High fact-checking coverage (2012)	-0.41* (0.24)		
Supply (high) × high fact-checking	-0.61 (1.44)		
Supply (low) × high fact-checking	1.56* (0.74)		
Demand (high) × high fact-checking	1.94 (1.96)		
Demand (low) × high fact-checking	-0.22 (0.84)		
PolitiFact state		-0.28* (0.17)	
Supply (high) × PolitiFact state		-1.22 (0.95)	
Supply (low) × PolitiFact state		-1.10 (0.58)	
Demand (high) × PolitiFact state		0.48 (0.94)	
Demand (low) × PolitiFact state		0.00 (0.58)	
Competitive race			0.39 (0.35)
Supply (high) × competitive			1.30 (1.62)
Supply (low) × competitive			0.02 (1.04)
Demand (high) × competitive			-0.24 (1.02)
Demand (low) × competitive			-1.06 (0.69)
Constant	0.39 (0.23)	0.26 (0.18)	
N	82	82	82

\*  $p < 0.05$  (one-sided). OLS models with robust standard errors. The outcome variable is the number of articles returned by a keyword search for articles mentioning fact-checking or dedicated fact-checkers written by political reporters at a large sample of newspapers excluding current or former PolitiFact affiliates or newspapers with dedicated fact-checkers (see Table A1 in Appendix for full list).

messages and the promise of monitoring. However, the possibility of attention from professional peers (the American Press Institute in this study) is consistent with the real-world mechanism of peer influence that we hoped to test.

While the absolute effect sizes in our experiment are relatively modest — approximately one additional story mentioning fact-checking per treated newspaper — the effects are quite large relative to the extremely low baseline. Most of the newspapers studied did not produce even a single qualifying article absent our stimulus (81% of newspapers in our control group published 0 articles [13/16];  $m = .25$ ). By contrast, the prevalence of fact-checking coverage increased substantially in our treatment conditions, especially the low- and high-saturation supply conditions ( $m=1.06$  and  $m=1.44$ , respectively) but also the demand conditions ( $m=0.76$  for low saturation,  $m=1.06$  for high saturation).

These results should also be considered in light of the particular challenge faced by field experiments such as this one. In contrast to studies which measure survey-based outcomes under tightly controlled experimental conditions, we evaluate the effect of our treatments in the real world on the actual outcome of interest: journalistic behavior during a real U.S. election. This approach maximizes the external validity of our results and minimizes the extrapolation that is necessary from more artificial study contexts. However, it also requires testing the effect of a necessarily weak and artificial treatment on the real-world behavior of professionals facing the demands and pressures of their actual workplaces, which diluted the effects of our treatment. Unlike subjects recruited for a controlled experiment, some of the busy journalists we studied may have given our letters and emails little attention or ignored them altogether, which likely explains why we can better distinguish the effects of the experiment at the outlet level due to the power of aggregation.

In particular, these estimates are intent to treat effects; the effect sizes we estimate would likely be substantially greater if we were able to estimate treatment effects on those reporters who actually received the treatments. Similarly, providing information about the fact-checking trend may have a more limited effect than actually observing audience demand for fact-checking or the professional accolades it can bring. Reporters are more likely to be moved to action by direct firsthand experience than messages from scholars, which makes it all the more remarkable that we observe measurable effects in our sample.

## Conclusion

Why do journalists fact-check? In this article, the first field experiment of its kind, we find compelling evidence that fact-checking spreads primarily because it appeals to the values and status concerns of journalists. When political reporters at U.S. newspapers are reminded that fact-checking is a prestigious activity that upholds the ideals of their profession, we observe a significant increase in subsequent fact-checking coverage. Reminders of audience interest in the practice have more modest effects.

These results suggest that professional imperatives continue to exercise substantial influence on the behavior of political journalists despite the commercial incentives they face to satisfy audience demand. Recent research suggests that online audience data has made news organizations more sensitive to consumer preferences (Loosen and Schmidt 2012; Lee et al. 2014; Anderson 2011), raising longstanding concerns about the erosion of journalistic values as outlets prioritize commercially successful content (Thussu 2007; Bennett 2003; Boczkowski and Peer 2011). This study offers suggestive countervailing evidence that notions of good journalism are still playing an important role in the spread and adoption of a new genre of political reporting.<sup>25</sup>

As with all studies, ours has limitations that point the way for future research. First, it is essential to design reliable approaches to more directly measure the incidence of political fact-checking in news reports using human coding that can recognize the (unlabeled) occurrence of the practice of fact-checking. While we are confident in the results generated by our keyword-based approach, scholars should seek to establish a consensus definition of political fact-checking (journalists apply the term to a range of techniques and formats) and develop a coding procedure that can reliably and comprehensively identify instances of the practice. Identifying unlabeled instances of fact-checking is an extremely difficult task that requires coders to consider numerous subtle factors such as the framing of a story, the choice and deployment of sources, and the distinction between subjective criticism and direct evaluations of accuracy. Still, we will need to develop such measures to understand the changes taking place in journalism today.

In addition, more research is needed on dynamics within newsrooms that

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<sup>25</sup>As noted above, however, arguments about audience interest in fact-checking may still play an important role when organizations decide whether invest in the format.

can help us understand why fact-checking is embraced by certain outlets and not others. Though our field experiment found significant results at the newspaper level, the results do not clearly indicate whether outlet- or reporter-level factors are more important in the growth of the practice. In addition, our design does not allow us to consider how the two levels of analysis might interact. For instance, individual reporters might typically begin fact-checking before their newsrooms adopt the practice more formally, though in other cases an organizational mandate could help encourage journalists in the newsroom to change their approach. Further research into these mechanisms is needed.

Nonetheless, this research makes a valuable contribution to the study of elite behavior and the media by demonstrating that it is possible to use field experiments to understand the factors shaping news coverage and other behaviors of interest within communication. While field experiments are becoming more common in studies of elected and administrative officials, we demonstrate that the approach can also be applied to other elite populations. The application of randomized treatments to a large sample of reporters allows us to make more convincing causal inferences about influences on media coverage than many previous studies, which are often forced to rely on case studies or small samples of observational data. Likewise, our focus on a publicly observable outcome (media coverage) minimizes concerns about social desirability bias in elite interviews or surveys.

This study also demonstrates how experimental research can build upon and complement historical and sociological studies of professional practice. Studies like this one can shed light on the contestation over professional values or practices in any field where these are reliably reflected in public behavior, including various forms of routine public communication such as press releases, newsletters, blog posts, and tweets. The approach we develop here also holds particular promise in studying political communication today. Against the backdrop of the so-called “mediatization” of politics (Deacon and Stanyer 2014; Strömbäck 2008), it is increasingly important to understand the media behavior of a wide range of institutional political actors including party organizations, campaigns, and movement or issue organizations.

Ultimately, however, our most important contribution is to research on the factors that influence media content and the adoption of new journalistic practices, which often emphasize either commercial incentives or journalistic norms and status concerns — a recurring tension in both the history of the

American political press and previous research on its development. While the fact-checking movement often cites audience interest in its work, our results indicate that messages emphasizing professional considerations were most effective in increasing coverage of the practice. Despite the pressures on reporters to meet audience demand in a difficult business environment for newspapers, it appears that political journalists still enjoy substantial autonomy to respond to professional incentives.

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# Appendix

Table A1: Newspaper sample

State	Newspaper	Headquarters city
Alabama	<i>Birmingham News</i>	Birmingham
Arizona	<i>The Arizona Daily Star</i>	Tuscon
Arizona	<i>The Arizona Republic</i>	Phoenix
Arkansas	<i>Arkansas Democrat-Gazette</i>	Little Rock
California	<i>Contra Costa Times</i>	Walnut Creek
California	<i>Daily News</i>	Woodland Hills
California	<i>Fresno Bee</i>	Fresno
California	<i>Investor's Business Daily</i>	Los Angeles
California	<i>Sacramento Bee</i>	Sacramento
California	<i>San Diego Union-Tribune</i>	San Diego
California	<i>San Jose Mercury News</i>	San Jose
California	<i>The Los Angeles Times</i>	Los Angeles
California	<i>The Orange County Register</i>	Santa Ana
California	<i>The San Francisco Chronicle</i>	San Francisco
Colorado	<i>The Denver Post</i>	Denver
Connecticut	<i>Hartford Courant</i>	Hartford
District of Columbia	<i>The Washington Times</i>	Washington
Florida	<i>Daytona Beach News-Journal</i>	Daytona Beach
Florida	<i>Orlando Sentinel</i>	Orlando
Florida	<i>Sarasota Herald-Tribune</i>	Sarasota
Florida	<i>South Florida Sun-Sentinel</i>	Fort Lauderdale
Florida	<i>The Florida Times-Union</i>	Jacksonville
Florida	<i>The Palm Beach Post</i>	West Palm Beach
Florida	<i>The Tampa Tribune</i>	Tampa
Hawaii	<i>The Honolulu Star-Advertiser</i>	Honolulu
Illinois	<i>Chicago Sun-Times</i>	Chicago
Illinois	<i>Chicago Tribune</i>	Chicago
Illinois	<i>Daily Herald</i>	Arlington Heights
Indiana	<i>Indianapolis Star</i>	Indianapolis
Iowa	<i>The Des Moines Register</i>	Des Moines
Kentucky	<i>Lexington Herald-Leader</i>	Lexington
Kentucky	<i>The Courier-Journal</i>	Louisville
Louisiana	<i>Times-Picayune</i>	New Orleans
Maryland	<i>The Sun</i>	Baltimore
Massachusetts	<i>Boston Herald</i>	Boston
Massachusetts	<i>The Boston Globe</i>	Boston
Michigan	<i>Detroit Free Press</i>	Detroit
Michigan	<i>The Detroit News</i>	Detroit

**Table A1 – continued from previous page**

State	Newspaper	City (HQ)
Michigan	<i>The Grand Rapids Press</i>	Grand Rapids
Minnesota	<i>St. Paul Pioneer Press</i>	St. Paul
Minnesota	<i>Star Tribune</i>	Minneapolis
Missouri	<i>Kansas City Star</i>	Kansas City
Missouri	<i>St. Louis Post-Dispatch</i>	St. Louis
Nebraska	<i>Omaha World-Herald</i>	Omaha
Nevada	<i>Las Vegas Review-Journal</i>	Las Vegas
New Jersey	<i>Asbury Park Press</i>	Neptune
New Jersey	<i>The Record</i>	Hackensack
New Mexico	<i>Albuquerque Journal</i>	Albuquerque
New York	<i>Daily News</i>	New York City
New York	<i>New York Post</i>	New York City
New York	<i>Newsday</i>	Long Island
New York	<i>Rochester Democrat and Chronicle</i>	Rochester
New York	<i>The Buffalo News</i>	Buffalo
New York	<i>The Journal News</i>	White Plains
New York	<i>The Post-Standard</i>	Syracuse
North Carolina	<i>The Charlotte Observer</i>	Charlotte
North Carolina	<i>The News and Observer</i>	Raleigh
Ohio	<i>Akron Beacon Journal</i>	Akron
Ohio	<i>Dayton Daily News</i>	Dayton
Ohio	<i>The Blade</i>	Toledo
Ohio	<i>The Cincinnati Enquirer</i>	Cincinnati
Ohio	<i>The Columbus Dispatch</i>	Columbus
Oklahoma	<i>The Oklahoman</i>	Oklahoma City
Oklahoma	<i>Tulsa World</i>	Tulsa
Pennsylvania	<i>Pittsburgh Post-Gazette</i>	Pittsburgh
Pennsylvania	<i>The Morning Call</i>	Allentown
Pennsylvania	<i>The Philadelphia Daily News</i>	Philadelphia
Pennsylvania	<i>The Philadelphia Inquirer</i>	Philadelphia
Pennsylvania	<i>Tribune-Review</i>	Pittsburgh
South Carolina	<i>The State</i>	Columbia
Tennessee	<i>Knoxville News Sentinel</i>	Knoxville
Tennessee	<i>The Commercial Appeal</i>	Memphis
Tennessee	<i>The Tennessean</i>	Nashville
Texas	<i>Fort Worth Star-Telegram</i>	Fort Worth
Texas	<i>Houston Chronicle</i>	Houston
Texas	<i>San Antonio Express-News</i>	San Antonio
Texas	<i>The Dallas Morning News</i>	Dallas
Utah	<i>The Salt Lake Tribune</i>	Salt Lake City
Virginia	<i>The Virginian-Pilot</i>	Norfolk

**Table A1 – continued from previous page**

State	Newspaper	City (HQ)
Virginia	<i>USA Today</i>	Arlington
Washington	<i>Seattle Times</i>	Seattle
Washington	<i>The News Tribune</i>	Tacoma

Table A2: Balance statistics

(a) Journalists						
	Supply	Demand	Control	<i>p</i> -value		
Competitive	0.36	0.35	0.36	0.95		
Political articles	7.90	8.04	7.82	0.84		
N	522	504	663			

(b) Newspapers						
	Supply (H)	Supply (L)	Demand (H)	Demand (L)	Control	<i>p</i> -value
Competitive	0.38	0.38	0.35	0.35	0.38	1.00
Reporters	22.1	21.1	19.5	20.4	20	0.98
N	16	16	17	17	16	

Unweighted means by experimental condition. *p*-values are from F-tests of the joint null hypothesis that all coefficients are zero in OLS regressions where the characteristic in question is the outcome variable and covariates are indicators for treatment conditions (available upon request).

Table A3: Spillover analysis: Untreated journalists

	Coefficient (SE)
Supply (newspaper)	0.03 (0.03)
Demand (newspaper)	0.03 (0.03)
Constant	0.01 (0.01)
N	663

\*  $p < 0.05$  (one-sided). Ordinary least squares estimates with robust standard errors clustered by newspaper. The outcome variable is the number of articles returned by a keyword search for articles mentioning fact-checking or dedicated fact-checkers written by political reporters at a large sample of newspapers excluding current or former PolitiFact affiliates or newspapers with dedicated fact-checkers (see Table A1 in Appendix for full list).

Table A4: Journalist treatment effect estimates (full models)

	Unweighted	<i>Treatment-specific IPTWs</i>	
		Demand	Supply
Demand	0.02 (0.02)	<b>0.02</b> <b>(0.02)</b>	0.02 (0.02)
Supply	0.03 (0.02)	0.03 (0.02)	<b>0.03</b> <b>(0.02)</b>
Political keywords (/100)	-0.02 (0.03)	-0.02 (0.03)	-0.03 (0.04)
Constant	0.04 (0.01)	0.04 (0.01)	0.04 (0.02)
Observations	1689	1689	1689

\*  $p < 0.05$  (one-sided). OLS models with robust standard errors. Bolded coefficients are the treatment effect estimates with treatment-specific inverse probability of treatment weights (IPTWs) that appear in Table 1b. The outcome variable is the number of articles returned by a keyword search for articles mentioning fact-checking or dedicated fact-checkers written by political reporters at a large sample of newspapers excluding current or former PolitiFact affiliates or newspapers with dedicated fact-checkers (see Table A1 in Appendix for full list).

Table A5: Newspaper treatment effect estimates (full models)

	Unweighted	<i>Treatment-specific inverse probability of treatment weights</i>			
		Demand low	Demand high	Supply low	Supply high
Demand low	0.48 (0.38)	<b>0.49</b> <b>(0.38)</b>	0.46 (0.38)	0.45 (0.38)	0.51 (0.37)
Demand high	0.79 (0.51)	0.80 (0.52)	<b>0.79</b> <b>(0.50)</b>	0.78 (0.51)	0.81 (0.52)
Supply low	0.78* (0.45)	0.80* (0.46)	0.76* (0.45)	<b>0.76*</b> <b>(0.44)</b>	0.81* (0.46)
Supply high	1.16* (0.67)	1.17* (0.65)	1.14* (0.66)	1.14* (0.67)	<b>1.17*</b> <b>(0.68)</b>
Political keywords (/100)	0.01 (0.01)	0.00 (0.01)	0.02 (0.02)	0.02 (0.02)	0.00 (0.02)
Constant	0.21 (0.16)	0.23 (0.15)	0.17 (0.16)	0.17 (0.18)	0.24 (0.18)
Observations	82	82	82	82	82

\*  $p < 0.05$  (one-sided). OLS models with robust standard errors. Bolded coefficients are the treatment effect estimates with treatment-specific inverse probability of treatment weights (IPTWs) that appear in Table 1b. The outcome variable is the number of articles returned by a keyword search for articles mentioning fact-checking or dedicated fact-checkers written by political reporters at a large sample of newspapers excluding current or former PolitiFact affiliates or newspapers with dedicated fact-checkers (see Table A1 in Appendix for full list).

Table A6: Pooled supply and demand treatments

	Coefficient (SE)
Supply (high and low saturation)	0.97** (0.42)
Demand (high and low saturation)	0.64* (0.33)
Political keywords (/100)	0.01 (0.01)
Constant	0.21 (0.16)
Observations	82

\*  $p < 0.05$  (one-sided); \*\*  $p < 0.05$  (two-sided). OLS models with robust standard errors. The outcome variable is the number of articles returned by a keyword search for articles mentioning fact-checking or dedicated fact-checkers written by political reporters at a large sample of newspapers excluding current or former PolitiFact affiliates or newspapers with dedicated fact-checkers (see Table A1 in Appendix for full list).

Table A7: Treatment effect estimates: RQ1 (journalists)

	RQ1
Supply treatment	0.05 (0.05)
Demand treatment	0.03 (0.02)
Political coverage (/100)	-0.01 (0.09)
Previous fact-checking coverage (/100)	0.01 (0.09)
Supply $\times$ previous fact-checking (/100)	-0.05 (0.08)
Demand $\times$ previous fact-checking (/100)	-0.03 (0.04)
Constant	0.03 (0.01)
N	1689

\*  $p < 0.05$  (one-sided). OLS models with robust standard errors. The outcome variable is the number of articles returned by a keyword search for articles mentioning fact-checking or dedicated fact-checkers written by political reporters at a large sample of newspapers excluding current or former PolitiFact affiliates or newspapers with dedicated fact-checkers (see Table A1 in Appendix for full list).

Table A8: Treatment effect estimates: RQ1 (newspapers)

	RQ1
Supply treatment (high)	1.76 (1.62)
Supply treatment (low)	0.60 (0.59)
Demand treatment (high)	0.58 (0.50)
Demand treatment (low)	0.99 (0.71)
Political coverage (/1000)	0.03 (0.02)
Previous fact-checking coverage (2012)	-0.01* (0.005)
Supply (high) × previous fact-checking	-0.02 (0.03)
Supply (low) × previous fact-checking	0.01 (0.02)
Demand (high) × previous fact-checking	0.01 (0.02)
Demand (low) × previous fact-checking	-0.01 (0.01)
Constant	0.33 (0.23)
N	82

\*  $p < 0.05$  (one-sided). OLS models with robust standard errors. The outcome variable is the number of articles returned by a keyword search for articles mentioning fact-checking or dedicated fact-checkers written by political reporters at a large sample of newspapers excluding current or former PolitiFact affiliates or newspapers with dedicated fact-checkers (see Table A1 in Appendix for full list).



Figure A1: Initial supply treatment email



Dear Jason,

An important trend is changing political reporting – what *American Journalism Review* called the “fact-checking explosion” that “seeks to separate truth from fiction in political claims.”

Reporters understand better than anyone how politicians stretch the truth on the campaign trail. Fact-checking is a new form of accountability journalism that the most effective reporters are using to fight political misinformation and give voters the information they need to make informed choices.

Nearly every major US news outlet fact-checked candidates in the 2012 race, including leading newspapers such as the New York Times, the Washington Post, the Wall Street Journal, USA Today, and the Associated Press as well as broadcasters like ABC, CBS, NBC, CNN, and National Public Radio. Dozens of smaller outlets did admirable fact-checking at the state and local level, including the Nashua Telegraph, Texas Tribune, Milwaukee Journal-Sentinel, Seattle Times, and Atlanta Journal-Constitution.

To date, nonpartisan fact-checkers like [PolitiFact](#) and [FactCheck.org](#) have won more than a dozen major journalism awards – including a Pulitzer Prize – for their innovative efforts.

We’re part of a team of researchers working with the American Press Institute. Our goal is to recognize the best fact-checking in American newspapers and to help reporters see how top journalists in outlets of every size are successfully incorporating fact-checking into their reporting. The American Press Institute will be tracking coverage in your newspaper in order to identify the best examples of media fact-checking within the profession during the 2014 campaign. We hope to be able to recommend your work to them.

For now, we would like to ask you to take a one-minute survey intended to find out how you feel about fact-checking. We will check back with you regularly between now and the election to find out whether your feelings about fact-checking have changed and how you are incorporating it into your reporting.

[Take the Wisconsin/Exeter Journalist Survey](#)

Clicking on the link to the survey means you voluntarily agree to participate in this research study (the “Wisconsin/Exeter Journalist Survey”). All of your responses will be confidential. Participation is completely voluntary – you may decline to participate, end participation in the survey at any time by closing your browser window, or refuse to answer any question. There are no risks or benefits from participating on the survey.

Sincerely,  
Lucas Graves  
University of Wisconsin-Madison  
School of Journalism and Mass Communication

Jason Reifler  
University of Exeter (UK)  
Centre for Elections, Media, and Participation

Email sent September 22, 2014 to journalists in the supply treatment condition.

Figure A2: Initial demand treatment email



Dear Jason,

An important trend is changing political reporting – what *American Journalism Review* called the “fact-checking explosion” that “seeks to separate truth from fiction in political claims.”

People who read newspapers understand that politicians stretch the truth on the campaign trail. Fact-checking is a new form of accountability journalism that readers love because it give them the information they need to fight political misinformation and to make informed choices as voters.

Evidence suggests that fact-checking is extremely popular with print, broadcast, and online audiences. In an NPR survey, 90% of listeners rated fact-checking political claims as “very important.” Traffic to one well-known fact-checking website exceeded one million readers per day at some points during the 2012 campaign! In total, 11% of Americans said they read a fact-check during the last presidential election. Readers are eager for more fact-checking of public officials at every level of politics.

That demand is the reason nonpartisan fact-checkers like [PolitiFact](#) and [FactCheck.org](#) have built dedicated audiences of readers who come back time after time for their innovative efforts.

We’re part of a team of researchers working with the American Press Institute. Our goal is to document how journalists in newspapers of every size are succeeding in attracting and engaging readers when they successfully incorporate fact-checking into their reporting. The American Press Institute will be tracking reader response to your newspaper to identify the fact-checking content that readers find most compelling during the 2014 campaign. We hope to be able to recommend your work to them.

For now, we would like to ask you to take part in a one-minute survey to see your response to readers' appetite for fact-checking. We will check back with you regularly between now and the election to find out whether your feelings about fact-checking have changed and how you are incorporating it into your reporting.

[Take the Wisconsin/Exeter Journalist Survey](#)

Clicking on the link to the survey means you voluntarily agree to participate in this research study (the “Wisconsin/Exeter Journalist Survey”). All of your responses will be confidential. Participation is completely voluntary – you may decline to participate, end participation in the survey at any time by closing your browser window, or refuse to answer any question. There are no risks or benefits from participating on the survey.

Sincerely,  
Lucas Graves  
University of Wisconsin-Madison  
School of Journalism and Mass Communication

Jason Reifler  
University of Exeter (UK)  
Centre for Elections, Media, and Participation

Email sent September 22, 2014 to journalists in the demand treatment condition.